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# School District Expenditures for Elementary and Secondary Education: 1997–98

**U.S. Department of Education**
Institute of Education Sciences
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COMMON CORE OF DATA

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# School District Expenditures for Elementary and Secondary Education: 1997–98

## Statistical Analysis Report

October 2003

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# Executive Summary

## Introduction

The "School District Financial Survey" (Form F-33) is an annual survey of school district financial data that is part of the Common Core of Data (CCD). The F-33 collects data on revenues and expenditures for prekindergarten through grade 12 in public schools in approximately 15,500 local education agencies (LEAs) in the 50 states and the District of Columbia.

This report presents analyses of school district expenditures for the 1997–98 school year. The F-33 data form the core of these analyses, but information is supplemented by data on selected school district demographic and fiscal characteristics from the *1990 School District Data Book*, prepared by the U.S. Census Bureau.[1]

Analyses of school district expenditures are presented for the nation and the states. The national analyses focus on expenditures in school districts in different geographical regions, of different size, with different fiscal capacity to support education (measured by median household income and median housing value), with different proportions of minority enrollment and with different poverty rates. The state analyses focus on interdistrict variation in expenditures per pupil, and the relationship between expenditures per pupil and the school district fiscal and demographic characteristics cited in the national analyses.

The analyses of expenditures presented in this report are based on both actual dollars and cost-adjusted dollars. Cost adjustments are designed to take into account differences in the cost of education across school districts in a state. The cost adjustment used in these analyses is the Geographic Cost of Education Index (GCEI), which uses school districts as the geographic area (Fowler and Monk 2001; Chambers 1998). The GCEI was developed using data from the 1993–94 Schools and Staffing Survey and works with three categories of school inputs: certified school personnel, noncertified school personnel, and nonpersonnel school items. The index reflects how much more or less it costs in different geographic locations to recruit and employ comparable school personnel, as well as the varying cost of nonpersonnel items such as purchased services, supplies and materials, furnishings and equipment, travel, utilities, and facilities.

All analyses presented in this report are for the 1997–98 school year. Although most school finance relationships tend to be relatively stable over time, changes often occur as a result of changes in state funding formulas. The relationships observed for the 1997–98 school year may therefore differ from those observed in earlier or later years.

[1]While more current census data on district characteristics are now available, the 1990 census data were used in these analyses because they were the most current data available at the time the report was planned and written. The national analyses include districts in all states, even when the percentage of districts with demographic and fiscal data was less than 50 percent of the total districts in the state. The state analyses, however, only included the 40 states in which at least 50 percent of the districts had demographic and fiscal data.

In the next section, the major findings of the report are presented using cost-adjusted expenditures. Findings based on actual expenditures are included in the body of the report.

## National Findings

The national findings focus on three areas: total expenditures and expenditures in different geographic regions, expenditures in school districts of different size, and the relationship between expenditures and selected school district fiscal and demographic characteristics.

### Total Expenditures and Expenditures in Different Geographic Regions

Cost-adjusted school district expenditures for elementary and secondary education totaled $324.7 billion in the 1997–98 school year, or about $7,138 per pupil (table 2-1). The largest share of total school expenditures was for current expenditures—$273.1 billion, or about 84 percent of the total (table 3-1). Capital expenditures of $35.3 billion made up almost 11 percent of the total. The remaining $16.4 billion was used for nonelementary and nonsecondary programs and expenditures by LEAs (NCES 1998).

Cost-adjusted expenditures per pupil for education were highest in the Northeast for seven of the eight expenditure measures (table 5-1). Expenditures for administration were highest in the Midwest. With the exception of expenditures for plant maintenance and operation, which were lowest in the South, expenditures per pupil for all other education functions were consistently lowest in the West.

### Expenditures in School Districts of Different Size

Cost-adjusted expenditures per pupil for most school functions were generally highest in small school districts and lowest in large districts (table 5-2). Per pupil expenditures were highest in districts with fewer than 1,000 students for all functions except student and instructional staff support. This was the one function for which expenditures per pupil were highest in the largest districts (with 10,000 or more students) and lowest in the smallest districts (with fewer than 1,000 students). The other expenditure measure for which expenditures per pupil were not lowest in the largest districts, administration expenditures per pupil, were lowest in districts with between 5,000 and 9,999 students.

### Relationship Between Expenditures and School Districts' Fiscal Capacity

For the nation as a whole, there was a weak relationship between school districts' fiscal capacity (measured by median household income and median value of owner-occupied housing) and cost-adjusted expenditures per pupil (table 5-4). The correlation between median household income and cost-adjusted current expenditures per pupil was +0.03; the correlation between median housing value and current expenditures per pupil was statistically insignificant. Correlations between these two measures of district fiscal capacity and all other measures of cost-adjusted expenditures per pupil were also weak or statistically insignificant.

### Relationship Between Expenditures and School Districts' Demographic Characteristics

Minority enrollment in a school district and the district poverty rate also showed weak relationships with cost-adjusted expenditures per pupil (table 5-4). Correlations between these two school district

demographic characteristics and all measures of cost-adjusted expenditures per pupil were either weak or statistically insignificant.

## State Findings

The state findings focus on two areas: interdistrict variation in expenditures per pupil, and the relationship between expenditures and selected school district fiscal and demographic characteristics.

### Interdistrict Variation in Expenditures Per Pupil

States differ substantially in the amount of interdistrict variation in expenditures per pupil. Using the synthesized measure of variation, 12 states had the largest overall variation in cost-adjusted expenditures per pupil (table 5-5). Of these 12 states, 4 (Alaska, Idaho, Montana, and Wyoming) were in the West, 2 (Massachusetts and New Hampshire) were in the Northeast, and 6 (Illinois, Kansas, Missouri, Nebraska, North Dakota, and South Dakota) were in the Midwest. No state in this group was from the South.

Illinois, Montana, and North Dakota were in the quartile of states with the greatest interdistrict variation on all components of expenditures per pupil, while Alaska was in this quartile for six measures of expenditures per pupil (table 5-5).

At the other end of the spectrum were 12 states with the weakest interdistrict variation in cost-adjusted current expenditures per pupil (table 5-6). Of these 12 states, 9 (Alabama, Delaware, Florida, Kentucky, Louisiana, Maryland, North Carolina, South Carolina, and West Virginia) were in the South, 2 (Iowa and Wisconsin) were in the Midwest, and 1 (Nevada) was in the West.

Four states (Delaware, Florida, Nevada, and North Carolina) were in the quartile of states with the weakest overall variation on all measures of expenditures per pupil, and two other states (Alabama and West Virginia) were in this quartile for six components of expenditures per pupil.

### Relationship Between Expenditures and School Districts' Fiscal Capacity

#### *Median Household Income*

Among the 40 states with adequate data for analysis, 5 states (Illinois, Louisiana, New York, Pennsylvania, and Virginia) showed a moderate positive correlation between median household income and cost-adjusted current expenditures per pupil; no state had a strong positive correlation between income and current expenditures (table 5-9). On the other hand, median household income was negatively related to cost-adjusted current expenditures per pupil in 24 states, with 5 states (Alaska, Arizona, Iowa, Utah, and Washington) having a strong negative correlation between these variables.

In cost-adjusted dollars, 11 states showed a positive relationship between median household income and at least one measure of expenditure (table 5-8). Household income was related to all eight expenditure measures in one state (New York) and to seven of the eight expenditure measures in four other states (Illinois, Louisiana, Pennsylvania, and Virginia) (table 5-9). In contrast, there was a negative relationship between median household income and at least one expenditure measure in 27 states. Five states (Arizona, Indiana, Missouri, Montana, and Nebraska) showed a negative relationship between

household income and all eight measures of expenditure. Another 13 states (Alaska, California, Florida, Iowa, Kansas, Maine, Minnesota, North Dakota, Oregon, Texas, Utah, Washington, and West Virginia) showed a negative relationship between household income and at least six expenditure measures.

### *Median Housing Value*

District property values, as measured by median housing value, were positively related to cost-adjusted current expenditures per pupil in more states than median household income (table 5-12). For the 40 states with adequate data, 5 states (Illinois, Massachusetts, Ohio, Pennsylvania, and Vermont) had a moderate positive correlation between median housing value and current expenditures per pupil, and 1 state (Virginia) had a strong positive correlation (table 5-12). On the other hand, median housing value was negatively related to current expenditures per pupil in 17 states, with 5 states (Alaska, Iowa, Montana, Nebraska, and West Virginia) having a strong negative correlation between these variables.

Twenty-three states showed a positive relationship between median housing value and at least one measure of expenditure (table 5-11). Median housing value was positively related to all eight expenditure measures in one state (Virginia) and to at least six of the eight expenditure measures in four other states (Illinois, Maryland, Ohio, and Pennsylvania). In contrast, there was a negative relationship between median household income and at least one expenditure measure in 25 states. One state (Arizona) had a negative relationship between median housing value and all eight measures of expenditure. Another 13 states (Alaska, California, Indiana, Iowa, Kansas, Minnesota, Missouri, Montana, Nebraska, North Dakota, Texas, Utah, and Washington) showed a negative relationship between household income and at least six expenditure measures.

## Relationship Between Expenditures and School Districts' Demographic Characteristics

### *Minority Enrollment*

For the 40 states with adequate data, 19 states had a positive correlation between minority enrollment and cost-adjusted current expenditures per pupil (table 5-15). Five states (Kansas, Nebraska, New Hampshire, New York, and Pennsylvania) had a moderate negative correlation between minority enrollment and cost-adjusted current expenditures.

In cost-adjusted dollars, 35 states showed a positive relationship between minority enrollment and at least one measure of expenditure (table 5-14). Minority enrollment was positively related to all eight measures of expenditure in seven states (Arizona, Indiana, Massachusetts, Minnesota, Missouri, Montana, and Ohio) and to at least six of the eight expenditure measures in another six states (Alaska, Michigan, North Dakota, Oregon, South Carolina, and Wisconsin).

### *District Poverty Rate*

For the 40 states with adequate data, 27 states had a positive correlation between the district poverty rate and cost-adjusted current expenditures per pupil (table 5-18). Three states had a negative correlation between the district poverty rate and cost-adjusted current expenditures per pupil.

Thirty-three states showed a positive relationship between the district poverty rate and at least one cost-adjusted measure of expenditure per pupil (table 5-17). The district poverty rate was positively related

to all 8 expenditure measures in 10 states (Arizona, Indiana, Kansas, Massachusetts, Minnesota, Missouri, Montana, North Dakota, Utah, and Washington) and to at least 6 of the 8 expenditure measures in another 11 states (Alaska, California, Florida, Michigan, Nebraska, Oregon, South Carolina, Tennessee, Texas, Wisconsin, and Wyoming). Eight states (Illinois, Louisiana, Maryland, Michigan, New York, Pennsylvania, Rhode Island, and West Virginia) had a negative relationship between the district poverty rate and at least one measure of expenditure.

## Organization of the Report

Including the introduction (chapter 1), the report has five chapters. Chapter 2 presents an analysis of total expenditures, including current and capital expenditures. Chapter 3 examines current expenditures, including expenditures for salaries and employee benefits. Chapter 4 examines expenditures for four education functions: instruction, pupil support and instructional staff support services, administration, and plant maintenance and operations services. Chapter 5 presents a synthesis and summary of the report's major findings. Appendices to the report contain technical notes and detailed correlation tables on district expenditures.

# Contents


Acknowledgments ..... iii

Executive Summary ..... v

- Introduction ..... v
- National Findings ..... vi
  - Total Expenditures and Expenditures in Different Geographic Regions ..... vi
  - Expenditures in School Districts of Different Size ..... vi
  - Relationship Between Expenditures and School Districts' Fiscal Capacity ..... vi
  - Relationship Between Expenditures and School Districts' Demographic Characteristics ..... vii
- State Findings ..... vii
  - Interdistrict Variation in Expenditures Per Pupil ..... vii
  - Relationship Between Expenditures and School Districts' Fiscal Capacity ..... vii
    - Median Household Income ..... vii
    - Median Housing Value ..... viii
  - Relationship Between Expenditures and School Districts' Demographic Characteristics ..... viii
    - Minority Enrollment ..... viii
    - District Poverty Rate ..... ix
- Organization of the Report ..... ix

List of Tables ..... xv

List of Figures ..... xix

Chapter 1: Introduction ..... 1

- Background and Introduction ..... 1
- Data Sources ..... 1
- Methods of Analysis ..... 3
  - National Analyses ..... 4
  - State Analyses ..... 9
    - Interdistrict Variation in Expenditures Per Pupil ..... 9
    - Relationship Between Expenditures Per Pupil and Selected District Fiscal and Demographic Characteristics ..... 11
- Definitions ..... 14
- Organization of the Report ..... 16

Chapter 2: Total Expenditures ..... 17

- Total Expenditures ..... 17
- Total Expenditures Per Pupil ..... 17
  - Variations in Total Expenditures Per Pupil ..... 19
    - Restricted Range Ratio ..... 19
    - Coefficient of Variation ..... 19
    - Gini Coefficient ..... 19
    - Overall Variation ..... 22
  - Relationship Between Total Expenditures Per Pupil and Selected District Fiscal and Demographic Characteristics ..... 22

Chapter 3: Current Expenditures ..... 29
Current Expenditures ..... 29
Current Expenditures Per Pupil ..... 29
Variations in Current Expenditures Per Pupil ..... 31
Restricted Range Ratio ..... 31
Coefficient of Variation ..... 31
Gini Coefficient ..... 31
Overall Variation ..... 34
Relationship Between Current Expenditures Per Pupil and Selected District Fiscal and Demographic Characteristics ..... 34
Salaries ..... 39
Salary Expenditures Per Pupil ..... 39
Variations in Salary Expenditures Per Pupil ..... 41
Relationship Between Salary Expenditures Per Pupil and Selected District Fiscal and Demographic Characteristics ..... 41
Expenditures for Salaries and Benefits ..... 45
Salary and Benefit Expenditures Per Pupil ..... 46
Variations in Salary and Benefit Expenditures Per Pupil ..... 47
Restricted Range Ratio ..... 47
Coefficient of Variation ..... 47
Gini Coefficient ..... 50
Overall Variation ..... 50
Relationship Between Salaries and Benefits Expenditures Per Pupil and Selected District Fiscal and Demographic Characteristics ..... 50
Chapter 4: Expenditures For Current Functions: Instruction, Student and Instructional Staff Support Services, Administration, and School Operations and Maintenance ..... 57
Instructional Expenditures ..... 57
Instructional Expenditures Per Pupil ..... 57
Variations in Instructional Expenditures Per Pupil ..... 59
Restricted Range Ratio ..... 59
Coefficient of Variation ..... 59
Gini Coefficient ..... 59
Overall Variation ..... 62
Relationship Between Instructional Expenditures Per Pupil and Selected District Fiscal and Demographic Characteristics ..... 63
Student and Instructional Staff Support Services Expenditures ..... 63
Student and Instructional Staff Support Services Expenditures Per Pupil ..... 67
Variations in Student and Instructional Staff Support Services Expenditures Per Pupil ..... 69
Restricted Range Ratio ..... 69
Coefficient of Variation ..... 69
Gini Coefficient ..... 72
Overall Variation ..... 72
Relationship Between Student and Instructional Staff Support Services Expenditures Per Pupil and Selected District Fiscal and Demographic Characteristics ..... 72
Administration Expenditures ..... 76
Administration Expenditures Per Pupil ..... 78
Variations in Administration Expenditures Per Pupil ..... 79
Restricted Range Ratio ..... 79
Coefficient of Variation ..... 81
Gini Coefficient ..... 81
Overall Variation ..... 81
Relationship Between Administration Expenditures Per Pupil and Selected District Fiscal and Demographic Characteristics ..... 81

School Operations and Maintenance Expenditures ..... 85
Variations in Operations Expenditures Per Pupil ..... 89
Restricted Range Ratio ..... 89
Coefficient of Variation ..... 92
Gini Coefficient ..... 92
Overall Variation ..... 92
Relationship Between Operations Expenditures Per Pupil and Selected District Fiscal and Demographic Characteristics ..... 92
Chapter 5: Summary Of Findings ..... 99
National Findings on Education Expenditures ..... 99
Regional Differences in School District Expenditures Per Pupil ..... 99
Differences in Expenditures Per Pupil in Districts of Different Size ..... 99
Variation in Expenditures Per Pupil Across School Districts ..... 100
Relationship Between School District Fiscal and Demographic Characteristics and Expenditures Per Pupil ..... 101
School District Wealth ..... 101
School District Minority Enrollment and Poverty Rate ..... 101
State Findings on Education Expenditures ..... 102
Interdistrict Variation in Expenditures Per Pupil Within the States ..... 102
Relationship Between Selected District Fiscal and Demographic Characteristics and Expenditures Per Pupil ..... 104
Median Household Income ..... 104
Median Housing Value ..... 106
Minority Enrollment ..... 111
District Poverty Rate ..... 111
References ..... 119
Appendix A: Supplementary Tables ..... 121
Appendix B: Technical Notes ..... 141
Data Sources ..... 143
Survey of Local Government Finances (F-33) ..... 143
Census School District Special Tabulation (Census Mapping) ..... 144
Cost of Education Indices ..... 144
Construction of Key Expenditure Categories ..... 144
Total Expenditures ..... 144
Current Expenditures ..... 144
Other Expenditure Categories ..... 145
Selection of Observations ..... 145
Primary Analysis Dataset ..... 145
Data Modifications and Imputation Procedures ..... 145
Glossary ..... 147

# List of Tables


Table 1-1. Total number of school districts, students, and total expenditures, by state: 1997–98 ..... 2
Table. 1-2. Total number of school districts and students for regular school districts and percentages based on all school districts, by state: 1997–98 ..... 5
Table 1-3. Total number of regular school districts and percentages based on all school districts, by type of school district and state: 1997–98 ..... 6
Table 1-4. Total number of students in regular school districts and percentages based on all school districts, by type of school district and state: 1997–98 ..... 7
Table 1-5. Total number of school districts and students for regular school districts with Geographic Cost of Education Index (GCEI) and percentages based on all school districts, by state: 1997–98 ..... 8
Table 1-6. Total number of school districts and students for regular school districts with Census Mapping Data and percentages based on all school districts, by state: 1997–98 ..... 12
Table 1-7. Total number of school districts and students for regular school districts with Geographic Cost of Education Index (GCEI) and Census Mapping Data and percentages based on all school districts, by state: 1997–98 ..... 13
Table 2-1. Total expenditures, cost-adjusted total expenditures, total expenditures per pupil, and cost-adjusted total expenditures per pupil in public school districts, by region, district enrollment, minority enrollment, district poverty rate, median household income, and median housing value: 1997–98 ..... 18
Table 2-2. Variation in total expenditures per pupil (unadjusted dollars), by state: 1997–98 ..... 20
Table 2-3. Variation in total expenditures per pupil (cost-adjusted dollars), by state: 1997–98 ..... 21
Table 2-4. Variation in total expenditures per pupil, by region: 1997–98 ..... 22
Table 2-5. Correlations between total expenditures per pupil and selected fiscal and demographic characteristics, by state: 1997–98 ..... 24
Table 3-1. Current expenditures, cost-adjusted current expenditures, current expenditures per pupil, and cost-adjusted current expenditures per pupil in public school districts, by region, district enrollment, minority enrollment, district poverty rate, median household income, and median housing value: 1997–98 ..... 30
Table 3-2. Variation in current expenditures per pupil (unadjusted dollars), by state: 1997–98 ..... 32
Table 3-3. Variation in current expenditures per pupil (cost-adjusted dollars), by state: 1997–98 ..... 33
Table 3-4. Variation in current expenditures per pupil, by region: 1997–98 ..... 34
Table 3-5. Correlations between current expenditures per pupil and selected fiscal and demographic characteristics, by state: 1997–98 ..... 36
Table 3-6. Salary expenditures, cost-adjusted salary expenditures, salary expenditures per pupil, and cost-adjusted salary expenditures per pupil in public school districts, by region, district enrollment, minority enrollment, district poverty rate, median household income, and median housing value: 1997–98 ..... 40
Table 3-7. Variation in salary expenditures per pupil (unadjusted dollars), by state: 1997–98 ..... 42
Table 3-8. Variation in salary expenditures per pupil (cost-adjusted dollars), by state: 1997–98 ..... 43
Table 3-9. Correlations between salary expenditures per pupil and selected fiscal and demographic characteristics, by state: 1997–98 ..... 44
Table 3-10. Salaries and benefits expenditures, cost-adjusted salaries and benefits expenditures, salaries and benefits expenditures per pupil, and cost-adjusted salaries and benefits expenditures per pupil in public school districts, by region, district enrollment, minority enrollment, district poverty rate, median household income, and median housing value: 1997–98 ..... 46
Table 3-11. Variation in salaries and benefits expenditures per pupil (unadjusted dollars), by state: 1997–98 ..... 48
Table 3-12. Variation in salaries and benefits expenditures per pupil (cost-adjusted dollars), by state: 1997–98 ..... 49
Table 3-13. Variation in salaries and benefits expenditures per pupil, by region: 1997–98 ..... 50
Table 3-14. Correlations between salaries and benefits expenditures per pupil and selected fiscal and demographic characteristics, by state: 1997–98 ..... 52

Table 4-1. Instructional expenditures, cost-adjusted instructional expenditures, instructional expenditures per pupil, and cost-adjusted expenditures per pupil in public school districts, by region, district enrollment, minority enrollment, district poverty rate, median household income, and median housing value: 1997–98 ..... 58
Table 4-2. Variation in instructional expenditures per pupil (unadjusted dollars), by state: 1997–98 ..... 60
Table 4-3. Variation in instructional expenditures per pupil (cost-adjusted dollars), by state: 1997–98 ..... 61
Table 4-4. Variation in instructional expenditures per pupil, by region: 1997–98 ..... 62
Table 4-5. Correlations between instructional expenditures per pupil and selected fiscal and demographic characteristics, by state: 1997–98 ..... 64
Table 4-6. Student and instructional staff support services expenditures, cost-adjusted student and instructional staff support services expenditures, student and instructional staff support services expenditures per pupil, and cost-adjusted student and instructional staff support services expenditures per pupil in public school districts, by region, district enrollment, minority enrollment, district poverty rate, median household income, and median housing value: 1997–98 ..... 68
Table 4-7. Variation in student and instructional staff support services expenditures per pupil (unadjusted dollars), by state: 1997–98 ..... 70
Table 4-8. Variation in student and instructional staff support services expenditures per pupil (cost-adjusted dollars), by state: 1997–98 ..... 71
Table 4-9. Variation in student and instructional staff support services expenditures per pupil, by region: 1997–98 ..... 72
Table 4-10. Correlations between student and instructional staff support services expenditures per pupil and selected fiscal and demographic characteristics, by state: 1997–98 ..... 74
Table 4-11. Administration expenditures, cost-adjusted administrative expenditures, administrative expenditures per pupil, and cost-adjusted administration expenditures per pupil in public school districts, by region, district enrollment, minority enrollment, district poverty rate, median household income, and median housing value: 1997–98 ..... 78
Table 4-12. Variation in administration expenditures per pupil (unadjusted dollars), by state: 1997–98 ..... 80
Table 4-13. Variation in administration expenditures per pupil (cost-adjusted dollars), by state: 1997–98 ..... 82
Table 4-14. Variation in administration expenditures per pupil, by region: 1997–98 ..... 83
Table 4-15. Correlations between administration expenditures per pupil and selected fiscal and demographic characteristics, by state: 1997–98 ..... 84
Table 4-16. School operations expenditures, cost-adjusted school operations expenditures, school operations expenditures per pupil, and cost-adjusted school operations expenditures per pupil in public school districts, by region, district enrollment, minority enrollment, district poverty rate, median household income, and median housing value: 1997–98 ..... 88
Table 4-17. Variation in school operations expenditures per pupil (unadjusted dollars), by state: 1997–98 ..... 90
Table 4-18. Variation in school operations expenditures per pupil (cost-adjusted dollars), by state: 1997–98 ..... 91
Table 4-19. Variation in school operations expenditures per pupil, by region: 1997–98 ..... 93
Table 4-20. Correlations between school operations expenditures per pupil and selected fiscal and demographic characteristics, by state: 1997–98 ..... 94
Table 5-1. Regional differences in school district expenditures per pupil: 1997–98 ..... 100
Table 5-2. School district expenditures, by district size: 1997–98 ..... 100
Table 5-3. Variation in school district expenditures per pupil: 1997–98 ..... 101
Table 5-4. Correlation between school district expenditures per pupil and selected school district fiscal and demographic characteristics: 1997–98 ..... 102
Table 5-5. States with the largest overall variation in expenditures per pupil: 1997–98 ..... 103
Table 5-6. States with the smallest overall variation in expenditures per pupil: 1997–98 ..... 104
Table 5-7. States with strong and moderate correlations between median household income and expenditures per pupil (unadjusted dollars): 1997–98 ..... 105
Table 5-8. Summary of strong and moderate correlations between median household income and measures of expenditure per pupil: 1997–98 ..... 106
Table 5-9. States with strong and moderate correlations between median household income and expenditures per pupil (cost-adjusted dollars): 1997–98 ..... 107
Table 5-10. States with strong and moderate correlations between median housing value and expenditures per pupil (unadjusted dollars): 1997–98 ..... 108
Table 5-11. Summary of strong and moderate correlations between median housing value and measures of expenditure per pupil: 1997–98 ..... 109

Table 5-12. States with strong and moderate correlations between median housing value and expenditures per pupil (cost-adjusted dollars): 1997–98 ..... 110
Table 5-13. States with strong and moderate correlations between percent minority enrollment and expenditures per pupil (unadjusted dollars): 1997–98 ..... 112
Table 5-14. Summary of strong and moderate correlations between percent minority enrollment and measures of expenditure per pupil: 1997–98 ..... 113
Table 5-15. States with strong and moderate correlations between percent minority enrollment and expenditures per pupil (cost-adjusted dollars): 1997–98 ..... 114
Table 5-16. States with strong and moderate correlations between district poverty rate and expenditures per pupil (unadjusted dollars): 1997–98 ..... 115
Table 5-17. Summary of strong and moderate correlations between district poverty rate and measures of expenditure per pupil: 1997–98 ..... 116
Table 5-18. States with strong and moderate correlations between district poverty rate and expenditures per pupil (cost-adjusted dollars): 1997–98 ..... 117
Table A-1. Correlations between student membership and expenditures per pupil (unadjusted dollars), by state: 1997–98 ..... 123
Table A-2. Correlations between student membership and expenditures per pupil (cost-adjusted dollars), by state: 1997–98 ..... 124
Table A-3. Correlations between total expenditures per pupil and selected school district demographic and economic characteristics (unadjusted dollars), by state: 1997–98 ..... 125
Table A-4. Correlations between total expenditures per pupil and selected school district demographic and economic characteristics (cost-adjusted dollars), by state: 1997–98 ..... 126
Table A-5. Correlations between current expenditures per pupil and selected school district demographic and economic characteristics (unadjusted dollars), by state: 1997–98 ..... 127
Table A-6. Correlations between current expenditures per pupil and selected school district demographic and economic characteristics (cost-adjusted dollars), by state: 1997–98 ..... 128
Table A-7. Correlations between salaries expenditures per pupil and selected school district demographic and economic characteristics (unadjusted dollars), by state: 1997–98 ..... 129
Table A-8. Correlations between salaries expenditures per pupil and selected school district demographic and economic characteristics (cost-adjusted dollars), by state: 1997–98 ..... 130
Table A-9. Correlations between salaries and benefits expenditures per pupil and selected school district demographic and economic characteristics (unadjusted dollars), by state: 1997–98 ..... 131
Table A-10. Correlation between salaries and benefits expenditures per pupil and selected school district demographic and economic characteristics (cost-adjusted dollars), by state: 1997–98 ..... 132
Table A-11. Correlations between instructional expenditures per pupil and selected school district demographic and economic characteristics (unadjusted dollars), by state: 1997–98 ..... 133
Table A-12. Correlations between instructional expenditures per pupil and selected school district demographic and economic characteristics (cost-adjusted dollars), by state: 1997–98 ..... 134
Table A-13. Correlations between student and instructional staff support services expenditures per pupil and selected school district demographic and economic characteristics (unadjusted dollars), by state: 1997–98 ..... 135
Table A-14. Correlations between student and instructional staff support services expenditures per pupil and selected school district demographic and economic characteristics (cost-adjusted dollars), by state: 1997–98 ..... 136
Table A-15. Correlations between administration expenditures per pupil and selected school district demographic and economic characteristics (unadjusted dollars), by state: 1997–98 ..... 137
Table A-16. Correlations between administration expenditures per pupil and selected school district demographic and economic characteristics (cost-adjusted dollars), by state: 1997–98 ..... 138
Table A-17. Correlations between school operations expenditures per pupil and selected school district demographic and economic characteristics (unadjusted dollars), by state: 1997–98 ..... 139
Table A-18. Correlations between school operations expenditures per pupil and selected school district demographic and economic characteristics (cost-adjusted dollars), by state: 1997–98 ..... 140

# List of Figures


Figure 2-1. Synthesis of variation measures of total expenditures per pupil (cost-adjusted dollars), by state: 1997–98 ..... 23
Figure 2-2. Correlations between total expenditures per pupil and median housing value (cost-adjusted dollars), by state: 1997–98 ..... 25
Figure 2-3. Correlations between total expenditures per pupil and median household income (cost-adjusted dollars), by state: 1997–98 ..... 26
Figure 2-4. Correlations between total expenditures per pupil and percent minority enrollment (cost-adjusted dollars), by state: 1997–98 ..... 26
Figure 2-5. Correlations between total expenditures per pupil and district poverty rate (cost-adjusted dollars), by state: 1997–98 ..... 27
Figure 3-1. Synthesis of variation measures of current expenditures per pupil (cost-adjusted dollars), by state: 1997–98 ..... 35
Figure 3-2. Correlations between current expenditures per pupil and median housing value (cost-adjusted dollars), by state: 1997–98 ..... 37
Figure 3-3. Correlations between current expenditures per pupil and median household income (cost-adjusted dollars), by state: 1997–98 ..... 38
Figure 3-4. Correlations between current expenditures per pupil and percent minority enrollment (cost-adjusted dollars), by state: 1997–98 ..... 38
Figure 3-5. Correlations between current expenditures per pupil and district poverty rate (cost-adjusted dollars), by state: 1997–98 ..... 39
Figure 3-6. Synthesis of variation measures of salaries and benefits expenditures per pupil (cost-adjusted dollars), by state: 1997–98 ..... 51
Figure 3-7. Correlations between salaries and benefits expenditures per pupil and median housing value (cost-adjusted dollars), by state: 1997–98 ..... 53
Figure 3-8. Correlations between salaries and benefits expenditures per pupil and median household income (cost-adjusted dollars), by state: 1997–98 ..... 54
Figure 3-9. Correlations between salaries and benefits expenditures per pupil and percent minority enrollment (cost-adjusted dollars), by state: 1997–98 ..... 54
Figure 3-10. Correlations between salaries and benefits expenditures per pupil and district poverty rate (cost-adjusted dollars), by state: 1997–98 ..... 55
Figure 4-1. Synthesis of variation measures of instructional expenditures per pupil (cost-adjusted dollars), by state: 1997–98 ..... 62
Figure 4-2. Correlations between instructional expenditures per pupil and median housing value (cost-adjusted dollars), by state: 1997–98 ..... 65
Figure 4-3. Correlations between instructional expenditures per pupil and median household income (cost-adjusted dollars), by state: 1997–98 ..... 66
Figure 4-4. Correlations between instructional expenditures per pupil and percent minority enrollment (cost-adjusted dollars), by state: 1997–98 ..... 66
Figure 4-5. Correlations between instructional expenditures per pupil and district poverty rate (cost-adjusted dollars), by state: 1997–98 ..... 67
Figure 4-6. Synthesis of variation measures of student and instructional staff support services expenditures per pupil (cost-adjusted dollars), by state: 1997–98 ..... 73
Figure 4-7. Correlations between student and instructional staff support services expenditures per pupil and median housing value (cost-adjusted dollars), by state: 1997–98 ..... 75
Figure 4-8. Correlations between student and instructional staff support services expenditures per pupil and median household income (cost-adjusted dollars), by state: 1997–98 ..... 76
Figure 4-9. Correlations between student and instructional staff support services expenditures per pupil and percent minority enrollment (cost-adjusted dollars), by state: 1997–98 ..... 77

Figure 4-10. Correlations between student and instructional staff support services expenditures per pupil and district poverty rate (cost-adjusted dollars), by state: 1997–98 ..... 77
Figure 4-11. Synthesis of variation measures of administration expenditures per pupil (cost-adjusted dollars), by state: 1997–98 ..... 83
Figure 4-12. Correlations between administration expenditures per pupil and median housing value (cost-adjusted dollars), by state: 1997–98 ..... 86
Figure 4-13. Correlations between administration expenditures per pupil and median household income (cost-adjusted dollars), by state: 1997–98 ..... 86
Figure 4-14. Correlations between administration expenditures per pupil and percent minority enrollment (cost-adjusted dollars), by state: 1997–98 ..... 87
Figure 4-15. Correlations between administration expenditures per pupil and district poverty rate (cost-adjusted dollars), by state: 1997–98 ..... 87
Figure 4-16. Synthesis of variation measures of school operations expenditures per pupil (cost-adjusted dollars), by state: 1997–98 ..... 93
Figure 4-17. Correlations between school operations expenditures per pupil and median housing value (cost-adjusted dollars), by state: 1997–98 ..... 95
Figure 4-18. Correlations between school operations expenditures per pupil and median household income (cost-adjusted dollars), by state: 1997–98 ..... 96
Figure 4-19. Correlations between school operations expenditures per pupil and percent minority enrollment (cost-adjusted dollars), by state: 1997–98 ..... 97
Figure 4-20. Correlations between school operations expenditures per pupil and district poverty rate (cost-adjusted dollars), by state: 1997–98 ..... 97

# Chapter 1: Introduction

## Background and Introduction

The financing of elementary and secondary education is always an important issue for policymakers at the national, state, and local levels. Even during times of economic growth, education must compete with other public functions for the taxpayer's dollar; during periods of economic slowdown, that competition is even more intense. In addition, issues of equity and productivity invariably enter into the public debate, as policymakers seek to ensure equitable access to education for all children and the most effective use of public funds.

Looking at education spending nationally is necessary to understand the overall investment of the United States in education and how much funding is used for various purposes. Since spending within states is generally not uniform across school districts, it is important not only to look at average spending levels in the states, but to also examine variation in spending across school districts and district characteristics that may be associated with differences in expenditure levels.

This report is designed to address a number of important questions about the financing of public elementary and secondary education at the state and district levels. These questions are:

- How much money do school districts spend for elementary and secondary education? How much do school districts spend for instruction and other education functions? How much do school districts spend for salaries and fringe benefits for employees?
- What is the level of variation in expenditures per pupil across school districts nationally and in each state?
- How do district demographic and economic characteristics relate to expenditures per pupil nationally and in each state? How strong are these relationships?

## Data Sources

The primary source of data for this report on school district financing of elementary and secondary education was the 1997–98 "School District Financial Survey (Form F-33)." The F-33 is an annual district-level collection of revenue and expenditure data in grades prekindergarten through 12. It is part of the Common Core of Data (CCD) collection of surveys and administrative-records data relating to public elementary and secondary education. In 1997–98, the F-33 data file contained 15,512 districts across the United States enrolling 45,772,962 students (table 1-1). Since data from the F-33 file are not available until at least two years after the end of a given school year, 1997–98 data were the most current data available when this research was undertaken.[1] Data on revenues and expenditures col-

[1]It is important to note that the use of 1997–98 data limits the analyses since it does not allow for comparisons of data over time.

Table 1-1. Total number of school districts, students, and total expenditures, by state: 1997–98

| State | Number of school districts | Number of students | Expenditures (in thousands) |
|---|---|---|---|
| United States | 15,512 | 45,772,962 | 336,384,794 |
| Alabama | 127 | 739,321 | 4,245,033 |
| Alaska | 53 | 130,633 | 1,222,893 |
| Arizona | 230 | 794,331 | 4,726,098 |
| Arkansas | 326 | 456,355 | 2,536,027 |
| California | 1,077 | 5,727,224 | 38,087,666 |
| Colorado | 195 | 686,360 | 4,739,136 |
| Connecticut | 174 | 515,141 | 4,810,851 |
| Delaware | 19 | 111,428 | 915,207 |
| District of Columbia | 1 | 77,111 | 716,740 |
| Florida | 67 | 2,292,161 | 15,155,383 |
| Georgia | 196 | 1,375,980 | 8,990,897 |
| Hawaii | 1 | 189,887 | 1,266,378 |
| Idaho | 112 | 244,403 | 1,342,719 |
| Illinois | 1,046 | 1,972,406 | 15,207,067 |
| Indiana | 315 | 985,690 | 7,649,103 |
| Iowa | 392 | 501,054 | 3,650,286 |
| Kansas | 304 | 468,980 | 3,087,318 |
| Kentucky | 176 | 645,232 | 4,018,512 |
| Louisiana | 66 | 774,561 | 4,379,797 |
| Maine | 292 | 212,038 | 1,601,411 |
| Maryland | 24 | 830,744 | 6,519,389 |
| Massachusetts | 392 | 942,331 | 8,098,720 |
| Michigan | 719 | 1,680,559 | 14,905,765 |
| Minnesota | 416 | 841,723 | 6,815,289 |
| Mississippi | 152 | 504,792 | 2,543,454 |
| Missouri | 525 | 909,441 | 5,849,648 |
| Montana | 483 | 162,164 | 1,007,146 |
| Nebraska | 657 | 291,570 | 1,966,403 |
| Nevada | 17 | 296,621 | 2,030,065 |
| New Hampshire | 177 | 196,734 | 1,428,447 |
| New Jersey | 615 | 1,238,948 | 13,973,201 |
| New Mexico | 89 | 331,673 | 1,933,538 |
| New York | 690 | 2,834,992 | 29,853,891 |
| North Carolina | 117 | 1,230,010 | 7,688,076 |
| North Dakota | 260 | 116,813 | 715,126 |
| Ohio | 727 | 1,846,585 | 13,005,301 |
| Oklahoma | 586 | 623,681 | 3,617,938 |
| Oregon | 220 | 540,226 | 3,939,722 |
| Pennsylvania | 605 | 1,791,100 | 16,432,921 |
| Rhode Island | 36 | 152,356 | 1,221,558 |
| South Carolina | 98 | 648,084 | 4,241,163 |
| South Dakota | 176 | 133,698 | 781,279 |
| Tennessee | 138 | 876,693 | 4,988,208 |
| Texas | 1,063 | 3,888,061 | 25,723,965 |
| Utah | 40 | 480,811 | 2,326,611 |
| Vermont | 328 | 101,413 | 1,064,388 |
| Virginia | 155 | 1,110,815 | 7,813,707 |
| Washington | 305 | 991,235 | 7,211,601 |
| West Virginia | 55 | 300,737 | 2,100,841 |
| Wisconsin | 430 | 881,552 | 7,532,110 |
| Wyoming | 48 | 96,504 | 706,801 |

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98."

lected through the F-33 were supplemented with data from the U.S. Census Bureau, *1990 School District Data Book*, which contain 1990 decennial census school district demographic and fiscal characteristics. These data are also called Census Mapping Data. Minority enrollment, district poverty rate, median household income, and median housing value data were used from the Census Mapping Data.

While more current census data on district characteristics are now available, the 1990 census data were used in these analyses because they were the most current data available at the time the report was planned and written. Although, overall, demographic characteristics may have remained relatively constant over time, readers should be aware that there may be individual districts whose demographic characteristics changed between 1990 and 1997. It is difficult to say what the effect of updated census demographic data would have on the analysis in this report.[2]

## Methods of Analysis

The analysis focuses on expenditures for education. It includes analyses of total expenditures (current and capital expenditures combined), current expenditures, selected expenditure functions (instruction, instructional support services, administration, and plant maintenance and operations), and expenditures for salaries and fringe benefits for school employees. Each of the analyses presented in the report contains two parts. One is a national analysis of school district expenditures. The second is an analysis of school district expenditures in the 50 states. Both the national analyses and the state analyses are presented using two types of expenditure measures. One is a measure of ***actual expenditures***. These figures represent the amount of money school districts actually spend on education and are the figures they report as expenditures in their audited financial records and in financial reports to the state. The second component is an analysis of ***cost-adjusted expenditures*** per pupil at the national level. "Cost-adjusted" expenditures are designed to take into account differences in the cost of education across school districts. The cost adjustment used in these analyses is the Geographic Cost of Education Index, which uses school districts as the geographic area. (GCEI) (Fowler and Monk 2001; Chambers 1998). The GCEI was developed using data from the 1993–94 Schools and Staffing Survey and works with three categories of school inputs: certified school personnel, noncertified school personnel, and nonpersonnel school items. The index reflects how much more or less it costs in different geographic locations to recruit and employ comparable school personnel, as well as the varying costs of nonpersonnel items such as purchased services, supplies and materials, furnishings and equipment, travel, utilities, and facilities.

Although cost-adjusted expenditures allow for greater comparability of expenditures across school districts and states, the report includes "actual" expenditures, in addition to cost-adjusted expenditures, for a few reasons. First, "actual" expenditures are the figures that appear in both official reports and other communications to policymakers, education administrators and teachers, and the general public. Second, a number of adjustment procedures could have been used to take into account cost-of-education differences across communities (McMahon 1996). Because only the GCEI was selected for use in this report, it was important to include analyses using the data as they were reported in order to give readers a second perspective.

[2]Districts may be missing data due to changes in district boundaries and/or consolidations between 1990 and 1997–98. Further, some districts do not have census data mapped to them in the Census Mapping File because they were created after the 1990 census.

## National Analyses

The national analyses of school district expenditures first present total education expenditures per pupil for all school districts in the nation. They then present average expenditures per pupil for school districts in different geographic regions, school districts of different size, school districts with different fiscal capacity to support education, and school districts with different proportions of minorities and district poverty rates. The two measures of fiscal capacity used in the analysis are median household income and median housing value.

Expenditures per pupil are calculated by dividing expenditures during the 1997–98 school year by the fall 1997 student enrollment in each district. Average expenditures per pupil for school districts in different regions and for school districts with different demographic and fiscal characteristics are calculated as ***weighted averages***; each district's weight is the number of students enrolled in fall 1997. Expenditures per pupil are calculated for each cell and large districts have a greater impact on the estimate than smaller districts.

Analyses of "actual" or "unadjusted" expenditures use a subset of districts on the F-33 file, with nonoperating and special school districts removed. This subset file contains 14,254 school districts or about 92 percent of the districts in the original file (table 1-2). It also contains almost all students (135,827 or 0.3 percent are removed) and 97 percent of total expenditures in the original file.

Districts designated as "college-grade," "vocational or special education," "nonoperating," and "education service agency" were not included in the analysis since these are not school districts that provide the regular elementary and secondary school programs. Districts with total revenues and total expenditures reported as "zero" or "missing" and special districts for vocational education, technical education, special education, and agricultural education were also removed from the original file.

Although only 8 percent of districts are removed from this subset file, it is important to note that the remaining school districts are organized in diverse ways across the states. In 15 states and the District of Columbia, all regular school districts are unified districts that include both elementary and secondary schools, and in 15 states, over 90 percent of the districts are unified districts (table 1-3). In contrast, in 20 states there are relatively fewer unified school districts and a larger number of separate elementary and secondary districts. In Arizona, California, Illinois, Maine, Montana, Nebraska, New Hampshire, New Jersey, and Vermont fewer than 50 percent of the school districts are unified districts. In Illinois, for example, 43 percent of the school districts are elementary districts, 12 percent are secondary districts, and only 45 percent are unified districts.

In most states, a large percentage of students in regular school districts are in unified districts (table 1-4). In 42 states and the District of Columbia, more than 90 percent of students are in unified school districts. In contrast, in eight states there are relatively fewer students in unified districts. For example, in Montana and Vermont fewer than 50 percent of students are in unified districts. In Vermont 45 percent of students are in elementary districts, 21 percent in secondary districts, and only 34 percent in unified districts.

Cost-of-education adjustments were not available for all school districts in the F-33 file. One hundred and seventy-seven districts without GCEI data were therefore removed from these analyses. The analyses of cost-adjusted expenditures therefore contained 14,077 school districts or about 91 percent of the districts in the original F-33 file. The districts in this file contained about 99 percent of the students enrolled in elementary and secondary education in fall 1997. (Table 1-5 presents data on the number of

Table. 1-2. Total number of school districts and students for regular school districts and percentages based on all school districts, by state: 1997–98

| State | Number of school districts | Percent of school districts | Number of students | Percent of students | Percent of expenditures |
|---|---|---|---|---|---|
| United States | 14,254 | 92.0 | 45,637,135 | 100.0 | 97.2 |
| Alabama | 127 | 100.0 | 739,321 | 100.0 | 100.0 |
| Alaska | 53 | 100.0 | 130,633 | 100.0 | 100.0 |
| Arizona | 215 | 93.5 | 794,325 | 100.0 | 99.2 |
| Arkansas | 310 | 95.1 | 453,779 | 99.4 | 97.4 |
| California | 988 | 91.7 | 5,664,044 | 98.9 | 93.7 |
| Colorado | 176 | 90.3 | 686,360 | 100.0 | 99.0 |
| Connecticut | 166 | 95.4 | 515,141 | 100.0 | 99.9 |
| Delaware | 16 | 84.2 | 105,697 | 94.9 | 91.4 |
| District of Columbia | 1 | 100.0 | 77,111 | 100.0 | 100.0 |
| Florida | 67 | 100.0 | 2,292,161 | 100.0 | 100.0 |
| Georgia | 180 | 91.8 | 1,375,980 | 100.0 | 99.4 |
| Hawaii | 1 | 100.0 | 189,887 | 100.0 | 100.0 |
| Idaho | 112 | 100.0 | 244,403 | 100.0 | 100.0 |
| Illinois | 896 | 85.7 | 1,971,705 | 100.0 | 97.5 |
| Indiana | 292 | 92.7 | 985,690 | 100.0 | 98.7 |
| Iowa | 377 | 96.2 | 501,054 | 100.0 | 93.7 |
| Kansas | 304 | 100.0 | 468,980 | 100.0 | 100.0 |
| Kentucky | 176 | 100.0 | 645,232 | 100.0 | 100.0 |
| Louisiana | 66 | 100.0 | 774,561 | 100.0 | 100.0 |
| Maine | 227 | 77.7 | 212,038 | 100.0 | 98.5 |
| Maryland | 24 | 100.0 | 830,744 | 100.0 | 100.0 |
| Massachusetts | 298 | 76.0 | 912,500 | 96.8 | 95.6 |
| Michigan | 656 | 91.2 | 1,679,792 | 100.0 | 91.7 |
| Minnesota | 348 | 83.7 | 841,723 | 100.0 | 96.5 |
| Mississippi | 149 | 98.0 | 503,635 | 99.8 | 99.8 |
| Missouri | 522 | 99.4 | 901,668 | 99.1 | 96.9 |
| Montana | 457 | 94.6 | 162,164 | 100.0 | 99.1 |
| Nebraska | 622 | 94.7 | 291,570 | 100.0 | 96.5 |
| Nevada | 17 | 100.0 | 296,621 | 100.0 | 100.0 |
| New Hampshire | 163 | 92.1 | 196,734 | 100.0 | 99.6 |
| New Jersey | 552 | 89.8 | 1,215,967 | 98.1 | 95.0 |
| New Mexico | 89 | 100.0 | 331,673 | 100.0 | 100.0 |
| New York | 687 | 99.6 | 2,834,082 | 100.0 | 99.9 |
| North Carolina | 117 | 100.0 | 1,230,010 | 100.0 | 100.0 |
| North Dakota | 231 | 88.8 | 116,813 | 100.0 | 93.4 |
| Ohio | 611 | 84.0 | 1,846,585 | 100.0 | 93.3 |
| Oklahoma | 548 | 93.5 | 623,681 | 100.0 | 92.2 |
| Oregon | 198 | 90.0 | 540,226 | 100.0 | 94.2 |
| Pennsylvania | 500 | 82.6 | 1,791,100 | 100.0 | 90.6 |
| Rhode Island | 36 | 100.0 | 152,356 | 100.0 | 100.0 |
| South Carolina | 86 | 87.8 | 648,084 | 100.0 | 99.5 |
| South Dakota | 173 | 98.3 | 133,698 | 100.0 | 99.9 |
| Tennessee | 137 | 99.3 | 876,693 | 100.0 | 100.0 |
| Texas | 1,041 | 97.9 | 3,887,847 | 100.0 | 100.0 |
| Utah | 40 | 100.0 | 480,811 | 100.0 | 100.0 |
| Vermont | 245 | 74.7 | 101,413 | 100.0 | 90.4 |
| Virginia | 132 | 85.2 | 1,110,815 | 100.0 | 98.9 |
| Washington | 296 | 97.0 | 991,235 | 100.0 | 98.3 |
| West Virginia | 55 | 100.0 | 300,737 | 100.0 | 100.0 |
| Wisconsin | 426 | 99.1 | 881,552 | 100.0 | 99.7 |
| Wyoming | 48 | 100.0 | 96,504 | 100.0 | 100.0 |

NOTE: Regular school districts exclude non-operating and special districts. The percent of school districts is calculated by dividing the number of regular districts by the total number of districts in the F-33 files shown in table 1-1. The percent of students is calculated by dividing the number of students in regular districts by the total number of students in the F-33 file; the percent of revenues is calculated by dividing the revenues in regular districts by the revenues of all districts in the F-33 file.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98."

Table 1-3. Total number of regular school districts and percentages based on all school districts, by type of school district and state: 1997–98

| State | Elementary school districts | | Secondary school districts | | Unified school districts | | All school districts | |
|---|---|---|---|---|---|---|---|---|
| | Number of districts | Percent of districts | Number of districts | Percent of districts | Number of districts | Percent of districts | Number of districts | Percent of districts |
| United States | 3,175 | 22.3 | 508 | 3.6 | 10,571 | 74.2 | 14,254 | 100.0 |
| Alabama | 0 | 0.0 | 0 | 0.0 | 127 | 100.0 | 127 | 100.0 |
| Alaska | 0 | 0.0 | 0 | 0.0 | 53 | 100.0 | 53 | 100.0 |
| Arizona | 106 | 49.3 | 17 | 7.9 | 92 | 42.8 | 215 | 100.0 |
| Arkansas | 0 | 0.0 | 0 | 0.0 | 310 | 100.0 | 310 | 100.0 |
| California | 582 | 58.9 | 93 | 9.4 | 313 | 31.7 | 988 | 100.0 |
| Colorado | 1 | 0.6 | 0 | 0.0 | 175 | 99.4 | 176 | 100.0 |
| Connecticut | 45 | 27.1 | 8 | 4.8 | 113 | 68.1 | 166 | 100.0 |
| Delaware | 0 | 0.0 | 1 | 6.3 | 15 | 93.8 | 16 | 100.0 |
| District of Columbia | 0 | 0.0 | 0 | 0.0 | 1 | 100.0 | 1 | 100.0 |
| Florida | 0 | 0.0 | 0 | 0.0 | 67 | 100.0 | 67 | 100.0 |
| Georgia | 7 | 3.9 | 0 | 0.0 | 173 | 96.1 | 180 | 100.0 |
| Hawaii | 0 | 0.0 | 0 | 0.0 | 1 | 100.0 | 1 | 100.0 |
| Idaho | 6 | 5.4 | 0 | 0.0 | 106 | 94.6 | 112 | 100.0 |
| Illinois | 387 | 43.2 | 104 | 11.6 | 405 | 45.2 | 896 | 100.0 |
| Indiana | 1 | 0.3 | 0 | 0.0 | 291 | 99.7 | 292 | 100.0 |
| Iowa | 24 | 6.4 | 0 | 0.0 | 353 | 93.6 | 377 | 100.0 |
| Kansas | 2 | 0.7 | 0 | 0.0 | 302 | 99.3 | 304 | 100.0 |
| Kentucky | 6 | 3.4 | 0 | 0.0 | 170 | 96.6 | 176 | 100.0 |
| Louisiana | 0 | 0.0 | 0 | 0.0 | 66 | 100.0 | 66 | 100.0 |
| Maine | 111 | 48.9 | 5 | 2.2 | 111 | 48.9 | 227 | 100.0 |
| Maryland | 0 | 0.0 | 0 | 0.0 | 24 | 100.0 | 24 | 100.0 |
| Massachusetts | 73 | 24.5 | 17 | 5.7 | 208 | 69.8 | 298 | 100.0 |
| Michigan | 104 | 15.9 | 20 | 3.0 | 532 | 81.1 | 656 | 100.0 |
| Minnesota | 19 | 5.5 | 4 | 1.1 | 325 | 93.4 | 348 | 100.0 |
| Mississippi | 0 | 0.0 | 0 | 0.0 | 149 | 100.0 | 149 | 100.0 |
| Missouri | 74 | 14.2 | 0 | 0.0 | 448 | 85.8 | 522 | 100.0 |
| Montana | 293 | 64.1 | 117 | 25.6 | 47 | 10.3 | 457 | 100.0 |
| Nebraska | 336 | 54.0 | 20 | 3.2 | 266 | 42.8 | 622 | 100.0 |
| Nevada | 1 | 5.9 | 0 | 0.0 | 16 | 94.1 | 17 | 100.0 |
| New Hampshire | 88 | 54.0 | 7 | 4.3 | 68 | 41.7 | 163 | 100.0 |
| New Jersey | 297 | 53.8 | 48 | 8.7 | 207 | 37.5 | 552 | 100.0 |
| New Mexico | 1 | 1.1 | 0 | 0.0 | 88 | 98.9 | 89 | 100.0 |
| New York | 44 | 6.4 | 3 | 0.4 | 640 | 93.2 | 687 | 100.0 |
| North Carolina | 0 | 0.0 | 0 | 0.0 | 117 | 100.0 | 117 | 100.0 |
| North Dakota | 49 | 21.2 | 6 | 2.6 | 176 | 76.2 | 231 | 100.0 |
| Ohio | 1 | 0.2 | 0 | 0.0 | 610 | 99.8 | 611 | 100.0 |
| Oklahoma | 117 | 21.4 | 0 | 0.0 | 431 | 78.6 | 548 | 100.0 |
| Oregon | 20 | 10.1 | 2 | 1.0 | 176 | 88.9 | 198 | 100.0 |
| Pennsylvania | 2 | 0.4 | 0 | 0.0 | 498 | 99.6 | 500 | 100.0 |
| Rhode Island | 4 | 11.1 | 0 | 0.0 | 32 | 88.9 | 36 | 100.0 |
| South Carolina | 0 | 0.0 | 0 | 0.0 | 86 | 100.0 | 86 | 100.0 |
| South Dakota | 7 | 4.0 | 0 | 0.0 | 166 | 96.0 | 173 | 100.0 |
| Tennessee | 17 | 12.4 | 0 | 0.0 | 120 | 87.6 | 137 | 100.0 |
| Texas | 68 | 6.5 | 0 | 0.0 | 973 | 93.5 | 1,041 | 100.0 |
| Utah | 0 | 0.0 | 0 | 0.0 | 40 | 100.0 | 40 | 100.0 |
| Vermont | 184 | 75.1 | 25 | 10.2 | 36 | 14.7 | 245 | 100.0 |
| Virginia | 1 | 0.8 | 0 | 0.0 | 131 | 99.2 | 132 | 100.0 |
| Washington | 48 | 16.2 | 0 | 0.0 | 248 | 83.8 | 296 | 100.0 |
| West Virginia | 0 | 0.0 | 0 | 0.0 | 55 | 100.0 | 55 | 100.0 |
| Wisconsin | 47 | 11.0 | 11 | 2.6 | 368 | 86.4 | 426 | 100.0 |
| Wyoming | 2 | 4.2 | 0 | 0.0 | 46 | 95.8 | 48 | 100.0 |

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98."

Table 1-4. Total number of students in regular school districts and percentages based on all school districts, by type of school district and state: 1997–98

| State | Elementary school districts | | Secondary school districts | | Unified school districts | | All school districts | |
|---|---|---|---|---|---|---|---|---|
| | Number of students | Percent of students | Number of students | Percent of students | Number of students | Percent of students | Number of students | Percent of students |
| United States | 2,652,821 | 5.8 | 986,784 | 2.2 | 41,997,530 | 92.0 | 45,637,135 | 100.0 |
| Alabama | 0 | 0.0 | 0 | 0.0 | 739,321 | 100.0 | 739,321 | 100.0 |
| Alaska | 0 | 0.0 | 0 | 0.0 | 130,633 | 100.0 | 130,633 | 100.0 |
| Arizona | 226,702 | 28.5 | 72,056 | 9.1 | 495,567 | 62.4 | 794,325 | 100.0 |
| Arkansas | 0 | 0.0 | 0 | 0.0 | 453,779 | 100.0 | 453,779 | 100.0 |
| California | 1,192,471 | 21.1 | 482,632 | 8.5 | 3,988,941 | 70.4 | 5,664,044 | 100.0 |
| Colorado | 45 | 0.0 | 0 | 0.0 | 686,315 | 100.0 | 686,360 | 100.0 |
| Connecticut | 24,371 | 4.7 | 7,703 | 1.5 | 483,067 | 93.8 | 515,141 | 100.0 |
| Delaware | 0 | 0.0 | 754 | 0.7 | 104,943 | 99.3 | 105,697 | 100.0 |
| District of Columbia | 0 | 0.0 | 0 | 0.0 | 77,111 | 100.0 | 77,111 | 100.0 |
| Florida | 0 | 0.0 | 0 | 0.0 | 2,292,161 | 100.0 | 2,292,161 | 100.0 |
| Georgia | 2,740 | 0.2 | 0 | 0.0 | 1,373,240 | 99.8 | 1,375,980 | 100.0 |
| Hawaii | 0 | 0.0 | 0 | 0.0 | 189,887 | 100.0 | 189,887 | 100.0 |
| Idaho | 165 | 0.1 | 0 | 0.0 | 244,238 | 99.9 | 244,403 | 100.0 |
| Illinois | 502,531 | 25.5 | 214,521 | 10.9 | 1,254,653 | 63.6 | 1,971,705 | 100.0 |
| Indiana | 240 | 0.0 | 0 | 0.0 | 985,450 | 100.0 | 985,690 | 100.0 |
| Iowa | 4,629 | 0.9 | 0 | 0.0 | 496,425 | 99.1 | 501,054 | 100.0 |
| Kansas | 252 | 0.1 | 0 | 0.0 | 468,728 | 99.9 | 468,980 | 100.0 |
| Kentucky | 7,975 | 1.2 | 0 | 0.0 | 637,257 | 98.8 | 645,232 | 100.0 |
| Louisiana | 0 | 0.0 | 0 | 0.0 | 774,561 | 100.0 | 774,561 | 100.0 |
| Maine | 26,211 | 12.4 | 2,373 | 1.1 | 183,454 | 86.5 | 212,038 | 100.0 |
| Maryland | 0 | 0.0 | 0 | 0.0 | 830,744 | 100.0 | 830,744 | 100.0 |
| Massachusetts | 43,302 | 4.7 | 21,042 | 2.3 | 848,156 | 92.9 | 912,500 | 100.0 |
| Michigan | 18,673 | 1.1 | 1,755 | 0.1 | 1,659,364 | 98.8 | 1,679,792 | 100.0 |
| Minnesota | 4,498 | 0.5 | 1,119 | 0.1 | 836,106 | 99.3 | 841,723 | 100.0 |
| Mississippi | 0 | 0.0 | 0 | 0.0 | 503,635 | 100.0 | 503,635 | 100.0 |
| Missouri | 12,710 | 1.4 | 0 | 0.0 | 888,958 | 98.6 | 901,668 | 100.0 |
| Montana | 99,696 | 61.5 | 44,908 | 27.7 | 17,560 | 10.8 | 162,164 | 100.0 |
| Nebraska | 10,709 | 3.7 | 4,449 | 1.5 | 276,412 | 94.8 | 291,570 | 100.0 |
| Nevada | 114 | 0.0 | 0 | 0.0 | 296,507 | 100.0 | 296,621 | 100.0 |
| New Hampshire | 37,856 | 19.2 | 4,844 | 2.5 | 154,034 | 78.3 | 196,734 | 100.0 |
| New Jersey | 246,265 | 20.3 | 79,809 | 6.6 | 889,893 | 73.2 | 1,215,967 | 100.0 |
| New Mexico | 8,931 | 2.7 | 0 | 0.0 | 322,742 | 97.3 | 331,673 | 100.0 |
| New York | 30,201 | 1.1 | 15,636 | 0.6 | 2,788,245 | 98.4 | 2,834,082 | 100.0 |
| North Carolina | 0 | 0.0 | 0 | 0.0 | 1,230,010 | 100.0 | 1,230,010 | 100.0 |
| North Dakota | 2,898 | 2.5 | 672 | 0.6 | 113,243 | 96.9 | 116,813 | 100.0 |
| Ohio | 8 | 0.0 | 0 | 0.0 | 1,846,577 | 100.0 | 1,846,585 | 100.0 |
| Oklahoma | 22,166 | 3.6 | 0 | 0.0 | 601,515 | 96.4 | 623,681 | 100.0 |
| Oregon | 5,235 | 1.0 | 919 | 0.2 | 534,072 | 98.9 | 540,226 | 100.0 |
| Pennsylvania | 895 | 0.0 | 0 | 0.0 | 1,790,205 | 100.0 | 1,791,100 | 100.0 |
| Rhode Island | 2,300 | 1.5 | 0 | 0.0 | 150,056 | 98.5 | 152,356 | 100.0 |
| South Carolina | 0 | 0.0 | 0 | 0.0 | 648,084 | 100.0 | 648,084 | 100.0 |
| South Dakota | 1,304 | 1.0 | 0 | 0.0 | 132,394 | 99.0 | 133,698 | 100.0 |
| Tennessee | 25,242 | 2.9 | 0 | 0.0 | 851,451 | 97.1 | 876,693 | 100.0 |
| Texas | 11,650 | 0.3 | 0 | 0.0 | 3,876,197 | 99.7 | 3,887,847 | 100.0 |
| Utah | 0 | 0.0 | 0 | 0.0 | 480,811 | 100.0 | 480,811 | 100.0 |
| Vermont | 45,717 | 45.1 | 20,937 | 20.6 | 34,759 | 34.3 | 101,413 | 100.0 |
| Virginia | 446 | 0.0 | 0 | 0.0 | 1,110,369 | 100.0 | 1,110,815 | 100.0 |
| Washington | 10,061 | 1.0 | 0 | 0.0 | 981,174 | 99.0 | 991,235 | 100.0 |
| West Virginia | 0 | 0.0 | 0 | 0.0 | 300,737 | 100.0 | 300,737 | 100.0 |
| Wisconsin | 23,019 | 2.6 | 10,655 | 1.2 | 847,878 | 96.2 | 881,552 | 100.0 |
| Wyoming | 593 | 0.6 | 0 | 0.0 | 95,911 | 99.4 | 96,504 | 100.0 |

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98."

Table 1-5. Total number of school districts and students for regular school districts with Geographic Cost of Education Index (GCEI) and percentages based on all school districts, by state: 1997–98

| State | Number of school districts | Percent of school districts | Number of students | Percent of students | Percent of expenditures |
|---|---|---|---|---|---|
| United States | 14,077 | 91.0 | 45,496,799 | 99.0 | 96.8 |
| Alabama | 127 | 100.0 | 739,321 | 100.0 | 100.0 |
| Alaska | 53 | 100.0 | 130,633 | 100.0 | 100.0 |
| Arizona | 214 | 93.0 | 794,221 | 100.0 | 99.2 |
| Arkansas | 310 | 95.1 | 453,779 | 99.4 | 97.4 |
| California | 975 | 90.5 | 5,631,188 | 98.3 | 93.1 |
| Colorado | 176 | 90.3 | 686,360 | 100.0 | 99.0 |
| Connecticut | 166 | 95.4 | 515,141 | 100.0 | 99.9 |
| Delaware | 16 | 84.2 | 105,697 | 94.9 | 91.4 |
| District of Columbia | 1 | 100.0 | 77,111 | 100.0 | 100.0 |
| Florida | 67 | 100.0 | 2,292,161 | 100.0 | 100.0 |
| Georgia | 180 | 91.8 | 1,375,980 | 100.0 | 99.4 |
| Hawaii | 1 | 100.0 | 189,887 | 100.0 | 100.0 |
| Idaho | 112 | 100.0 | 244,403 | 100.0 | 100.0 |
| Illinois | 891 | 85.2 | 1,966,656 | 99.7 | 97.2 |
| Indiana | 292 | 92.7 | 985,690 | 100.0 | 98.7 |
| Iowa | 377 | 96.2 | 501,054 | 100.0 | 93.7 |
| Kansas | 304 | 100.0 | 468,980 | 100.0 | 100.0 |
| Kentucky | 176 | 100.0 | 645,232 | 100.0 | 100.0 |
| Louisiana | 66 | 100.0 | 774,561 | 100.0 | 100.0 |
| Maine | 224 | 76.7 | 211,613 | 99.8 | 98.1 |
| Maryland | 24 | 100.0 | 830,744 | 100.0 | 100.0 |
| Massachusetts | 295 | 75.3 | 909,978 | 96.6 | 95.3 |
| Michigan | 552 | 76.8 | 1,655,333 | 98.5 | 90.7 |
| Minnesota | 327 | 78.6 | 820,211 | 97.4 | 94.3 |
| Mississippi | 149 | 98.0 | 503,635 | 99.8 | 99.8 |
| Missouri | 522 | 99.4 | 901,668 | 99.1 | 96.9 |
| Montana | 456 | 94.4 | 162,040 | 99.9 | 98.9 |
| Nebraska | 618 | 94.1 | 289,873 | 99.4 | 95.9 |
| Nevada | 17 | 100.0 | 296,621 | 100.0 | 100.0 |
| New Hampshire | 162 | 91.5 | 194,270 | 98.7 | 97.5 |
| New Jersey | 550 | 89.4 | 1,213,634 | 98.0 | 94.7 |
| New Mexico | 88 | 98.9 | 322,742 | 97.3 | 97.2 |
| New York | 679 | 98.4 | 2,820,089 | 99.5 | 99.5 |
| North Carolina | 117 | 100.0 | 1,230,010 | 100.0 | 100.0 |
| North Dakota | 229 | 88.1 | 116,339 | 99.6 | 92.9 |
| Ohio | 611 | 84.0 | 1,846,585 | 100.0 | 93.3 |
| Oklahoma | 547 | 93.3 | 623,174 | 99.9 | 92.1 |
| Oregon | 194 | 88.2 | 520,290 | 96.3 | 91.1 |
| Pennsylvania | 500 | 82.6 | 1,791,100 | 100.0 | 90.6 |
| Rhode Island | 36 | 100.0 | 152,356 | 100.0 | 100.0 |
| South Carolina | 86 | 87.8 | 648,084 | 100.0 | 99.5 |
| South Dakota | 173 | 98.3 | 133,698 | 100.0 | 99.9 |
| Tennessee | 137 | 99.3 | 876,693 | 100.0 | 100.0 |
| Texas | 1,041 | 97.9 | 3,887,847 | 100.0 | 100.0 |
| Utah | 40 | 100.0 | 480,811 | 100.0 | 100.0 |
| Vermont | 243 | 74.1 | 99,216 | 97.8 | 88.3 |
| Virginia | 132 | 85.2 | 1,110,815 | 100.0 | 98.9 |
| Washington | 296 | 97.0 | 991,235 | 100.0 | 98.3 |
| West Virginia | 55 | 100.0 | 300,737 | 100.0 | 100.0 |
| Wisconsin | 425 | 98.8 | 880,799 | 99.9 | 99.6 |
| Wyoming | 48 | 100.0 | 96,504 | 100.0 | 100.0 |

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98."

districts and students that are included in the database used in analyses of "cost-adjusted" expenditures for each state.)

## State Analyses

The state analyses presented in the report generally follow the national model, but focus more on two issues. One is the amount of variation in expenditures per pupil across school districts within each state. The second is the relationship between expenditures per pupil and selected district demographic and fiscal characteristics.

Several factors motivated the selection of these analyses for the report. The amount of interdistrict variation in expenditure per pupil was selected because the literature on school finance equity uses interdistrict variation in expenditure per pupil as a measure of the equity of a state's school finance system (Berne and Stiefel 1984). This analysis was designed to determine whether states uniformly have a similar level of interdistrict variation in school expenditures or whether the level of variation differs across the states. The analyses compare variations within states to a national measure of variation. The figures are also compared on a state-by-state basis. The analysis does not, however, compare within-state variation to between-state variation.

Of particular interest was whether there are regional differences in interdistrict variation in expenditures per pupil. Regional differences are important because different regions of the country have different political cultures, which often affect the way schools are governed and financed. New England states, for example, have historically organized school districts around cities and towns, which then play a major role in the financing of education. Southern states, in contrast, have organized school districts around larger county units, with state governments playing a larger role in education policy and finance (Kirst 1970).

The second set of analyses, analyses of the relationship between school district fiscal capacity and expenditures for education, was included because this relationship is also an important equity measure in school finance research (Berne and Stiefel 1984). This study attempted to assess whether the relationship between school district wealth and education expenditures still exists nationally and in the 50 states.

In addition, research has shown that school districts with a higher concentration of poor or minority children generally have greater educational needs that require additional resources for education (Parrish, Hikido, and Fowler 1998). This study attempted to ascertain whether, in fact, school districts with larger poor or minority school populations were actually spending more money for education than school districts with lower concentrations of children from poor or minority backgrounds.

### *Interdistrict Variation in Expenditures Per Pupil*

The equity framework developed by Berne and Stiefel (1984) contained several measures of interdistrict variation in revenues. This analysis used three measures from that framework—the restricted range ratio, the coefficient of variation, and the Gini coefficient—and a synthesized measure of variation that integrates the three measures.

- The **restricted range ratio** calculates the difference in expenditures per pupil between the district at the 95th percentile of spending and the district at the 5th percentile of spending and divides that difference by expenditures per pupil of the district at the 5th percentile. This measure demonstrates how many times greater the resources are at the high end of the distribution than at the low end, while excluding outliers from the analysis.[3]

- The **coefficient of variation** is calculated as the standard deviation of adjusted spending per pupil divided by the mean multiplied by 100. The coefficient of variation does not exclude outliers and indicates roughly the percentage above and below the mean within which two-thirds of the observations lie. This helps to identify the spread of spending levels.

- The **Gini coefficient** is based on a curve showing the cumulative proportion of total revenues against the cumulative proportion of students. If every school district had the same expenditures per pupil, this curve would be a straight line with a positive 45-degree slope. The Gini coefficient, which ranges from 0 to 1, is a measure of the difference between the ideal straight line and the curve plotted by the data. A value of 0 indicates no variation, while a value of 1 indicates maximum variation among the districts.

- The **synthesized measure of variation** was created by ranking the states on each of the above three measures and averaging the three ranks for each state. States were then divided into quartiles based on their ranking on the synthesized measure; states with the lowest quartile ranking had the least variation in expenditures per pupil, while those with the highest ranking had the greatest variation.

The analyses of interdistrict variation in expenditures per pupil using the coefficient of variation and the Gini coefficient are ***weighted*** analyses. Each district's value on the measure of expenditures per pupil is weighted by the number of students enrolled in fall 1997. The analyses include 49 states. The District of Columbia and Hawaii were not included in state-level analyses since they each only contain one school district. As noted previously, states tend to vary in the structure of school districts with some states having mostly unified districts and others having a combination of elementary, secondary, and unified districts. A state's district structure could affect its measures of interdistrict variation in expenditures per pupil since per pupil funding in secondary districts is greater than in elementary or unified districts (Parrish, Hikido, and Fowler 1998).

The range of variation was different depending on which type of expenditure was being investigated. Therefore, rather than defining a standard level of "high variation" or "low variation" for use across all expenditure types, states were compared with each other within each variation measure. States considered "high variation" states are simply those states with the highest variation; similarly, states referred to as "low variation" states are those states with the lowest variation.

Regional analyses of interdistrict variation in expenditures per pupil used the quartile ranking of the synthesized measure of variation. Within each region states were classified in either the top two quartiles (states with low variation) or the bottom two quartiles (states with high variation).

[3]The term "restricted range ratio" is used interchangeably with the term "Federal range ratio" in school finance analyses, although Berne and Stiefel use the term Federal range ratio in their framework. The national statistics were calculated based on data for all school districts in the country, not as the average of state figures. The upper bound for reporting the ratio for states was set at 200, since this level included almost all states whose ratios were less than infinity.

Analyses of interdistrict variation in expenditures per pupil were conducted using both unadjusted and cost-adjusted revenues. The number of school districts and students included in the unadjusted analyses is found in table 1-2; the number of districts and students in the cost-adjusted analyses is found in table 1-5.

### *Relationship Between Expenditures Per Pupil and Selected District Fiscal and Demographic Characteristics*

The final component of the state analyses was an examination of the relationship between expenditures per pupil and the following district demographic and fiscal characteristics: percent minority enrollment, district poverty rate, median household income, and median housing value. These analyses used simple correlation coefficients as the basis for determining whether school district expenditures per pupil in each state were related to these school district characteristics.

Using their strength and direction, these relationships were characterized as:

- **Strong positive**: +0.50 to +1.00; **Moderate positive**: +0.11 to +0.49; **Weak positive**: +0.01 to +0.10;
- **Weak negative**: -0.01 to -0.10; **Moderate negative**: -0.11 to -0.49; **Strong negative**: -0.50 to -1.00.

Relationships were characterized as strong positive if the correlation was between +0.50 and +1.00, moderate positive if the correlation was between +0.11 and +0.49, weak positive if the correlation was between +0.01 and +0.10, weak negative if the correlation was between -0.10 and -0.01, moderate negative if the correlation was between -0.11 and -0.49, and strong negative if the correlation was between -0.50 and -1.00. The analysis used two-tailed t-tests comparing each correlation to zero as a way to determine which correlations were significant. For a correlation to be reported, the relationship had to be significantly different from zero at the 0.05 level. When doing these significance tests it is assumed that the data come from a simple random sample without replacement.

All the analyses of correlation between expenditures per pupil and district fiscal and demographic characteristics are ***weighted*** analyses. Again, each district's weight in the analyses is the number of students enrolled in fall 1997.

Although included in national analyses, the presence of a single school district in the District of Columbia and Hawaii precluded them from state-level variance and correlation analyses. In addition to the District of Columbia and Hawaii, nine states were excluded from the correlation analyses because more than 50 percent of the school districts were missing the required demographic and fiscal data. These states are Arkansas, Colorado, Georgia, Kentucky, Mississippi, New Jersey, New Mexico, Oklahoma, and South Dakota.

Finally, correlation analyses were conducted using both unadjusted and cost-adjusted expenditures. Table 1-6 presents the number and percentage of districts and students in the correlation analysis based on unadjusted expenditures nationally and for each state, as well as the percentage of total expenditures remaining from the original file; table 1-7 presents this information for the analysis based on cost-adjusted expenditures. National correlation analyses included about 78 percent of the school districts in the original F-33 file and between 94 and 95 percent of the students in the original file.

Table 1-6. Total number of school districts and students for regular school districts with Census Mapping Data and percentages based on all school districts, by state: 1997–98

| State | Number of school districts | Percent of school districts | Number of students | Percent of students | Percent of expenditures |
|---|---|---|---|---|---|
| United States | 12,157 | 78.0 | 43,260,940 | 95.0 | 92.1 |
| Alabama | 127 | 100.0 | 739,321 | 100.0 | 100.0 |
| Alaska | 53 | 100.0 | 130,633 | 100.0 | 100.0 |
| Arizona | 211 | 91.7 | 790,784 | 99.6 | 98.7 |
| Arkansas | 116 | 35.6 | 321,196 | 70.4 | 69.7 |
| California | 952 | 88.4 | 5,547,426 | 96.9 | 91.6 |
| Colorado | 57 | 29.2 | 603,604 | 87.9 | 86.5 |
| Connecticut | 166 | 95.4 | 515,141 | 100.0 | 99.9 |
| Delaware | 16 | 84.2 | 105,697 | 94.9 | 91.4 |
| District of Columbia | 1 | 100.0 | 77,111 | 100.0 | 100.0 |
| Florida | 67 | 100.0 | 2,292,161 | 100.0 | 100.0 |
| Georgia | 66 | 33.7 | 1,039,075 | 75.5 | 76.6 |
| Hawaii | 1 | 100.0 | 189,887 | 100.0 | 100.0 |
| Idaho | 110 | 98.2 | 243,209 | 99.5 | 99.4 |
| Illinois | 882 | 84.3 | 1,956,864 | 99.2 | 96.7 |
| Indiana | 292 | 92.7 | 985,690 | 100.0 | 98.7 |
| Iowa | 366 | 93.4 | 492,080 | 98.2 | 92.0 |
| Kansas | 304 | 100.0 | 468,980 | 100.0 | 100.0 |
| Kentucky | 86 | 48.9 | 494,553 | 76.6 | 77.0 |
| Louisiana | 66 | 100.0 | 774,561 | 100.0 | 100.0 |
| Maine | 222 | 76.0 | 211,536 | 99.8 | 98.0 |
| Maryland | 24 | 100.0 | 830,744 | 100.0 | 100.0 |
| Massachusetts | 296 | 75.5 | 911,858 | 96.8 | 95.5 |
| Michigan | 553 | 76.9 | 1,659,550 | 98.7 | 90.9 |
| Minnesota | 297 | 71.4 | 785,222 | 93.3 | 90.3 |
| Mississippi | 68 | 44.7 | 332,183 | 65.8 | 67.1 |
| Missouri | 352 | 67.0 | 609,277 | 67.0 | 64.6 |
| Montana | 449 | 93.0 | 161,518 | 99.6 | 98.5 |
| Nebraska | 611 | 93.0 | 287,215 | 98.5 | 94.9 |
| Nevada | 17 | 100.0 | 296,621 | 100.0 | 100.0 |
| New Hampshire | 158 | 89.3 | 191,246 | 97.2 | 95.6 |
| New Jersey | 142 | 23.1 | 689,987 | 55.7 | 54.5 |
| New Mexico | 41 | 46.1 | 286,067 | 86.2 | 84.2 |
| New York | 674 | 97.7 | 2,812,718 | 99.2 | 99.1 |
| North Carolina | 116 | 99.1 | 1,214,492 | 98.7 | 98.7 |
| North Dakota | 225 | 86.5 | 114,891 | 98.4 | 91.6 |
| Ohio | 611 | 84.0 | 1,846,585 | 100.0 | 93.3 |
| Oklahoma | 63 | 10.8 | 321,252 | 51.5 | 47.7 |
| Oregon | 190 | 86.4 | 516,606 | 95.6 | 90.5 |
| Pennsylvania | 500 | 82.6 | 1,791,100 | 100.0 | 90.6 |
| Rhode Island | 35 | 97.2 | 148,385 | 97.4 | 97.1 |
| South Carolina | 86 | 87.8 | 648,084 | 100.0 | 99.5 |
| South Dakota | 81 | 46.0 | 105,792 | 79.1 | 78.8 |
| Tennessee | 135 | 97.8 | 875,401 | 99.9 | 99.8 |
| Texas | 1,041 | 97.9 | 3,887,847 | 100.0 | 100.0 |
| Utah | 40 | 100.0 | 480,811 | 100.0 | 100.0 |
| Vermont | 237 | 72.3 | 96,381 | 95.0 | 86.2 |
| Virginia | 132 | 85.2 | 1,110,815 | 100.0 | 98.9 |
| Washington | 295 | 96.7 | 991,226 | 100.0 | 98.3 |
| West Virginia | 55 | 100.0 | 300,737 | 100.0 | 100.0 |
| Wisconsin | 424 | 98.6 | 880,316 | 99.9 | 99.5 |
| Wyoming | 48 | 100.0 | 96,504 | 100.0 | 100.0 |

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

Table 1-7. Total number of school districts and students for regular school districts with Geographic Cost of Education Index (GCEI) and Census Mapping Data and percentages based on all school districts, by state: 1997–98

| State | Number of school districts | Percent of school districts | Number of students | Percent of students | Percent of expenditures |
|---|---|---|---|---|---|
| United States | 12,155 | 78.0 | 43,254,843 | 94.0 | 92.1 |
| Alabama | 127 | 100.0 | 739,321 | 100.0 | 100.0 |
| Alaska | 53 | 100.0 | 130,633 | 100.0 | 100.0 |
| Arizona | 211 | 91.7 | 790,784 | 99.6 | 98.7 |
| Arkansas | 116 | 35.6 | 321,196 | 70.4 | 69.7 |
| California | 952 | 88.4 | 5,547,426 | 96.9 | 91.6 |
| Colorado | 57 | 29.2 | 603,604 | 87.9 | 86.5 |
| Connecticut | 166 | 95.4 | 515,141 | 100.0 | 99.9 |
| Delaware | 16 | 84.2 | 105,697 | 94.9 | 91.4 |
| District of Columbia | 1 | 100.0 | 77,111 | 100.0 | 100.0 |
| Florida | 67 | 100.0 | 2,292,161 | 100.0 | 100.0 |
| Georgia | 66 | 33.7 | 1,039,075 | 75.5 | 76.6 |
| Hawaii | 1 | 100.0 | 189,887 | 100.0 | 100.0 |
| Idaho | 110 | 98.2 | 243,209 | 99.5 | 99.4 |
| Illinois | 882 | 84.3 | 1,956,864 | 99.2 | 96.7 |
| Indiana | 292 | 92.7 | 985,690 | 100.0 | 98.7 |
| Iowa | 366 | 93.4 | 492,080 | 98.2 | 92.0 |
| Kansas | 304 | 100.0 | 468,980 | 100.0 | 100.0 |
| Kentucky | 86 | 48.9 | 494,553 | 76.6 | 77.0 |
| Louisiana | 66 | 100.0 | 774,561 | 100.0 | 100.0 |
| Maine | 222 | 76.0 | 211,536 | 99.8 | 98.0 |
| Maryland | 24 | 100.0 | 830,744 | 100.0 | 100.0 |
| Massachusetts | 295 | 75.3 | 909,978 | 96.6 | 95.3 |
| Michigan | 552 | 76.8 | 1,655,333 | 98.5 | 90.7 |
| Minnesota | 297 | 71.4 | 785,222 | 93.3 | 90.3 |
| Mississippi | 68 | 44.7 | 332,183 | 65.8 | 67.1 |
| Missouri | 352 | 67.0 | 609,277 | 67.0 | 64.6 |
| Montana | 449 | 93.0 | 161,518 | 99.6 | 98.5 |
| Nebraska | 611 | 93.0 | 287,215 | 98.5 | 94.9 |
| Nevada | 17 | 100.0 | 296,621 | 100.0 | 100.0 |
| New Hampshire | 158 | 89.3 | 191,246 | 97.2 | 95.6 |
| New Jersey | 142 | 23.1 | 689,987 | 55.7 | 54.5 |
| New Mexico | 41 | 46.1 | 286,067 | 86.2 | 84.2 |
| New York | 674 | 97.7 | 2,812,718 | 99.2 | 99.1 |
| North Carolina | 116 | 99.1 | 1,214,492 | 98.7 | 98.7 |
| North Dakota | 225 | 86.5 | 114,891 | 98.4 | 91.6 |
| Ohio | 611 | 84.0 | 1,846,585 | 100.0 | 93.3 |
| Oklahoma | 63 | 10.8 | 321,252 | 51.5 | 47.7 |
| Oregon | 190 | 86.4 | 516,606 | 95.6 | 90.5 |
| Pennsylvania | 500 | 82.6 | 1,791,100 | 100.0 | 90.6 |
| Rhode Island | 35 | 97.2 | 148,385 | 97.4 | 97.1 |
| South Carolina | 86 | 87.8 | 648,084 | 100.0 | 99.5 |
| South Dakota | 81 | 46.0 | 105,792 | 79.1 | 78.8 |
| Tennessee | 135 | 97.8 | 875,401 | 99.9 | 99.8 |
| Texas | 1,041 | 97.9 | 3,887,847 | 100.0 | 100.0 |
| Utah | 40 | 100.0 | 480,811 | 100.0 | 100.0 |
| Vermont | 237 | 72.3 | 96,381 | 95.0 | 86.2 |
| Virginia | 132 | 85.2 | 1,110,815 | 100.0 | 98.9 |
| Washington | 295 | 96.7 | 991,226 | 100.0 | 98.3 |
| West Virginia | 55 | 100.0 | 300,737 | 100.0 | 100.0 |
| Wisconsin | 424 | 98.6 | 880,316 | 99.9 | 99.5 |
| Wyoming | 48 | 100.0 | 96,504 | 100.0 | 100.0 |

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

The computation of correlations in the report was based on a weighted Pearson product-moment correlation. The computations were implemented by using Proc Corr in SAS. The formula for a weighted Pearson product-moment correlation is:

$$r_{xy} = \frac{\Sigma w_i (x_i - \bar{x}_w)(y_i - \bar{y}_w)}{\sqrt{\Sigma\, w_i (x_i - \bar{x}_w)^2 \, \Sigma w_i (y_i - \bar{y}_w)^2}}$$

Where

$w_i$ = the number of students in the district

$x_i$ = the district's value on the demographic characteristics (e.g., percent minority enrollment) or the fiscal characteristic (e.g., median housing value)

$\bar{x}_w$ = the weighted mean on the demographic or fiscal characteristic

$y_i$ = the district's value on the revenue measure (e.g., local revenues per pupil)

$\bar{y}_w$ = the weighted mean or the revenue measure

## Definitions

Several expenditure measures were used in the analyses described above. These include total expenditures, current expenditures, salary expenditures, salary and fringe benefit expenditures, and expenditures for the following functions: instruction; student and instructional staff support services; administration; and plant maintenance and operations. All expenditures include both district expenditures and state expenditures for, and on behalf of, districts for student transportation, textbooks, retirement contributions, and other fringe benefits. State expenditures have been allocated to each of the functions and objects for analysis, so each function and object includes all expenditures from both district and state funds.

It should be noted that the expenditures from the F-33 used in this report do not always correspond exactly with state expenditures data generated by the "National Public Education Financial Survey" (NPEFS), which the NCES also administers each year. These differences may be due to the fact that the NPEFS includes direct state expenditures for state schools, expenditures for intermediate and special districts, transportation for special education students in state schools, and, in some states, capital construction. Readers interested in state-level expenditures for education should use data from the NPEFS, rather than local expenditure data from the F-33.

The specific expenditure measures used in the analyses are defined below.

- **Total expenditures** include current expenditures (defined above), nonelementary/secondary programs, and capital expenditures. Capital expenditures include expenditures for construction of fixed assets and for purchasing land, existing buildings and grounds and equipment. Nonelementary/secondary programs include community services and adult education.

- **Current expenditures** include salaries and wages, employee benefits, purchased services, supplies, and other miscellaneous expenditures in the following categories: elementary/secondary educational instructional programs in prekindergarten through grade 12 and elementary/secondary noninstructional programs. Instructional programs include instruction and support services. Noninstructional programs include food services, enterprise operations, and other noninstructional activities.

- **Administration expenditures** include general and school administration, as well as business support and central support services. General administration includes expenditures for the board of education and executive administration services (office of the superintendent). School administration includes expenditures for the office of the principal. Business support services include expenditures for fiscal services, purchasing, warehousing, supply distribution, printing, publishing, and duplicating services. Central support services include expenditure for planning, research and development, evaluation, information, and management services.

- **Employee benefit expenditures** include employee benefits paid for by the local education agency. These include the employer share of state or local employment retirement contributions, social security contributions, group life and health insurance, unemployment and workmen's compensation, and any tuition reimbursements.

- **Instructional expenditures** include current operating expenditures for activities directly related to classroom instruction or instruction in other settings, as well as cocurricular activities.

- **Instructional staff support services expenditures** include supervision of instructional services; instructional staff training; and media, library, audiovisual, television, and computer-assisted instruction services.

- **Plant maintenance and operations services expenditures** include building services (heating, electricity, air conditioning, property insurance), care and upkeep of grounds and equipment, nonstudent transportation vehicle operation and maintenance, and security services.

- **Pupil support expenditures** include guidance, health, and logistical support that enhance instruction. Such support includes attendance, social work, student accounting, counseling, student appraisal, student records maintenance, and placement services. Pupil support services also include medical, dental, nursing, psychological, and speech services.

- **Salaries expenditures** include salaries and wages paid by the local education agency for education staff employed by the agency.

Several of the analyses in the report stratify states on different characteristics, including region. The grouping of states into regions was based on the classification used by the U.S. Bureau of the Census. It should be recognized that regional averages often mask differences among states and school districts with the region. However, since "region" is generally recognized as a standard stratification of states in many statistical reports, it was used in this report as well to present differences in expenditures in different parts of the country. The regional categories are provided below.

- **Northeast:** Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont.

- **Midwest:** Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin.
- **South:** Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia.
- **West:** Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming.

The analyses of relationships between school district characteristics and different types of expenditure include two measures of district wealth (median household income and median housing value) and two demographic measures (minority enrollment and district poverty rate)—all from the 1990 Census. These measures have the following definitions:

- **Median household income** is the median income of the householder and all other persons 15 years old and over in the household, whether related to the householder or not, in calendar year 1989.
- **Median housing value** is the median value of specified owner-occupied housing units in a state in 1990.[4]
- **Minority enrollment** is the percentage of students enrolled in 1990 who were African American, Hispanic, Asian, American Indian, and Alaska Native.
- **District poverty rate** is the percentage of school-age children living in households with income at or below the poverty level in 1989.

It should be recognized that the correlations presented in the report are based on bivariate statistics that do not reflect the influence of other factors on school district expenditures. The influence of other factors would need to be examined through multivariate analyses, which were beyond the scope of this report.

## Organization of the Report

The balance of the report is organized into four chapters. Chapter 2 presents an analysis of total expenditures, including current and capital expenditures. Chapter 3 examines current expenditures, including expenditures for salaries and employee benefits. Chapter 4 examines expenditures for four education functions: instruction, student and instructional staff support services, administration, and plant maintenance and operations services. Chapter 5 presents a synthesis and summary of the report's major findings. Appendices to the report contain technical notes and detailed correlation tables on district expenditures. Finally, the glossary provides definitions of key terms in the report.

[4]State finance formulas generally use a measure of property valuation per pupil that is equalized to some percentage of full market value to distribute state aid to school districts. This measure includes commercialized industrial property, in addition to residential property. However, a standardized measure of property valuation is not available for all states. Median housing value was therefore used as a proxy for the taxable property value of a community.

# Chapter 2:Total Expenditures

## Total Expenditures

School district expenditures for public elementary and secondary education totaled $326.8 billion in 1997–98 before cost adjustments (table 2-1). Over 84 percent of these expenditures ($274.9 billion) were used for instruction, support services, and other elementary and secondary programs. The remaining 16 percent ($51.9 billion) were spent on other functions including nonelementary or nonsecondary programs, capital outlay, expenditure by a local education agency, and debt service expenditures (NCES 1998). Expenditures by a local education agency (LEA) include district support services provided by the LEA and administrative expenditures of the LEA; debt service expenditures include interest on debt.

## Total Expenditures Per Pupil

Total school district expenditures per pupil in the United States averaged $7,161 in 1997–98 before cost adjustments (table 2-1). Total school district expenditures per pupil were highest in the Northeast ($9,547) and lowest in the West ($6,382). (See Glossary to identify states associated with different geographic regions.) Expenditures per pupil in the highest region were 1.5 times greater than those in the lowest region before cost adjustments and 1.4 times greater after adjustments. Further, the difference between these two regions decreased from $3,165 to $2,541 after cost adjustments. The Northeast ($8,618) remained the highest-expenditure region after adjustments, and the West ($6,077) remained the region with the lowest total expenditures per pupil.

The smallest school districts had greater total expenditures per pupil, both before and after cost adjustments. Before cost adjustments, total expenditures per pupil averaged $7,539 in districts with fewer than 1,000 students, compared to $6,984 in districts with 10,000 or more students. After cost adjustments, smaller districts continued to have higher average total expenditures per pupil than larger districts. In addition, the difference between the smallest and the largest districts increased from $555 to $1,626 per pupil. Nationally, however, there was a weak relationship between a district's enrollment and total expenditures per pupil, both before and after cost adjustments (tables A-1 and A-2).

Before cost adjustments, total expenditures per pupil showed moderate, statistically significant relationships with two measures of district wealth—median household income (+0.29) and median housing value (+0.28) (table A-3). School districts with median household income at or above $35,000 had average total expenditures per pupil of $7,752, while districts with median household incomes below $20,000 had expenditures per pupil of $6,569. Similarly, districts with median housing values at or above $85,000 had average total expenditures of $7,861 per pupil, while districts with median housing values below $40,000 had expenditures per pupil of $6,861.

Table 2-1. Total expenditures, cost-adjusted total expenditures, total expenditures per pupil, and cost-adjusted total expenditures per pupil in public school districts, by region, district enrollment, minority enrollment, district poverty rate, median household income, and median housing value: 1997–98

| School district characteristics | Total expenditures (in thousands) | Cost-adjusted total expenditures (in thousands) | Total expenditures per pupil | Cost-adjusted total expenditures per pupil |
|---|---|---|---|---|
| All districts | $326,815,392 | $324,736,669 | $7,161 | $7,138 |
| Region | | | | |
| Northeast | 75,722,755 | 68,148,249 | 9,547 | 8,618 |
| Midwest | 77,793,405 | 79,426,174 | 7,325 | 7,517 |
| South | 105,595,656 | 113,065,745 | 6,409 | 6,863 |
| West | 67,703,576 | 64,096,501 | 6,382 | 6,077 |
| District enrollment | | | | |
| 0–999 | 20,494,436 | 22,562,078 | 7,539 | 8,420 |
| 1,000–4,999 | 95,139,923 | 96,575,362 | 7,326 | 7,470 |
| 5,000–9,999 | 51,420,976 | 50,373,434 | 7,288 | 7,155 |
| 10,000 or more | 159,760,057 | 155,225,795 | 6,984 | 6,794 |
| Minority enrollment | | | | |
| Less than 5 percent | 81,821,266 | 84,309,692 | 7,245 | 7,469 |
| 5 percent–<20 percent | 85,692,631 | 85,094,874 | 7,141 | 7,091 |
| 20 percent–<50 percent | 88,039,880 | 87,770,464 | 6,858 | 6,837 |
| 50 percent or more | 54,249,622 | 50,905,881 | 7,609 | 7,140 |
| Data missing[1] | 17,011,993 | 16,655,759 | — | — |
| District poverty rate | | | | |
| Less than 5 percent | 43,787,374 | 40,389,585 | 8,467 | 7,819 |
| 5 percent–<15 percent | 108,680,026 | 108,168,942 | 7,019 | 6,986 |
| 15 percent–<25 percent | 79,222,774 | 82,316,655 | 6,685 | 6,946 |
| 25 percent or more | 78,113,225 | 77,205,729 | 7,263 | 7,179 |
| Data missing[1] | 17,011,993 | 16,655,759 | — | — |
| Median household income | | | | |
| Less than $20,000 | 22,735,095 | 24,997,190 | 6,569 | 7,223 |
| $20,000–<$25,000 | 56,228,796 | 60,038,602 | 6,696 | 7,150 |
| $25,000–<$30,000 | 80,918,635 | 81,047,541 | 7,219 | 7,231 |
| $30,000–<$35,000 | 51,997,427 | 51,318,922 | 6,876 | 6,786 |
| $35,000 or more | 97,923,446 | 90,678,655 | 7,752 | 7,182 |
| Data missing[1] | 17,011,993 | 16,655,759 | — | — |
| Median housing value | | | | |
| Less than $40,000 | 25,103,137 | 27,909,001 | 6,861 | 7,628 |
| $40,000–<$55,000 | 51,686,038 | 55,768,614 | 6,602 | 7,124 |
| $55,000–<$85,000 | 96,818,427 | 99,726,762 | 6,701 | 6,904 |
| $85,000 or more | 136,195,797 | 124,676,533 | 7,861 | 7,197 |
| Data missing[1] | 17,011,993 | 16,655,759 | — | — |

—Not available.
[1]These districts were missing 1990 Census demographic data.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

After cost adjustments, total adjusted expenditures per pupil were higher in districts with the lowest median household incomes ($7,223 per pupil) than in districts with the highest incomes ($7,182), and were highest in districts with median household income between $25,000 and $30,000 ($7,231). Total expenditures per pupil were also higher in districts with the lowest median housing value ($7,628) than in districts with the highest housing values ($7,197). In correlation analysis, the relationship with median household income was weak, and the relationship with median housing value was not statistically significant (table A-4).

Before adjustments, school districts with the highest minority enrollments had higher total expenditures per pupil than districts with the lowest minority enrollments, $7,609 and $7,245, respectively. Districts with between 20 and 50 percent enrollment had the lowest expenditures per pupil at $6,858. After adjustments, the figures were reversed—$7,469 in the lowest-minority districts and $7,140 in the

highest-minority districts, while mid-level minority districts remained lowest in average expenditures per pupil. However, total expenditures per pupil showed very little relationship with district demographic characteristics such as minority enrollment and poverty rate—both before and after cost adjustments (tables A-3 and A-4).

Total expenditures per pupil, in contrast, were higher in the lowest-poverty districts than in the highest-poverty districts both before and after cost adjustments—$8,467 and $7,263, respectively, before cost adjustments, and $7,819 and $7,179 respectively, after cost adjustments.

## Variations in Total Expenditures Per Pupil

### *Restricted Range Ratio*

The restricted range ratio for unadjusted total expenditures per pupil across the United States was 1.16 (table 2-2). This means expenditures in the district at the 95th percentile were 1.16 times higher than expenditures in the district at the 5th percentile. Variation across the states ranged from a low of 0.21 in Nevada to a high of 1.47 in Vermont. Two states (Illinois and Vermont) had a restricted range ratio higher than that for the United States.

When cost adjustments were applied, the restricted range ratio for total expenditures per pupil across the United States fell to 1.00 (table 2-3). Four states (Alaska, Illinois, Montana, and Vermont) exceeded the national variation after cost adjustments. The range between the lowest-variation and highest-variation states remained the same. After cost adjustments, the restricted range ratio ranged from 0.25 in Nevada to 1.50 in Vermont.

### *Coefficient of Variation*

The coefficient of variation for unadjusted total expenditures per pupil across the United States was 0.27. This means approximately two-thirds of the districts nationally have total expenditures per pupil between $5,228 and $9,094, a range that is from 27 percent below the mean to 27 percent above the mean. Variation across the states ranged from a low of 0.09 in Delaware and Rhode Island to a high of 0.34 in Montana. Four states (Alaska, Illinois, Montana, and Vermont) had a coefficient of variation higher than the coefficient for the United States.

When total expenditures were adjusted for cost-of-education differences, the coefficient of variation for total expenditures per pupil across the United States decreased to 0.24. Ten states exceeded the national coefficient after cost adjustments: Alaska, Minnesota, Montana, New Hampshire, North Dakota, South Dakota, Texas, Vermont, Wisconsin, and Wyoming. Cost adjustments increased the range between the lowest-variation and highest-variation states. After cost adjustments, the coefficient of variation ranged from a low of 0.09 in Delaware, Florida, Kentucky, and Maryland to a high of 0.38 in Montana.

### *Gini Coefficient*

The Gini coefficient for unadjusted total expenditures per pupil across the United States was 0.14. A Gini coefficient of 0 means expenditures are distributed equally; higher values such as 0.14 imply expenditures are more concentrated among a smaller share of students. Variation across the states ranged

Table 2-2. Variation in total expenditures per pupil (unadjusted dollars), by state: 1997–98

| State | Restricted range ratio | | Coefficient of variation | | Gini coefficient | | Synthesized measure of variation | |
|---|---|---|---|---|---|---|---|---|
| | Value | Rank | Value | Rank | Value | Rank | Average rank | Average quartile |
| United States | 1.16 | † | 0.27 | † | 0.14 | † | † | † |
| Alabama | 0.42 | 10 | 0.11 | 5 | 0.06 | 6 | 7.00 | 1 |
| Alaska | 1.15 | 46 | 0.33 | 48 | 0.14 | 46 | 46.67 | 4 |
| Arizona | 0.76 | 34 | 0.19 | 30 | 0.09 | 27 | 30.33 | 3 |
| Arkansas | 0.53 | 18 | 0.13 | 10 | 0.07 | 11 | 13.00 | 2 |
| California | 0.47 | 12 | 0.14 | 12 | 0.07 | 11 | 11.67 | 1 |
| Colorado | 0.59 | 23 | 0.15 | 17 | 0.07 | 11 | 17.00 | 2 |
| Connecticut | 0.52 | 15 | 0.15 | 17 | 0.08 | 17 | 16.33 | 2 |
| Delaware | 0.38 | 7 | 0.09 | 1 | 0.05 | 2 | 3.33 | 1 |
| District of Columbia | (1) | (1) | (1) | (1) | (1) | (1) | (1) | (1) |
| Florida | 0.31 | 4 | 0.10 | 3 | 0.06 | 6 | 4.33 | 1 |
| Georgia | 0.59 | 23 | 0.14 | 12 | 0.07 | 11 | 15.33 | 2 |
| Hawaii | (1) | (1) | (1) | (1) | (1) | (1) | (1) | (1) |
| Idaho | 0.70 | 30 | 0.20 | 32 | 0.10 | 31 | 31.00 | 3 |
| Illinois | 1.29 | 48 | 0.28 | 46 | 0.14 | 46 | 46.67 | 4 |
| Indiana | 0.58 | 21 | 0.15 | 17 | 0.08 | 17 | 18.33 | 2 |
| Iowa | 0.52 | 15 | 0.15 | 17 | 0.07 | 11 | 14.33 | 2 |
| Kansas | 0.51 | 13 | 0.18 | 24 | 0.08 | 17 | 18.00 | 2 |
| Kentucky | 0.35 | 6 | 0.10 | 3 | 0.05 | 2 | 3.67 | 1 |
| Louisiana | 0.38 | 7 | 0.12 | 8 | 0.06 | 6 | 7.00 | 1 |
| Maine | 0.80 | 37 | 0.21 | 34 | 0.10 | 31 | 34.00 | 3 |
| Maryland | 0.42 | 10 | 0.11 | 5 | 0.06 | 6 | 7.00 | 1 |
| Massachusetts | 0.77 | 35 | 0.21 | 34 | 0.11 | 37 | 35.33 | 3 |
| Michigan | 1.01 | 45 | 0.25 | 41 | 0.12 | 42 | 42.67 | 4 |
| Minnesota | 0.78 | 36 | 0.25 | 41 | 0.11 | 37 | 38.00 | 4 |
| Mississippi | 0.52 | 15 | 0.14 | 12 | 0.08 | 17 | 14.67 | 2 |
| Missouri | 0.89 | 43 | 0.20 | 32 | 0.11 | 37 | 37.33 | 4 |
| Montana | 1.15 | 46 | 0.34 | 49 | 0.15 | 48 | 47.67 | 4 |
| Nebraska | 0.68 | 29 | 0.18 | 24 | 0.08 | 17 | 23.33 | 2 |
| Nevada | 0.21 | 1 | 0.12 | 8 | 0.04 | 1 | 3.33 | 1 |
| New Hampshire | 0.84 | 40 | 0.25 | 41 | 0.13 | 44 | 41.67 | 4 |
| New Jersey | 0.73 | 33 | 0.18 | 24 | 0.10 | 31 | 29.33 | 3 |
| New Mexico | 0.64 | 26 | 0.18 | 24 | 0.08 | 17 | 22.33 | 2 |
| New York | 0.71 | 32 | 0.18 | 24 | 0.08 | 17 | 24.33 | 3 |
| North Carolina | 0.41 | 9 | 0.13 | 10 | 0.07 | 11 | 10.00 | 1 |
| North Dakota | 0.65 | 27 | 0.25 | 41 | 0.10 | 31 | 33.00 | 3 |
| Ohio | 0.87 | 41 | 0.22 | 36 | 0.11 | 37 | 38.00 | 4 |
| Oklahoma | 0.53 | 18 | 0.15 | 17 | 0.08 | 17 | 17.33 | 2 |
| Oregon | 0.57 | 20 | 0.18 | 24 | 0.09 | 27 | 23.67 | 3 |
| Pennsylvania | 0.90 | 44 | 0.23 | 37 | 0.12 | 42 | 41.00 | 4 |
| Rhode Island | 0.30 | 3 | 0.09 | 1 | 0.05 | 2 | 2.00 | 1 |
| South Carolina | 0.67 | 28 | 0.15 | 17 | 0.08 | 17 | 20.67 | 2 |
| South Dakota | 0.83 | 38 | 0.23 | 37 | 0.11 | 37 | 37.33 | 4 |
| Tennessee | 0.51 | 13 | 0.14 | 12 | 0.08 | 17 | 14.00 | 2 |
| Texas | 0.63 | 25 | 0.24 | 40 | 0.09 | 27 | 30.67 | 3 |
| Utah | 0.34 | 5 | 0.14 | 12 | 0.06 | 6 | 7.67 | 1 |
| Vermont | 1.47 | 49 | 0.31 | 47 | 0.16 | 49 | 48.33 | 4 |
| Virginia | 0.70 | 30 | 0.19 | 30 | 0.10 | 31 | 30.33 | 3 |
| Washington | 0.58 | 21 | 0.16 | 23 | 0.09 | 27 | 23.67 | 3 |
| West Virginia | 0.28 | 2 | 0.11 | 5 | 0.05 | 2 | 3.00 | 1 |
| Wisconsin | 0.83 | 38 | 0.23 | 37 | 0.10 | 31 | 35.33 | 3 |
| Wyoming | 0.87 | 41 | 0.25 | 41 | 0.13 | 44 | 42.00 | 4 |

†Not applicable.
[1]Variation is not measured in the District of Columbia or Hawaii where there is only one school district.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98."

Table 2-3. Variation in total expenditures per pupil (cost-adjusted dollars), by state: 1997–98

| State | Restricted range ratio | | Coefficient of variation | | Gini coefficient | | Synthesized measure of variation | |
|---|---|---|---|---|---|---|---|---|
| | Value | Rank | Value | Rank | Value | Rank | Average rank | Average quartile |
| United States | 1.00 | † | 0.24 | † | 0.12 | † | † | † |
| Alabama | 0.40 | 9 | 0.11 | 5 | 0.06 | 7 | 7.00 | 1 |
| Alaska | 1.13 | 47 | 0.31 | 47 | 0.14 | 47 | 47.00 | 4 |
| Arizona | 0.84 | 40 | 0.20 | 29 | 0.10 | 29 | 32.67 | 3 |
| Arkansas | 0.40 | 9 | 0.12 | 7 | 0.06 | 7 | 7.67 | 1 |
| California | 0.53 | 16 | 0.15 | 17 | 0.08 | 20 | 17.67 | 2 |
| Colorado | 0.51 | 15 | 0.17 | 21 | 0.08 | 20 | 18.67 | 2 |
| Connecticut | 0.59 | 23 | 0.15 | 17 | 0.08 | 20 | 20.00 | 2 |
| Delaware | 0.29 | 3 | 0.09 | 1 | 0.05 | 2 | 2.00 | 1 |
| District of Columbia | (1) | (1) | (1) | (1) | (1) | (1) | (1) | (1) |
| Florida | 0.28 | 2 | 0.09 | 1 | 0.04 | 1 | 1.33 | 1 |
| Georgia | 0.36 | 5 | 0.13 | 10 | 0.06 | 7 | 7.33 | 1 |
| Hawaii | (1) | (1) | (1) | (1) | (1) | (1) | (1) | (1) |
| Idaho | 0.74 | 31 | 0.21 | 32 | 0.11 | 35 | 32.67 | 3 |
| Illinois | 1.10 | 46 | 0.24 | 38 | 0.12 | 43 | 42.33 | 4 |
| Indiana | 0.50 | 14 | 0.14 | 14 | 0.07 | 13 | 13.67 | 2 |
| Iowa | 0.57 | 19 | 0.18 | 25 | 0.07 | 13 | 19.00 | 2 |
| Kansas | 0.70 | 27 | 0.23 | 37 | 0.10 | 29 | 31.00 | 3 |
| Kentucky | 0.36 | 5 | 0.09 | 1 | 0.05 | 2 | 2.67 | 1 |
| Louisiana | 0.44 | 12 | 0.12 | 7 | 0.06 | 7 | 8.67 | 1 |
| Maine | 0.91 | 42 | 0.22 | 35 | 0.11 | 35 | 37.33 | 4 |
| Maryland | 0.36 | 5 | 0.09 | 1 | 0.05 | 2 | 2.67 | 1 |
| Massachusetts | 0.77 | 36 | 0.20 | 29 | 0.11 | 35 | 33.33 | 3 |
| Michigan | 0.81 | 39 | 0.24 | 38 | 0.11 | 35 | 37.33 | 4 |
| Minnesota | 0.75 | 34 | 0.26 | 42 | 0.11 | 35 | 37.00 | 4 |
| Mississippi | 0.58 | 21 | 0.13 | 10 | 0.07 | 13 | 14.67 | 2 |
| Missouri | 0.71 | 29 | 0.18 | 25 | 0.10 | 29 | 27.67 | 3 |
| Montana | 1.27 | 48 | 0.38 | 49 | 0.16 | 48 | 48.33 | 4 |
| Nebraska | 0.77 | 36 | 0.22 | 35 | 0.10 | 29 | 33.33 | 3 |
| Nevada | 0.25 | 1 | 0.14 | 14 | 0.05 | 2 | 5.67 | 1 |
| New Hampshire | 0.97 | 45 | 0.27 | 44 | 0.13 | 45 | 44.67 | 4 |
| New Jersey | 0.71 | 29 | 0.18 | 25 | 0.09 | 26 | 26.67 | 3 |
| New Mexico | 0.60 | 24 | 0.21 | 32 | 0.08 | 20 | 25.33 | 3 |
| New York | 0.54 | 18 | 0.17 | 21 | 0.07 | 13 | 17.33 | 2 |
| North Carolina | 0.46 | 13 | 0.13 | 10 | 0.06 | 7 | 10.00 | 1 |
| North Dakota | 0.78 | 38 | 0.29 | 46 | 0.11 | 35 | 39.67 | 4 |
| Ohio | 0.74 | 31 | 0.20 | 29 | 0.10 | 29 | 29.67 | 3 |
| Oklahoma | 0.60 | 24 | 0.17 | 21 | 0.09 | 26 | 23.67 | 2 |
| Oregon | 0.74 | 31 | 0.19 | 28 | 0.09 | 26 | 28.33 | 3 |
| Pennsylvania | 0.76 | 35 | 0.21 | 32 | 0.10 | 29 | 32.00 | 3 |
| Rhode Island | 0.38 | 8 | 0.11 | 5 | 0.06 | 7 | 6.67 | 1 |
| South Carolina | 0.57 | 19 | 0.14 | 14 | 0.07 | 13 | 15.33 | 2 |
| South Dakota | 0.84 | 40 | 0.25 | 40 | 0.12 | 43 | 41.00 | 4 |
| Tennessee | 0.53 | 16 | 0.13 | 10 | 0.07 | 13 | 13.00 | 2 |
| Texas | 0.70 | 27 | 0.28 | 45 | 0.11 | 35 | 35.67 | 3 |
| Utah | 0.42 | 11 | 0.16 | 19 | 0.07 | 13 | 14.33 | 2 |
| Vermont | 1.50 | 49 | 0.33 | 48 | 0.16 | 48 | 48.33 | 4 |
| Virginia | 0.58 | 21 | 0.16 | 19 | 0.08 | 20 | 20.00 | 2 |
| Washington | 0.65 | 26 | 0.17 | 21 | 0.08 | 20 | 22.33 | 2 |
| West Virginia | 0.30 | 4 | 0.12 | 7 | 0.05 | 2 | 4.33 | 1 |
| Wisconsin | 0.95 | 44 | 0.25 | 40 | 0.11 | 35 | 39.67 | 4 |
| Wyoming | 0.92 | 43 | 0.26 | 42 | 0.13 | 45 | 43.33 | 4 |

†Not applicable.
[1]Variation is not measured in the District of Columbia or Hawaii where there is only one school district.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98."

from a low of 0.04 in Nevada to a high of 0.16 in Vermont. Two states (Montana and Vermont) had a Gini coefficient higher than the coefficient for the United States.

Cost-of-education adjustments reduced the Gini coefficient across the United States to 0.12. Montana and Vermont still exceeded the United States level of variation, and Alaska, New Hampshire and Wyoming joined the group. Cost adjustments did not affect the range of variation. After adjustments, the Gini coefficient ranged from a low of 0.04 in Florida to a high of 0.16 in both Montana and Vermont.

### *Overall Variation*

To take all three measures of variation into account at once, a synthesized measure of variation was created. The states were ranked on each of the three measures of variation, with the lowest-ranking states being those with the values closest to zero. The three rank values for each state were then averaged to create an "average rank" for the state. The states were then assigned to quartiles based on their average relative rank value.

In a synthesis of the three unadjusted variation measures, the South had the highest percentage of states in the quartiles with the lowest variation, both before and after cost adjustments (88 and 94 percent, respectively) (table 2-4). Before cost adjustments, the Northeast had the highest percentage of states in the quartiles with the greatest variation (78 percent) and the Midwest had the highest percentage after adjustments (83 percent). There was no change in the percentage of Western states in the lowest and highest quartiles (42 and 58 percent, respectively) when cost adjustments were made (figure 2-1).

Table 2-4. Variation in total expenditures per pupil, by region: 1997–98

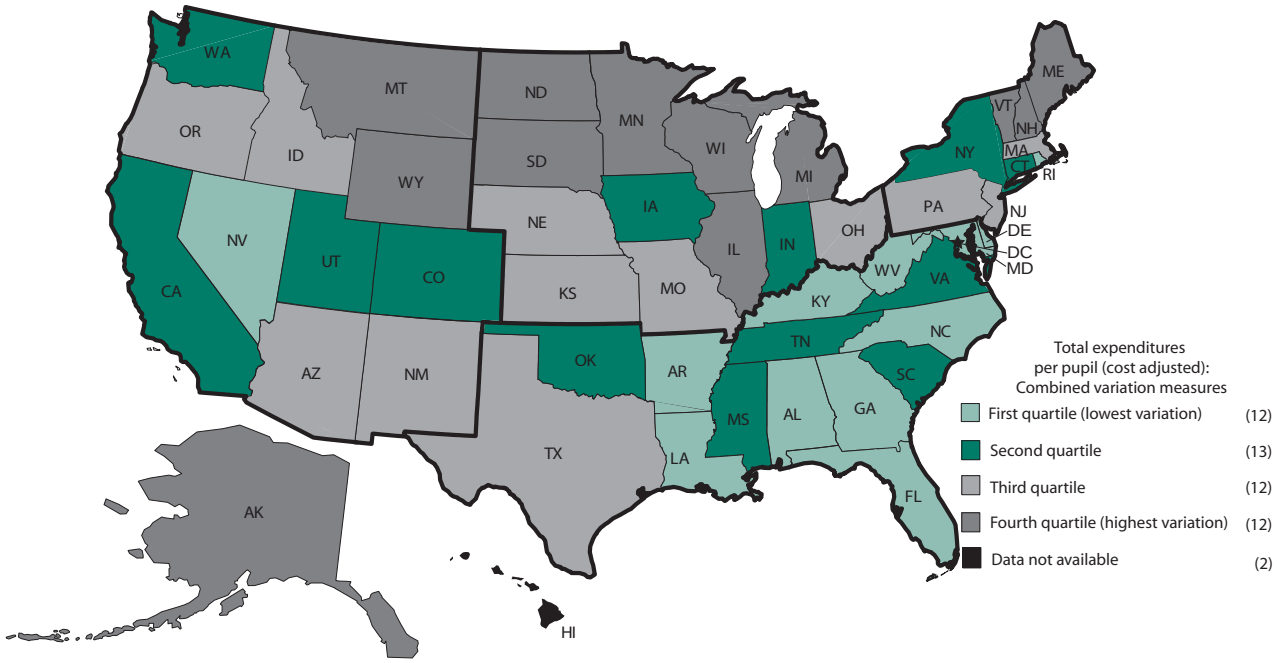
| Region | Percent of states in quartiles 1 and 2 (low variation) | Percent of states in quartiles 3 and 4 (high variation) |
|---|---|---|
| Unadjusted total expenditures per pupil | | |
| Northeast | 22 | 78 |
| Midwest | 33 | 67 |
| South | 88 | 12 |
| West | 42 | 58 |
| Cost-adjusted total expenditures per pupil | | |
| Northeast | 33 | 67 |
| Midwest | 17 | 83 |
| South | 94 | 6 |
| West | 42 | 58 |

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98."

## Relationship Between Total Expenditures Per Pupil and Selected District Fiscal and Demographic Characteristics

For the United States as a whole, total expenditures per pupil in unadjusted dollars showed a positive relationship with a school district's median household income (+0.29) and its median housing value (+0.28) (table A-3). Similarly, at the state level, median housing value was positively related to total expenditures per pupil in half of the 40 states with available data; the relationship was strongly positive in 5 states (Florida, Illinois, Maryland, Pennsylvania, and Virginia). In five Western states (Alaska, Montana, Nebraska, Nevada, and North Dakota) expenditures per pupil and housing value were negatively related (table 2-5). In contrast, median household income was less often related to total expenditures per pupil in the states. Almost half of the 40 states with available data (18 before cost adjustments, 16 after) showed no statistically significant relationship between district income and total expenditures per pupil, 5 states showed a moderate negative relationship between income and expenditures, and 10

Figure 2-1. Synthesis of variation measures of total expenditures per pupil (cost-adjusted dollars), by state: 1997–98




NOTE: Variation is not measured in the District of Columbia or Hawaii where there is only one school district. Regions are delineated in black; Alaska and Hawaii are part of the Western Region.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98."

states showed a moderate positive relationship. Four states (Louisiana, Maryland, New York, and Virginia) showed a strong positive relationship between median household income and a district's total expenditures per pupil.

After cost adjustments, the relationship between district wealth and total expenditures per pupil was weak (+0.07 for median household income, not statistically significant for housing value) for the United States as a whole (table A-4). Adjusted total expenditures per pupil showed a strong positive relationship with a district's median housing value in one state (Maryland) and a moderate positive relationship in eight other states (Alabama, Florida, Illinois, Michigan, Ohio, Pennsylvania, South Carolina, and Virginia). Thirteen states showed a negative relationship between adjusted expenditures per pupil and median housing value (figure 2-2). No state showed a strong positive relationship between a district's median household income and adjusted total expenditures per pupil, and only 8 states (Illinois, Louisiana, Maryland, Michigan, New York, Ohio, Pennsylvania, and Virginia) showed a moderate positive relationship between these variables. In contrast, one state (Alaska) showed a strong negative relationship between median household income and total expenditures per pupil. In more than one-third of the states reporting data (15), there was a moderate negative relationship between median household income and cost-adjusted total expenditures per pupil (figure 2-3).

Total expenditures per pupil showed a weak relationship with minority enrollment for the United States as a whole, both before (+0.05) and after (-0.06) cost adjustments (tables A-3 and A-4). This was the case in most states as well. Three states (Alaska, Massachusetts, and Missouri) showed a strong positive relationship between minority enrollment and total expenditures per pupil before cost adjustments and two states (Alaska and Massachusetts) showed this relationship after cost adjustments. Half of the states with sufficient data (19 before cost adjustments, 21 after) showed no relationship between the variables (figure 2-4).

Table 2-5. Correlations between total expenditures per pupil and selected fiscal and demographic characteristics, by state: 1997–98

| Characteristics | States (before cost adjustments) | States (after cost adjustments) |
|---|---|---|
| **Minority enrollment** | | |
| Strong positive relationship | Alaska, Massachusetts, Missouri | Alaska, Massachusetts |
| Moderate positive relationship | Arizona, California, Connecticut, Illinois, Indiana, Minnesota, Montana, North Dakota, Ohio, Oregon, Tennessee, Utah, Washington | Arizona, Indiana, Minnesota, Missouri,[1] Montana, North Dakota, Ohio, Oregon |
| Weak positive relationship | *US overall* | California[1] |
| Weak negative relationship | Nebraska, New York, Pennsylvania | *US overall*[1] |
| Moderate negative relationship | New Hampshire, Texas | Iowa,[1] Kansas,[1] Louisiana,[1] Nebraska,[1] New Hampshire, New York,[1] Pennsylvania,[1] Texas |
| Strong negative relationship | [none] | [none] |
| No significant relationship | Alabama, Delaware, Florida, Idaho, Iowa, Kansas, Louisiana, Maine, Maryland, Michigan, Nevada, North Carolina, Rhode Island, South Carolina, Vermont, Virginia, West Virginia, Wisconsin, Wyoming | Alabama, Connecticut,[1] Delaware, Florida, Idaho, Illinois,[1] Maine, Maryland, Michigan, Nevada, North Carolina, Rhode Island, South Carolina, Tennessee,[1] Utah,[1] Vermont, Virginia, Washington,[1] West Virginia, Wisconsin, Wyoming |
| **District poverty rate** | | |
| Strong positive relationship | Alaska | Alaska |
| Moderate positive relationship | Arizona, California, Connecticut, Indiana, Massachusetts, Minnesota, Missouri, Montana, North Dakota, Oregon, Utah | Arizona, California, Connecticut, Indiana, Kansas,[1] Massachusetts, Minnesota, Missouri, Montana, Nebraska,[1] North Dakota, Oregon, Tennessee,[1] Utah, Washington[1] |
| Weak positive relationship | [none] | [none] |
| Weak negative relationship | *US overall* | *US overall* |
| Moderate negative relationship | Louisiana, Michigan, New York, Pennsylvania, Texas, Virginia | Louisiana, Michigan, New York, Pennsylvania |
| Strong negative relationship | [none] | [none] |
| No significant relationship | Alabama, Delaware, Florida, Idaho, Illinois, Iowa, Kansas, Maine, Maryland, Nebraska, Nevada, New Hampshire, North Carolina, Ohio, Rhode Island, South Carolina, Tennessee, Vermont, Washington, West Virginia, Wisconsin, Wyoming | Alabama, Delaware, Florida, Idaho, Illinois, Iowa, Maine, Maryland, Nevada, New Hampshire, North Carolina, Ohio, Rhode Island, South Carolina, Texas,[1] Vermont, Virginia,[1] West Virginia, Wisconsin, Wyoming |
| **Median household income** | | |
| Strong positive relationship | Louisiana, Maryland, New York, Virginia | [none] |
| Moderate positive relationship | Alabama, Florida, Illinois, Michigan, North Carolina, Ohio, Pennsylvania, South Carolina, Texas, Washington, *US overall* | Illinois, Louisiana,[1] Maryland,[1] Michigan, New York,[1] Ohio, Pennsylvania, Virginia[1] |
| Weak positive relationship | Missouri | *US overall*[1] |
| Weak negative relationship | California, Nebraska | [none] |
| Moderate negative relationship | Alaska, Arizona, Massachusetts, Montana, North Dakota | Arizona, California,[1] Indiana,[1] Iowa,[1] Kansas,[1] Maine,[1] Massachusetts, Minnesota,[1] Missouri,[1] Montana, Nebraska,[1] North Dakota, Oregon,[1] West Virginia,[1] Wisconsin[1] |
| Strong negative relationship | [none] | Alaska[1] |
| No significant relationship | Connecticut, Delaware, Idaho, Indiana, Iowa, Kansas, Maine, Minnesota, Nevada, New Hampshire, Oregon, Rhode Island, Tennessee, Utah, Vermont, West Virginia, Wisconsin, Wyoming | Alabama,[1] Connecticut, Delaware, Florida,[1] Idaho, Nevada, New Hampshire, North Carolina,[1] Rhode Island, South Carolina,[1] Tennessee, Texas,[1] Utah, Vermont, Washington,[1] Wyoming |
| **Median housing value** | | |
| Strong positive relationship | Florida, Illinois, Maryland, Pennsylvania, Virginia | Maryland |
| Moderate positive relationship | Alabama, Indiana, Louisiana, Massachusetts, Michigan, Missouri, New Hampshire, New York, North Carolina, Ohio, South Carolina, Tennessee, Texas, Vermont, Washington, *US overall* | Alabama, Florida,[1] Illinois,[1] Michigan, Ohio, Pennsylvania,[1] South Carolina, Virginia[1] |
| Weak positive relationship | California | New York[1] |
| Weak negative relationship | [none] | [none] |
| Moderate negative relationship | Montana, Nebraska, North Dakota | Arizona,[1] California,[1] Iowa,[1] Kansas,[1] Maine,[1] Minnesota,[1] Missouri,[1] Montana, Nebraska, North Dakota, Wisconsin[1] |
| Strong negative relationship | Alaska, Nevada | Alaska, Nevada |
| No significant relationship | Arizona, Connecticut, Delaware, Idaho, Iowa, Kansas, Maine, Minnesota, Oregon, Rhode Island, Utah, West Virginia, Wisconsin, Wyoming | Connecticut, Delaware, Idaho, Indiana,[1] Louisiana,[1] Massachusetts,[1] New Hampshire,[1] North Carolina,[1] Oregon, Rhode Island, Tennessee,[1] Texas,[1] Utah, Vermont,[1] Washington,[1] West Virginia, Wyoming, *US overall*[1] |

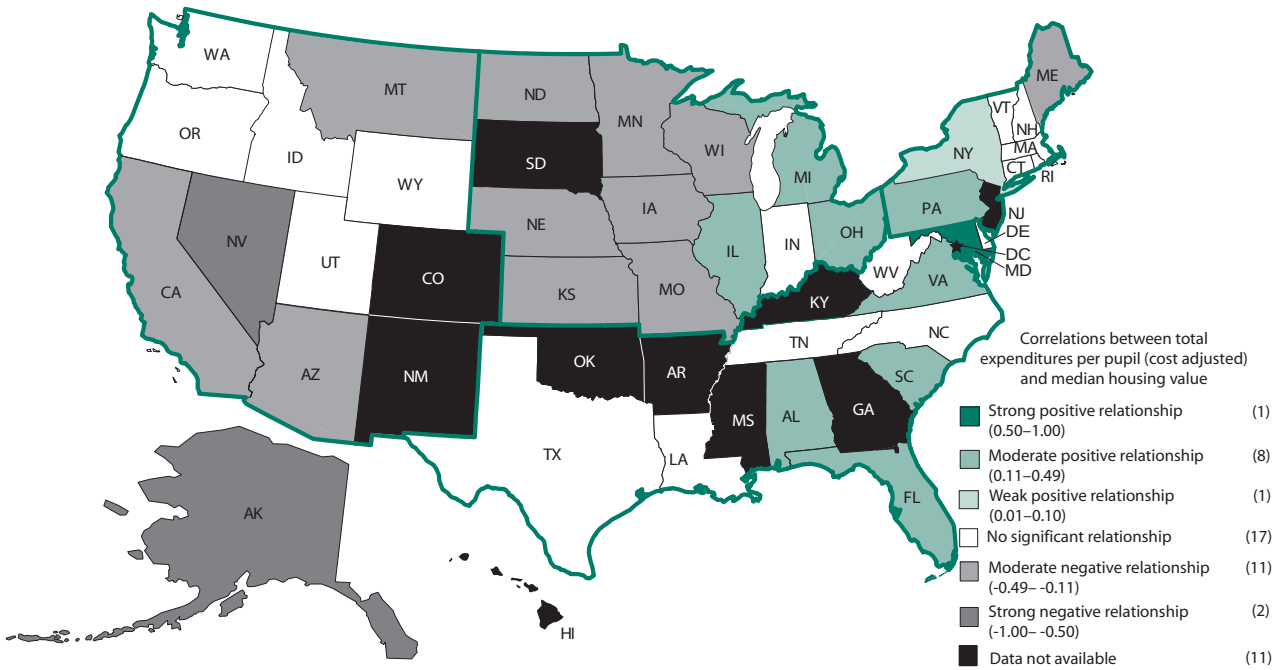
Table 2-5. Correlations between total expenditures per pupil and selected fiscal and demographic characteristics, by state: 1997–98—Continued

| Characteristics | States (before cost adjustments) | States (after cost adjustments) |
|---|---|---|
| **Student membership** | | |
| Strong positive relationship | [none] | [none] |
| Moderate positive relationship | Indiana, Ohio | [none] |
| Weak positive relationship | [none] | [none] |
| Weak negative relationship | Iowa, Oklahoma, *US overall* | California,[1] Nebraska,[1] US *overall* |
| Moderate negative relationship | Alaska, Arizona, Colorado, Idaho, Kansas, Maine, Montana, New Hampshire, New Mexico, North Dakota, Oregon, Texas, Utah, Vermont, Washington, Wyoming | Alaska, Arizona, Arkansas,[1] Colorado, Connecticut,[1] Idaho, Iowa,[1] Kansas, Maine, Missouri,[1] Montana, New Hampshire, New Jersey,[1] New Mexico, North Carolina,[1] North Dakota, Oklahoma,[1] Oregon, South Dakota,[1] Texas, Utah, Vermont, Washington, Wisconsin, Wyoming |
| Strong negative relationship | [none] | [none] |
| No significant relationship | Alabama, Arkansas, California, Connecticut, Delaware, Florida, Georgia, Illinois, Kentucky, Louisiana, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Nebraska, Nevada, New Jersey, New York, North Carolina, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Virginia, West Virginia, Wisconsin | Alabama, Delaware, Florida, Georgia, Illinois, Indiana,[1] Kentucky, Louisiana, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Nevada, New York, Ohio,[1] Pennsylvania, Rhode Island, South Carolina, Tennessee, Virginia, West Virginia |

[1]State changed categories after cost adjustments.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

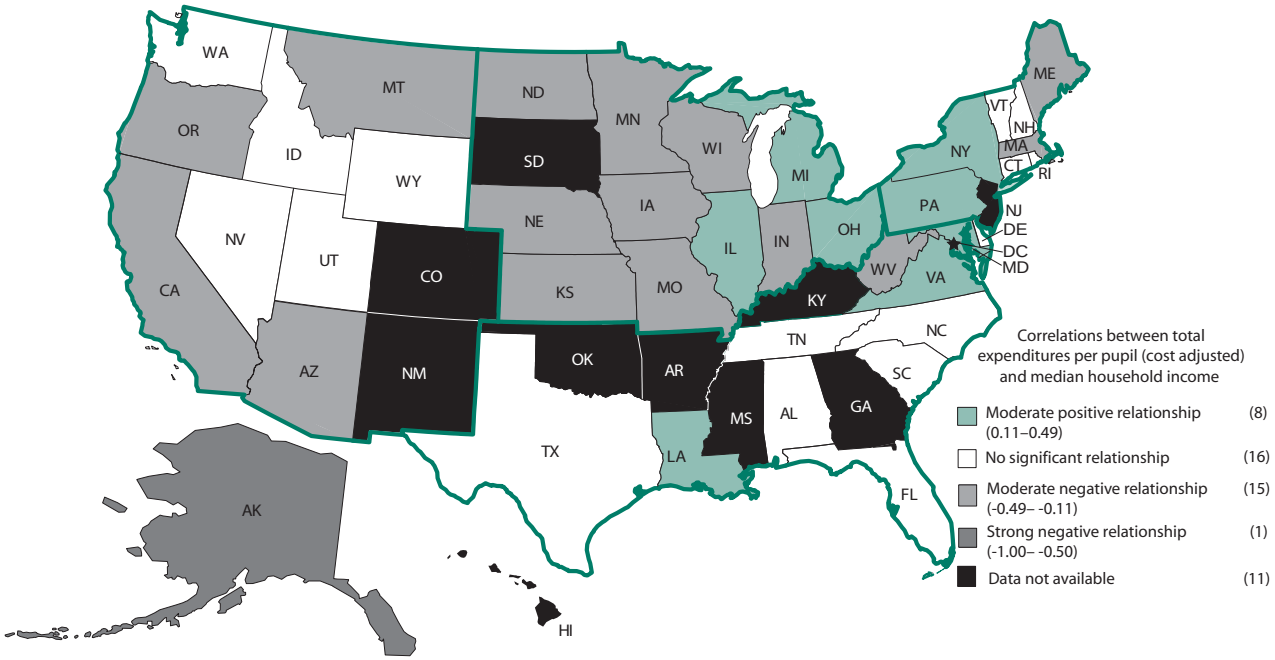
Figure 2-2. Correlations between total expenditures per pupil and median housing value (cost-adjusted dollars), by state: 1997–98




NOTE: No state-level correlation analysis was possible for the District of Columbia or Hawaii since they only have one district. Nine other states (Arkansas, Colorado, Georgia, Kentucky, Mississippi, New Jersey, New Mexico, Oklahoma, and South Dakota) were excluded from state-level correlation analysis because more than 50 percent of the school districts were missing Census data. Regions are delineated in green; Alaska and Hawaii are part of the Western Region.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

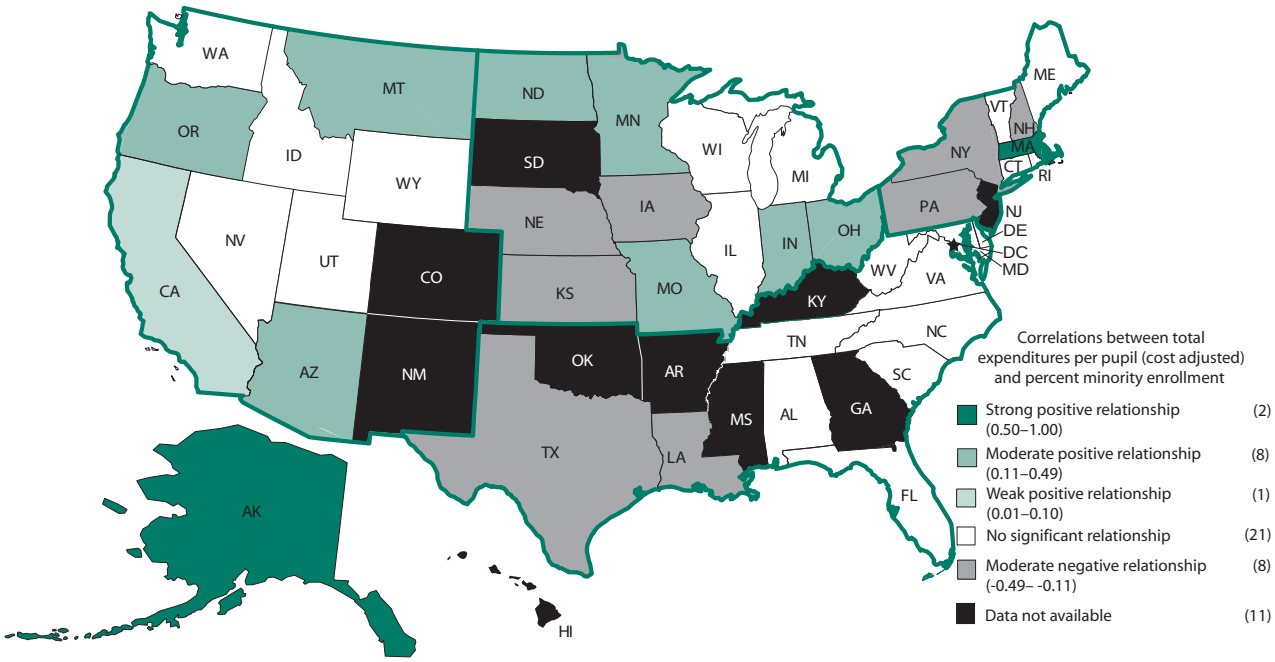
Figure 2-3. Correlations between total expenditures per pupil and median household income (cost-adjusted dollars), by state: 1997–98




NOTE: No state-level correlation analysis was possible for the District of Columbia or Hawaii since they only have one district. Nine other states (Arkansas, Colorado, Georgia, Kentucky, Mississippi, New Jersey, New Mexico, Oklahoma, and South Dakota) were excluded from state-level correlation analysis because more than 50 percent of the school districts were missing Census data. Regions are delineated in green; Alaska and Hawaii are part of the Western Region.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

Figure 2-4. Correlations between total expenditures per pupil and percent minority enrollment (cost-adjusted dollars), by state: 1997–98

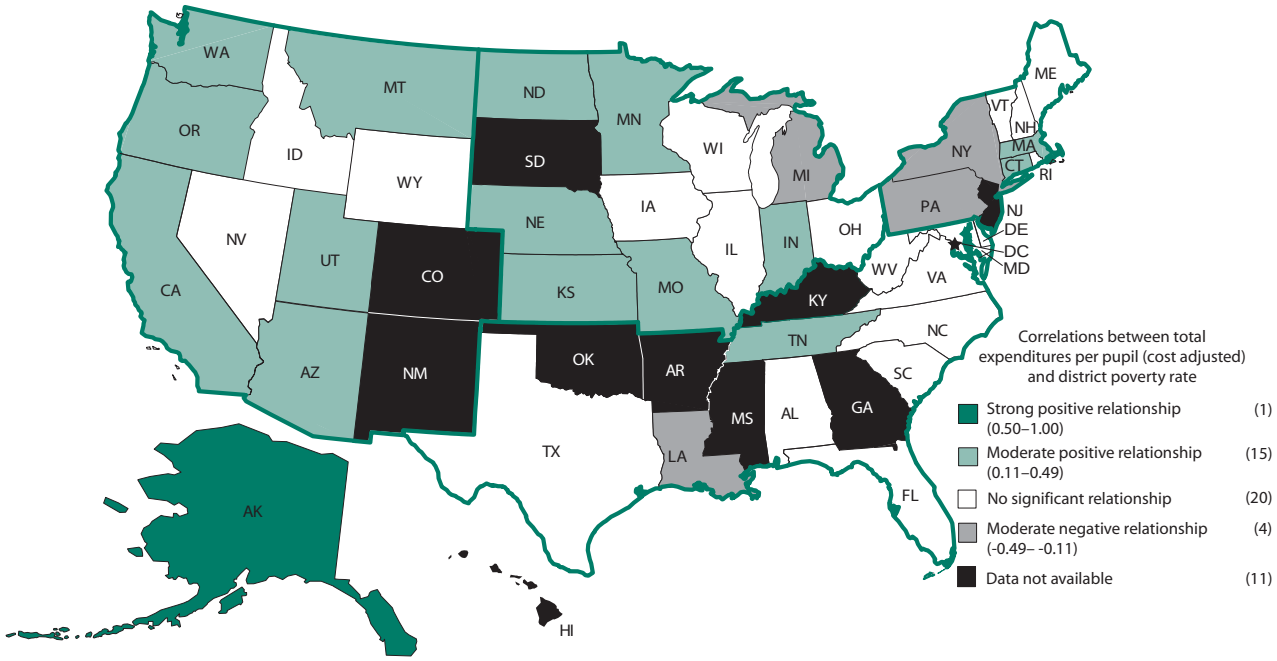



NOTE: No state-level correlation analysis was possible for the District of Columbia or Hawaii since they only have one district. Nine other states (Arkansas, Colorado, Georgia, Kentucky, Mississippi, New Jersey, New Mexico, Oklahoma, and South Dakota) were excluded from state-level correlation analysis because more than 50 percent of the school districts were missing Census data. Regions are delineated in green; Alaska and Hawaii are part of the Western Region.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

District poverty rate also showed little relationship with total expenditures per pupil, both at the national level (-0.10 before cost adjustments, -0.04 after) and in the states. Only one state (Alaska) showed a strong positive relationship between the district poverty rate and total expenditures per pupil both before and after cost adjustments. Half of the 40 states with sufficient data (22 before cost adjustment, 20 after) showed no relationship between district poverty rate and expenditures per pupil (figure 2-5).

Figure 2-5. Correlations between total expenditures per pupil and district poverty rate (cost-adjusted dollars), by state: 1997–98




NOTE: No state-level correlation analysis was possible for the District of Columbia or Hawaii since they only have one district. Nine other states (Arkansas, Colorado, Georgia, Kentucky, Mississippi, New Jersey, New Mexico, Oklahoma, and South Dakota) were excluded from state-level correlation analysis because more than 50 percent of the school districts were missing Census data. Regions are delineated in green; Alaska and Hawaii are part of the Western Region.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

# Chapter 3: Current Expenditures

## Current Expenditures

Current expenditures include expenditures for salaries and wages, employee benefits, purchased services, supplies, and other miscellaneous expenditures in the following categories: elementary and secondary educational instructional programs in prekindergarten through grade 12 and elementary and secondary noninstructional programs. Instructional programs include instruction and support services. Noninstructional programs include food services, enterprise operations, and other noninstructional activities. Current expenditures for public elementary and secondary education totaled $274.9 billion in 1997–98 (table 3-1). This was just over 84 percent of total district expenditures ($326.8 billion) in 1997–98. Nearly 66 percent of current expenditures were spent on salaries and wages ($181.8 billion), with just over 17 percent on employee benefits ($47.5 billion), and 17 percent on other current functions (NCES 1998).

## Current Expenditures Per Pupil

Current expenditures per pupil in school districts averaged $6,023 in 1997–98 before cost adjustments (table 3-1). Current expenditures per pupil were highest in the Northeast ($8,122) and lowest in the West ($5,352). At $6,062 per pupil, current expenditures in the Midwest were higher than in the South ($5,420). Expenditures per pupil in the highest region were 1.5 times greater than those in the lowest region before cost adjustments and 1.4 times greater after adjustments. Further, the difference between these two regions decreased from $2,770 to $2,223 after cost adjustments. Cost adjustments did not change regional rankings.

The smallest districts had higher current expenditures per pupil, both before and after cost adjustments. Before cost adjustments, current expenditures per pupil averaged $6,250 in districts with fewer than 1,000 students, compared to $5,899 in districts with 10,000 or more students. After cost adjustments, the smallest districts continued to have higher average current expenditures per pupil than larger districts. In addition, the difference between the smallest and the largest districts increased from $351 to $1,248 per pupil. Correlation analysis showed a weak negative relationship between district enrollment and current expenditures per pupil, both before (-0.03) and after (-0.08) cost adjustments (tables A-1 and A-2).

Before cost adjustments, current expenditures per pupil showed weak but statistically significant positive relationships with two measures of district wealth—median household income (+0.28) and median housing value (+0.31) (table A-5). School districts with median household income at or above $35,000 had the highest average current expenditures per pupil ($6,419) while districts with median household income less than $20,000 had expenditures per pupil of $5,757 (table 3-1). Districts with median housing values at or above $85,000 had the highest average current expenditures of $6,570 per pupil, while districts with median housing values below $40,000 had lower current expenditures per pupil of $5,916.

Table 3-1. Current expenditures, cost-adjusted current expenditures, current expenditures per pupil, and cost-adjusted current expenditures per pupil in public school districts, by region, district enrollment, minority enrollment, district poverty rate, median household income, and median housing value: 1997–98

| School district characteristics | Current expenditures (in thousands) | Cost-adjusted current expenditures (in thousands) | Current expenditures per pupil | Cost-adjusted current expenditures per pupil |
|---|---|---|---|---|
| All districts | $274,875,479 | $273,058,354 | $6,023 | $6,002 |
| Region | | | | |
| Northeast | 64,419,353 | 57,870,704 | 8,122 | 7,319 |
| Midwest | 64,379,572 | 65,728,464 | 6,062 | 6,220 |
| South | 89,295,330 | 95,708,096 | 5,420 | 5,809 |
| West | 56,781,224 | 53,751,089 | 5,352 | 5,096 |
| District enrollment | | | | |
| 0–999 | 16,991,273 | 18,724,004 | 6,250 | 6,987 |
| 1,000–4,999 | 79,642,105 | 80,832,821 | 6,132 | 6,252 |
| 5,000–9,999 | 43,289,275 | 42,388,581 | 6,135 | 6,021 |
| 10,000 or more | 134,952,826 | 131,112,948 | 5,899 | 5,739 |
| Minority enrollment | | | | |
| Less than 5 percent | 67,504,937 | 69,521,967 | 5,977 | 6,159 |
| 5 percent–<20 percent | 71,585,974 | 71,022,214 | 5,965 | 5,918 |
| 20 percent–<50 percent | 74,511,861 | 74,253,693 | 5,805 | 5,784 |
| 50 percent or more | 46,719,849 | 43,933,204 | 6,553 | 6,162 |
| Data missing[1] | 14,552,858 | 14,327,276 | — | — |
| District poverty rate | | | | |
| Less than 5 percent | 36,238,595 | 33,296,080 | 7,007 | 6,446 |
| 5 percent–<15 percent | 89,874,594 | 89,320,776 | 5,804 | 5,768 |
| 15 percent–<25 percent | 66,836,666 | 69,424,080 | 5,640 | 5,859 |
| 25 percent or more | 67,372,766 | 66,690,141 | 6,265 | 6,201 |
| Data missing[1] | 14,552,858 | 14,327,276 | — | — |
| Median household income | | | | |
| Less than $20,000 | 19,924,720 | 21,883,106 | 5,757 | 6,323 |
| $20,000 –<$25,000 | 48,175,832 | 51,388,704 | 5,737 | 6,120 |
| $25,000–<$30,000 | 67,772,898 | 67,910,223 | 6,047 | 6,059 |
| $30,000–<$35,000 | 43,369,419 | 42,716,395 | 5,735 | 5,648 |
| $35,000 or more | 81,079,752 | 74,832,650 | 6,419 | 5,927 |
| Data missing[1] | 14,552,858 | 14,327,276 | — | — |
| Median housing value | | | | |
| Less than $40,000 | 21,645,648 | 24,037,211 | 5,916 | 6,570 |
| $40,000–<$55,000 | 44,126,717 | 47,585,868 | 5,637 | 6,078 |
| $55,000–<$85,000 | 80,719,059 | 83,139,158 | 5,587 | 5,756 |
| $85,000 or more | 113,831,197 | 103,968,840 | 6,570 | 6,002 |
| Data missing[1] | 14552858 | 14327276 | — | — |

—Not available.
[1]These districts were missing 1990 Census demographic data.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

The lowest average current expenditures were found in districts with median household income between $30,000 and $35,000 and districts with median housing value between $55,000 and $85,000.

After cost adjustments, the correlation with household income was weak (+0.03) and the correlation with housing value was not statistically significant (table A-6). Adjusted current expenditures per pupil were highest in districts with the lowest median household incomes ($6,323), and lower in districts with the highest incomes ($5,927). Adjustments also raised current expenditures per pupil in districts with lower median housing values and lowered them in districts with higher housing values.

Before adjustments, school districts with the highest minority enrollments had higher current expenditures per pupil than districts with the lowest minority enrollments, $6,553 and $5,977, respectively. However, districts with between 20 and 50 percent minority enrollment had the lowest current expenditures per pupil ($5,805). After adjustments, the 20–50 percent bracket still had the lowest current

expenditures per pupil, and the difference between the lowest- and highest-expenditure districts was reduced from $748 to $378. Although there was a small positive correlation between minority enrollment and current expenditures per pupil before cost adjustments (+0 .12), in cost-adjusted dollars there was no significant correlation between these variables.

Current expenditures per pupil were weakly correlated with district poverty rate, both before (-0.03) and after (+0.06) cost adjustments. Current expenditures per pupil were highest in the lowest-poverty districts both before and after cost adjustments ($7,007 and 6,446, respectively). Districts with poverty rates of 25 percent or greater had the second-highest average current expenditures, $6,265 before cost adjustments and $6,201 after adjustments.

## Variations in Current Expenditures Per Pupil

### *Restricted Range Ratio*

The restricted range ratio for unadjusted current expenditures per pupil in school districts across the United States was 1.04 (table 3-2). This means current expenditures in the district at the 95th percentile were 1.04 times higher than current expenditures in the district at the 5th percentile. Variation across the states ranged from 0.16 in Nevada to 1.31 in Alaska. Two states (Alaska and Illinois) had a restricted range ratio higher than the United States ratio.

When cost adjustments were applied, the restricted range ratio for current expenditures per pupil across the United States decreased to 0.91 (table 3-3). Three states exceeded the national variation after cost adjustments: Alaska, Illinois, and Montana. The range between the lowest-variation and highest-variation states remained nearly unchanged. After cost adjustments, the restricted range ratio ranged from 0.15 in Nevada to 1.29 in Alaska.

### *Coefficient of Variation*

The coefficient of variation for unadjusted current expenditures per pupil across the United States was 0.25. This means approximately two-thirds of the districts nationally have current expenditures per pupil between $4,517 and $7,529, a range that is from 25 percent below the mean to 25 percent above the mean. Variation in the states ranged from 0.05 in West Virginia to 0.36 in Alaska. Three states had a coefficient of variation higher than the United States ratio: Alaska, Illinois, and Montana.

When current expenditures were adjusted for cost-of-education differences, the coefficient of variation for current expenditures per pupil across the United States decreased to 0.21. Four states exceeded the national variation after cost adjustments: Alaska, Illinois, Montana, and North Dakota. Cost adjustments decreased the range between the lowest-variation and highest-variation states. After cost adjustments, the coefficient of variation ranged from 0.06 in Delaware, Florida, and West Virginia to 0.34 in Alaska.

### *Gini Coefficient*

The Gini coefficient for unadjusted current expenditures per pupil across the United States was 0.13. A Gini coefficient of 0 means expenditures are distributed equally; higher values such as 0.13 imply expenditures are more concentrated among a smaller share of students. Variation in the states ranged

Table 3-2. Variation in current expenditures per pupil (unadjusted dollars), by state: 1997–98

| State | Restricted range ratio | | Coefficient of variation | | Gini coefficient | | Synthesized measure of variation | |
|---|---|---|---|---|---|---|---|---|
| | Value | Rank | Value | Rank | Value | Rank | Average rank | Average quartile |
| United States | 1.04 | † | 0.25 | † | 0.13 | † | † | † |
| Alabama | 0.34 | 12 | 0.09 | 4 | 0.05 | 6 | 7.33 | 1 |
| Alaska | 1.31 | 49 | 0.36 | 49 | 0.16 | 49 | 49.00 | 4 |
| Arizona | 0.52 | 27 | 0.14 | 25 | 0.07 | 26 | 26.00 | 3 |
| Arkansas | 0.53 | 29 | 0.12 | 18 | 0.06 | 14 | 20.33 | 2 |
| California | 0.28 | 5 | 0.10 | 10 | 0.05 | 6 | 7.00 | 1 |
| Colorado | 0.33 | 11 | 0.11 | 13 | 0.06 | 14 | 12.67 | 2 |
| Connecticut | 0.52 | 27 | 0.13 | 21 | 0.07 | 26 | 24.67 | 3 |
| Delaware | 0.23 | 3 | 0.07 | 2 | 0.04 | 3 | 2.67 | 1 |
| District of Columbia | ([1]) | ([1]) | ([1]) | ([1]) | ([1]) | ([1]) | ([1]) | ([1]) |
| Florida | 0.23 | 3 | 0.07 | 2 | 0.04 | 3 | 2.67 | 1 |
| Georgia | 0.46 | 20 | 0.11 | 13 | 0.06 | 14 | 15.67 | 2 |
| Hawaii | ([1]) | ([1]) | ([1]) | ([1]) | ([1]) | ([1]) | ([1]) | ([1]) |
| Idaho | 0.50 | 25 | 0.16 | 33 | 0.08 | 31 | 29.67 | 3 |
| Illinois | 1.18 | 48 | 0.26 | 47 | 0.13 | 48 | 47.67 | 4 |
| Indiana | 0.63 | 38 | 0.14 | 25 | 0.08 | 31 | 31.33 | 3 |
| Iowa | 0.35 | 14 | 0.09 | 4 | 0.05 | 6 | 8.00 | 1 |
| Kansas | 0.61 | 36 | 0.14 | 25 | 0.07 | 26 | 29.00 | 3 |
| Kentucky | 0.32 | 9 | 0.09 | 4 | 0.05 | 6 | 6.33 | 1 |
| Louisiana | 0.31 | 7 | 0.09 | 4 | 0.05 | 6 | 5.67 | 1 |
| Maine | 0.50 | 25 | 0.16 | 33 | 0.08 | 31 | 29.67 | 3 |
| Maryland | 0.36 | 16 | 0.10 | 10 | 0.05 | 6 | 10.67 | 2 |
| Massachusetts | 0.73 | 45 | 0.19 | 42 | 0.10 | 43 | 43.33 | 4 |
| Michigan | 0.58 | 33 | 0.16 | 33 | 0.09 | 37 | 34.33 | 3 |
| Minnesota | 0.69 | 42 | 0.20 | 45 | 0.08 | 31 | 39.33 | 4 |
| Mississippi | 0.41 | 18 | 0.11 | 13 | 0.06 | 14 | 15.00 | 2 |
| Missouri | 0.85 | 46 | 0.19 | 42 | 0.10 | 43 | 43.67 | 4 |
| Montana | 1.02 | 47 | 0.28 | 48 | 0.12 | 47 | 47.33 | 4 |
| Nebraska | 0.47 | 21 | 0.15 | 31 | 0.07 | 26 | 26.00 | 3 |
| Nevada | 0.16 | 1 | 0.11 | 13 | 0.03 | 1 | 5.00 | 1 |
| New Hampshire | 0.64 | 39 | 0.16 | 33 | 0.09 | 37 | 36.33 | 4 |
| New Jersey | 0.64 | 39 | 0.15 | 31 | 0.08 | 31 | 33.67 | 3 |
| New Mexico | 0.57 | 32 | 0.14 | 25 | 0.06 | 14 | 23.67 | 2 |
| New York | 0.69 | 42 | 0.19 | 42 | 0.09 | 37 | 40.33 | 4 |
| North Carolina | 0.30 | 6 | 0.09 | 4 | 0.05 | 6 | 5.33 | 1 |
| North Dakota | 0.61 | 36 | 0.24 | 46 | 0.09 | 37 | 39.67 | 4 |
| Ohio | 0.69 | 42 | 0.18 | 40 | 0.10 | 43 | 41.67 | 4 |
| Oklahoma | 0.43 | 19 | 0.13 | 21 | 0.06 | 14 | 18.00 | 2 |
| Oregon | 0.49 | 24 | 0.14 | 25 | 0.06 | 14 | 21.00 | 2 |
| Pennsylvania | 0.59 | 34 | 0.17 | 37 | 0.09 | 37 | 36.00 | 4 |
| Rhode Island | 0.31 | 7 | 0.09 | 4 | 0.05 | 6 | 5.67 | 1 |
| South Carolina | 0.35 | 14 | 0.11 | 13 | 0.06 | 14 | 13.67 | 2 |
| South Dakota | 0.48 | 23 | 0.14 | 25 | 0.06 | 14 | 20.67 | 2 |
| Tennessee | 0.55 | 30 | 0.13 | 21 | 0.07 | 26 | 25.67 | 3 |
| Texas | 0.37 | 17 | 0.12 | 18 | 0.06 | 14 | 16.33 | 2 |
| Utah | 0.34 | 12 | 0.13 | 21 | 0.06 | 14 | 15.67 | 2 |
| Vermont | 0.64 | 39 | 0.17 | 37 | 0.10 | 43 | 39.67 | 4 |
| Virginia | 0.55 | 30 | 0.18 | 40 | 0.09 | 37 | 35.67 | 3 |
| Washington | 0.32 | 9 | 0.10 | 10 | 0.04 | 3 | 7.33 | 1 |
| West Virginia | 0.17 | 2 | 0.05 | 1 | 0.03 | 1 | 1.33 | 1 |
| Wisconsin | 0.47 | 21 | 0.12 | 18 | 0.06 | 14 | 17.67 | 2 |
| Wyoming | 0.60 | 35 | 0.17 | 37 | 0.08 | 31 | 34.33 | 3 |

†Not applicable.
[1]Variation is not measured in the District of Columbia or Hawaii where there is only one school district.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98."

Table 3-3. Variation in current expenditures per pupil (cost-adjusted dollars), by state: 1997–98

| State | Restricted range ratio | | Coefficient of variation | | Gini coefficient | | Synthesized measure of variation | |
|---|---|---|---|---|---|---|---|---|
| | Value | Rank | Value | Rank | Value | Rank | Average rank | Average quartile |
| United States | 0.91 | † | 0.21 | † | 0.11 | † | † | † |
| Alabama | 0.32 | 9 | 0.09 | 5 | 0.05 | 6 | 6.67 | 1 |
| Alaska | 1.29 | 49 | 0.34 | 49 | 0.16 | 49 | 49.00 | 4 |
| Arizona | 0.46 | 23 | 0.17 | 33 | 0.08 | 29 | 28.33 | 3 |
| Arkansas | 0.41 | 19 | 0.11 | 12 | 0.06 | 11 | 14.00 | 2 |
| California | 0.34 | 12 | 0.12 | 16 | 0.06 | 11 | 13.00 | 2 |
| Colorado | 0.39 | 16 | 0.13 | 19 | 0.06 | 11 | 15.33 | 2 |
| Connecticut | 0.46 | 23 | 0.13 | 19 | 0.07 | 22 | 21.33 | 2 |
| Delaware | 0.20 | 2 | 0.06 | 1 | 0.03 | 1 | 1.33 | 1 |
| District of Columbia | (1) | (1) | (1) | (1) | (1) | (1) | (1) | (1) |
| Florida | 0.23 | 4 | 0.06 | 1 | 0.03 | 1 | 2.00 | 1 |
| Georgia | 0.40 | 18 | 0.10 | 10 | 0.06 | 11 | 13.00 | 2 |
| Hawaii | (1) | (1) | (1) | (1) | (1) | (1) | (1) | (1) |
| Idaho | 0.65 | 38 | 0.17 | 33 | 0.09 | 38 | 36.33 | 4 |
| Illinois | 1.00 | 47 | 0.23 | 46 | 0.11 | 46 | 46.33 | 4 |
| Indiana | 0.48 | 26 | 0.13 | 19 | 0.07 | 22 | 22.33 | 2 |
| Iowa | 0.30 | 8 | 0.09 | 5 | 0.05 | 6 | 6.33 | 1 |
| Kansas | 0.78 | 46 | 0.18 | 38 | 0.09 | 38 | 40.67 | 4 |
| Kentucky | 0.34 | 12 | 0.09 | 5 | 0.05 | 6 | 7.67 | 1 |
| Louisiana | 0.28 | 5 | 0.09 | 5 | 0.05 | 6 | 5.33 | 1 |
| Maine | 0.60 | 34 | 0.17 | 33 | 0.08 | 29 | 32.00 | 3 |
| Maryland | 0.28 | 5 | 0.08 | 4 | 0.04 | 4 | 4.33 | 1 |
| Massachusetts | 0.71 | 41 | 0.18 | 38 | 0.10 | 44 | 41.00 | 4 |
| Michigan | 0.49 | 27 | 0.13 | 19 | 0.07 | 22 | 22.67 | 2 |
| Minnesota | 0.50 | 29 | 0.20 | 44 | 0.08 | 29 | 34.00 | 3 |
| Mississippi | 0.42 | 20 | 0.10 | 10 | 0.06 | 11 | 13.67 | 2 |
| Missouri | 0.67 | 40 | 0.16 | 30 | 0.09 | 38 | 36.00 | 4 |
| Montana | 1.16 | 48 | 0.32 | 48 | 0.14 | 48 | 48.00 | 4 |
| Nebraska | 0.73 | 43 | 0.20 | 44 | 0.09 | 38 | 41.67 | 4 |
| Nevada | 0.15 | 1 | 0.12 | 16 | 0.03 | 1 | 6.00 | 1 |
| New Hampshire | 0.76 | 44 | 0.19 | 42 | 0.10 | 44 | 43.33 | 4 |
| New Jersey | 0.53 | 31 | 0.14 | 24 | 0.08 | 29 | 28.00 | 3 |
| New Mexico | 0.58 | 33 | 0.17 | 33 | 0.07 | 22 | 29.33 | 3 |
| New York | 0.50 | 29 | 0.16 | 30 | 0.08 | 29 | 29.33 | 3 |
| North Carolina | 0.29 | 7 | 0.09 | 5 | 0.05 | 6 | 6.00 | 1 |
| North Dakota | 0.77 | 45 | 0.28 | 47 | 0.11 | 46 | 46.00 | 4 |
| Ohio | 0.55 | 32 | 0.15 | 27 | 0.08 | 29 | 29.33 | 3 |
| Oklahoma | 0.66 | 39 | 0.18 | 38 | 0.08 | 29 | 35.33 | 3 |
| Oregon | 0.49 | 27 | 0.15 | 27 | 0.07 | 22 | 25.33 | 3 |
| Pennsylvania | 0.47 | 25 | 0.14 | 24 | 0.07 | 22 | 23.67 | 3 |
| Rhode Island | 0.39 | 16 | 0.11 | 12 | 0.06 | 11 | 13.00 | 2 |
| South Carolina | 0.33 | 10 | 0.11 | 12 | 0.06 | 11 | 11.00 | 1 |
| South Dakota | 0.72 | 42 | 0.18 | 38 | 0.08 | 29 | 36.33 | 4 |
| Tennessee | 0.42 | 20 | 0.12 | 16 | 0.06 | 11 | 15.67 | 2 |
| Texas | 0.60 | 34 | 0.17 | 33 | 0.08 | 29 | 32.00 | 3 |
| Utah | 0.37 | 14 | 0.15 | 27 | 0.06 | 11 | 17.33 | 2 |
| Vermont | 0.61 | 36 | 0.16 | 30 | 0.09 | 38 | 34.67 | 3 |
| Virginia | 0.44 | 22 | 0.14 | 24 | 0.07 | 22 | 22.67 | 2 |
| Washington | 0.33 | 10 | 0.13 | 19 | 0.06 | 11 | 13.33 | 2 |
| West Virginia | 0.21 | 3 | 0.06 | 1 | 0.04 | 4 | 2.67 | 1 |
| Wisconsin | 0.37 | 14 | 0.11 | 12 | 0.06 | 11 | 12.33 | 1 |
| Wyoming | 0.64 | 37 | 0.19 | 42 | 0.09 | 38 | 39.00 | 4 |

†Not applicable.
[1]Variation is not measured in the District of Columbia or Hawaii where there is only one school district.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98."

from 0.03 in Nevada and West Virginia to 0.16 in Alaska. Only Alaska had a Gini coefficient higher than the United States coefficient.

Cost-of-education adjustments reduced the Gini coefficient to 0.11. After cost adjustment, Alaska and Montana exceeded the United States level of variation, and the range of variation remained unchanged. After adjustments, the Gini coefficient ranged from 0.03 in Delaware, Florida, and Nevada to 0.16 in Alaska.

### Overall Variation

In a synthesis of the three variation measures, the South (88 percent) had the highest percentage of states in the two quartiles with low variation in current expenditures per pupil, while the Northeast (89 percent) had the highest percentage in the two quartiles with high variation (table 3-4 and figure 3-1). After cost adjustments, 88 percent of Southern states were in the two quartiles with low variation compared with 78 percent of Northeastern states in the two quartiles with high variation.

States with small variation on one measure also demonstrated small variation on the other two measures. In particular, Delaware, Florida, and West Virginia had the lowest variation overall both before and after cost adjustments.

Table 3-4. Variation in current expenditures per pupil, by region: 1997–98

| Region | Percent of states in quartiles 1 and 2 (low variation) | Percent of states in quartiles 3 and 4 (high variation) |
|---|---|---|
| Unadjusted current expenditures per pupil | | |
| Northeast | 11 | 89 |
| Midwest | 25 | 75 |
| South | 88 | 13 |
| West | 58 | 42 |
| Cost-adjusted current expenditures per pupil | | |
| Northeast | 22 | 78 |
| Midwest | 33 | 67 |
| South | 88 | 13 |
| West | 42 | 58 |

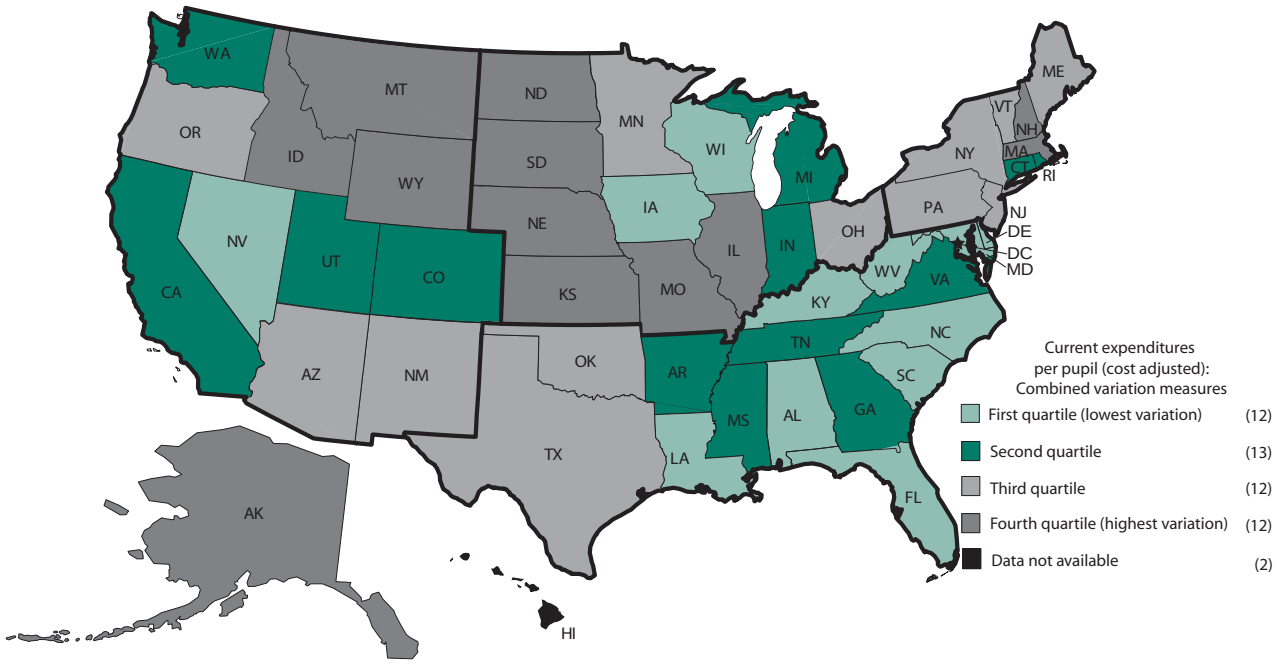
NOTE: Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98."

## Relationship Between Current Expenditures Per Pupil and Selected District Fiscal and Demographic Characteristics

For the United States as a whole, current expenditures per pupil in unadjusted dollars showed a moderate positive relationship with a school district's median household income (+0.28) and its median housing value (+0.31) (table A-5). Similarly, at the state level, median housing value was positively related to current expenditures per pupil in 19 of the 40 states with available data, and negatively related to current expenditures per pupil in 11 of the 40 states (table 3-5). Four states (Delaware, Maryland, Pennsylvania, and Virginia) showed a strong positive relationship between median housing value and current expenditures, while one state (Alaska) showed a strong negative relationship. Ten states had no statistically significant relationship between current expenditures per pupil and median housing value. In contrast, 17 states showed no statistically significant relationship between median household income and current expenditures per pupil, 8 states showed a positive relationship, and 15 states showed a negative relationship.

Figure 3-1. Synthesis of variation measures of current expenditures per pupil (cost-adjusted dollars), by state: 1997–98




NOTE: Variation is not measured in the District of Columbia or Hawaii where there is only one school district. Regions are delineated in black; Alaska and Hawaii are part of the Western Region.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98."

After cost adjustments, the relationship between district wealth and current expenditures per pupil weakened for the United States as a whole (table A-6). After cost adjustments, slightly more than half of states in the South showed no relationship between current expenditures per pupil and median housing value (figure 3-2). Only one state (Virginia) showed a strong positive relationship and only five states (Alaska, Iowa, Montana, Nebraska, and West Virginia) showed a strong negative relationship. Similarly, no state had a strong positive relationship between a district's median household income and adjusted current expenditures per pupil and only five states showed a strong negative relationship (figure 3-3).

Current expenditures per pupil showed a moderate positive relationship (+0.12) with minority enrollment for the United States as a whole, before cost adjustments (table A-5). Eleven states (Alaska, Arizona, Indiana, Iowa, Massachusetts, Minnesota, Missouri, Ohio, Oregon, Utah, and Wisconsin) showed a strong positive relationship between minority enrollment and current expenditures per pupil before cost adjustments while only four states (Alaska, Arizona, Massachusetts, and South Carolina) showed this relationship after cost adjustments (table 3-4). No state showed a strong negative relationship between minority enrollment and current expenditures per pupil, either before or after cost adjustments.

District poverty rate showed a weak relationship with current expenditures per pupil at the national level, both before (-0.03) and after (+0.06) cost adjustments. Only three states (Alaska, Indiana, and Utah) showed a strong positive relationship between district poverty rate and current expenditures per pupil but seven states (Alaska, Arizona, Florida, Indiana, Minnesota, Missouri, and Utah) showed this relationship after cost adjustments (figure 3-5).

Table 3-5. Correlations between current expenditures per pupil and selected fiscal and demographic characteristics, by state: 1997–98

| Characteristics | States (before cost adjustments) | States (after cost adjustments) |
|---|---|---|
| **Minority enrollment** | | |
| Strong positive relationship | Alaska, Arizona, Indiana, Iowa, Massachusetts, Minnesota, Missouri, Ohio, Oregon, Utah, Wisconsin | Alaska, Arizona, Massachusetts, South Carolina[1] |
| Moderate positive relationship | California, Connecticut, Florida, Illinois, Michigan, Montana, North Dakota, South Carolina, Tennessee, Vermont, Washington, Wyoming, *US overall* | California, Connecticut, Indiana,[1] Michigan, Minnesota,[1] Missouri,[1] Montana, North Dakota, Ohio,[1] Oregon,[1] Tennessee, Utah,[1] Washington, Wisconsin,[1] Wyoming |
| Weak positive relationship | Texas | Illinois[1] |
| Weak negative relationship | [none] | Texas[1] |
| Moderate negative relationship | New York | Kansas,[1] Nebraska,[1] New Hampshire,[1] New York, Pennsylvania[1] |
| Strong negative relationship | [none] | [none] |
| No significant relationship | Alabama, Delaware, Idaho, Kansas, Louisiana, Maine, Maryland, Nebraska, Nevada, New Hampshire, North Carolina, Pennsylvania, Rhode Island, Virginia, West Virginia | Alabama, Delaware, Florida,[1] Idaho, Iowa,[1] Louisiana, Maine, Maryland, Nevada, North Carolina, Rhode Island, Vermont,[1] Virginia, West Virginia, *US overall* |
| **District poverty rate** | | |
| Strong positive relationship | Alaska, Indiana, Utah | Alaska, Arizona,[1] Florida,[1] Indiana, Minnesota,[1] Missouri,[1] Utah |
| Moderate positive relationship | Arizona, California, Connecticut, Florida, Iowa, Kansas, Massachusetts, Michigan, Minnesota, Missouri, Montana, Nebraska, North Dakota, Ohio, Oregon, South Carolina, Texas, Washington, West Virginia, Wisconsin, Wyoming | California, Connecticut, Iowa, Kansas, Maine,[1] Massachusetts, Michigan, Montana, Nebraska, North Carolina,[1] North Dakota, Ohio, Oregon, South Carolina, Tennessee,[1] Texas, Washington, West Virginia, Wisconsin, Wyoming |
| Weak positive relationship | [none] | [none] |
| Weak negative relationship | *US overall* | *US overall* |
| Moderate negative relationship | Louisiana, New York, Pennsylvania | Louisiana, Pennsylvania |
| Strong negative relationship | [none] | New York[1] |
| No significant relationship | Alabama, Delaware, Idaho, Illinois, Maine, Maryland, Nevada, New Hampshire, North Carolina, Rhode Island, Tennessee, Vermont, Virginia | Alabama, Delaware, Idaho, Illinois, Maryland, Nevada, New Hampshire, Rhode Island, Vermont, Virginia |
| **Median household income** | | |
| Strong positive relationship | Louisiana, New York, Pennsylvania, Virginia | [none] |
| Moderate positive relationship | Alabama, Illinois, Michigan, Ohio, *US overall* | Illinois, Louisiana,[1] New York,[1] Pennsylvania,[1] Virginia[1] |
| Weak positive relationship | [none] | *US overall*[1] |
| Weak negative relationship | [none] | [none] |
| Moderate negative relationship | Alaska, Arizona, California, Indiana, Iowa, Kansas, Massachusetts, Minnesota, Montana, Nebraska, North Dakota, Oregon, Texas, Washington | California, Florida,[1] Idaho,[1] Indiana, Kansas, Maine,[1] Massachusetts, Minnesota, Missouri,[1] Montana, Nebraska, North Carolina,[1] North Dakota, Oregon, South Carolina,[1] Texas, Vermont,[1] West Virginia,[1] Wisconsin[1] |
| Strong negative relationship | Utah | Alaska,[1] Arizona,[1] Iowa,[1] Utah, Washington[1] |
| No significant relationship | Connecticut, Delaware, Florida, Idaho, Maine, Maryland, Missouri, Nevada, New Hampshire, North Carolina, Rhode Island, South Carolina, Tennessee, Vermont, West Virginia, Wisconsin, Wyoming | Alabama,[1] Connecticut, Delaware, Maryland, Michigan,[1] Nevada, New Hampshire, Ohio,[1] Rhode Island, Tennessee, Wyoming |
| **Median housing value** | | |
| Strong positive relationship | Delaware, Maryland, Pennsylvania, Virginia | Virginia |
| Moderate positive relationship | Alabama, California, Florida, Illinois, Louisiana, Massachusetts, Michigan, Missouri, New Hampshire, New York, North Carolina, Ohio, Tennessee, Vermont, Wisconsin, *US overall* | Illinois, Massachusetts, Ohio, Pennsylvania,[1] Vermont |
| Weak positive relationship | [none] | New York[1] |
| Weak negative relationship | [none] | [none] |
| Moderate negative relationship | Arizona, Indiana, Kansas, Montana, Nebraska, North Dakota, Oregon, Texas, Utah, West Virginia | Arizona, California,[1] Indiana, Kansas, Maine,[1] Minnesota,[1] Missouri,[1] North Dakota, Oregon, Texas, Utah, Washington[1] |
| Strong negative relationship | Alaska | Alaska, Iowa,[1] Montana,[1] Nebraska,[1] West Virginia[1] |
| No significant relationship | Connecticut, Idaho, Iowa, Maine, Minnesota, Nevada, Rhode Island, South Carolina, Washington, Wyoming | Alabama,[1] Connecticut, Delaware,[1] Florida,[1] Idaho, Louisiana,[1] Maryland,[1] Michigan,[1] Nevada, New Hampshire,[1] North Carolina,[1] Rhode Island, South Carolina, Tennessee,[1] Wisconsin,[1] Wyoming, *US overall*[1] |

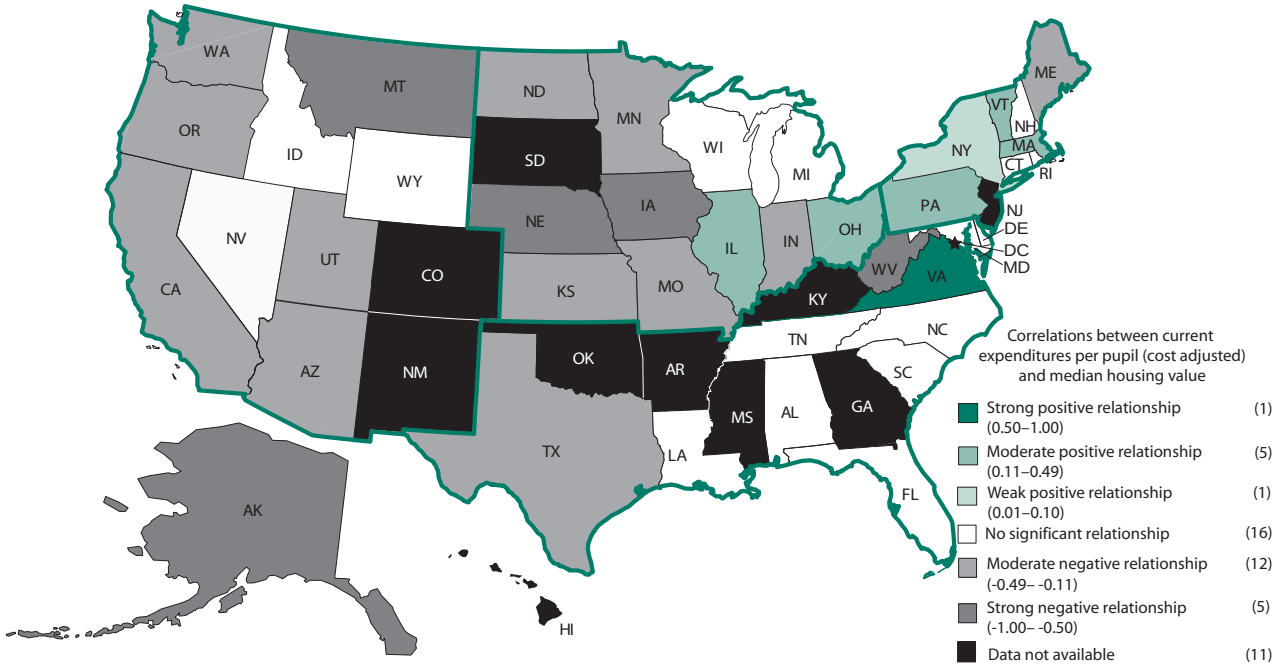
Table 3-5. Correlations between current expenditures per pupil and selected fiscal and demographic characteristics, by state: 1997–98—Continued

| Characteristics | States (before cost adjustments) | States (after cost adjustments) |
|---|---|---|
| **Student membership** | | |
| Strong positive relationship | Delaware | [none] |
| Moderate positive relationship | Indiana, Maryland, Massachusetts, Michigan, Ohio, Tennessee | Indiana |
| Weak positive relationship | [none] | Ohio[1] |
| Weak negative relationship | *US overall* | California,[1] Nebraska,[1] New Jersey,[1] *US overall* |
| Moderate negative relationship | Alaska, Arizona, Colorado, Idaho, Kansas, Maine, Montana, New Hampshire, New Mexico, North Carolina, North Dakota, Oklahoma, Oregon, Texas, Utah, Washington, Wyoming | Alabama,[1] Alaska, Arizona, Arkansas,[1] Colorado, Florida,[1] Georgia,[1] Idaho, Iowa,[1] Kansas, Maine, Minnesota,[1] Mississippi,[1] Missouri,[1] Montana, New Hampshire, New Mexico, North Carolina, North Dakota, Oklahoma, Oregon, South Carolina,[1] South Dakota,[1] Texas, Utah, Washington, Wyoming |
| Strong negative relationship | [none] | [none] |
| No significant relationship | Alabama, Arkansas, California, Connecticut, Florida, Georgia, Illinois, Iowa, Kentucky, Louisiana, Minnesota, Mississippi, Missouri, Nebraska, Nevada, New Jersey, New York, Pennsylvania, Rhode Island, South Carolina, South Dakota, Vermont, Virginia, West Virginia, Wisconsin | Connecticut, Delaware,[1] Illinois, Kentucky, Louisiana, Maryland,[1] Massachusetts,[1] Michigan,[1] Nevada, New York, Pennsylvania, Rhode Island, Tennessee,[1] Vermont, Virginia, West Virginia, Wisconsin |

[1]State changed categories after cost adjustments.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

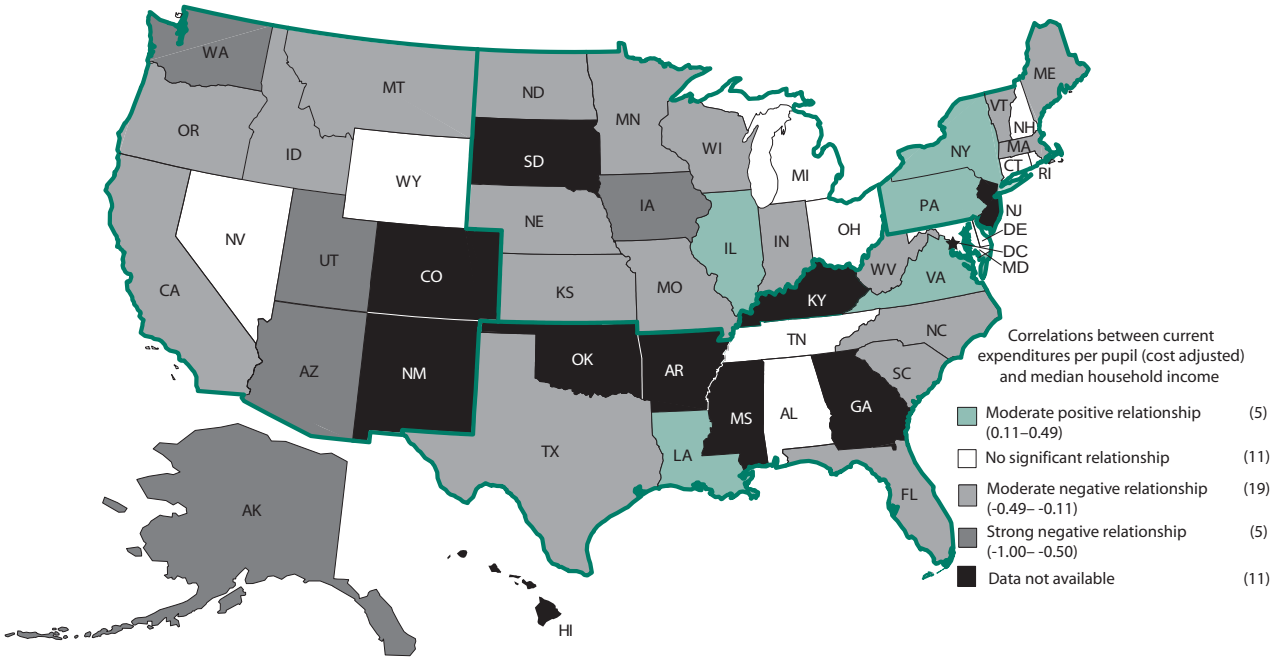
Figure 3-2. Correlations between current expenditures per pupil and median housing value (cost-adjusted dollars), by state: 1997–98




NOTE: No state-level correlation analysis was possible for the District of Columbia or Hawaii since they only have one district. Nine other states (Arkansas, Colorado, Georgia, Kentucky, Mississippi, New Jersey, New Mexico, Oklahoma, and South Dakota) were excluded from state-level correlation analysis because more than 50 percent of the school districts were missing Census data. Regions are delineated in green; Alaska and Hawaii are part of the Western Region.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

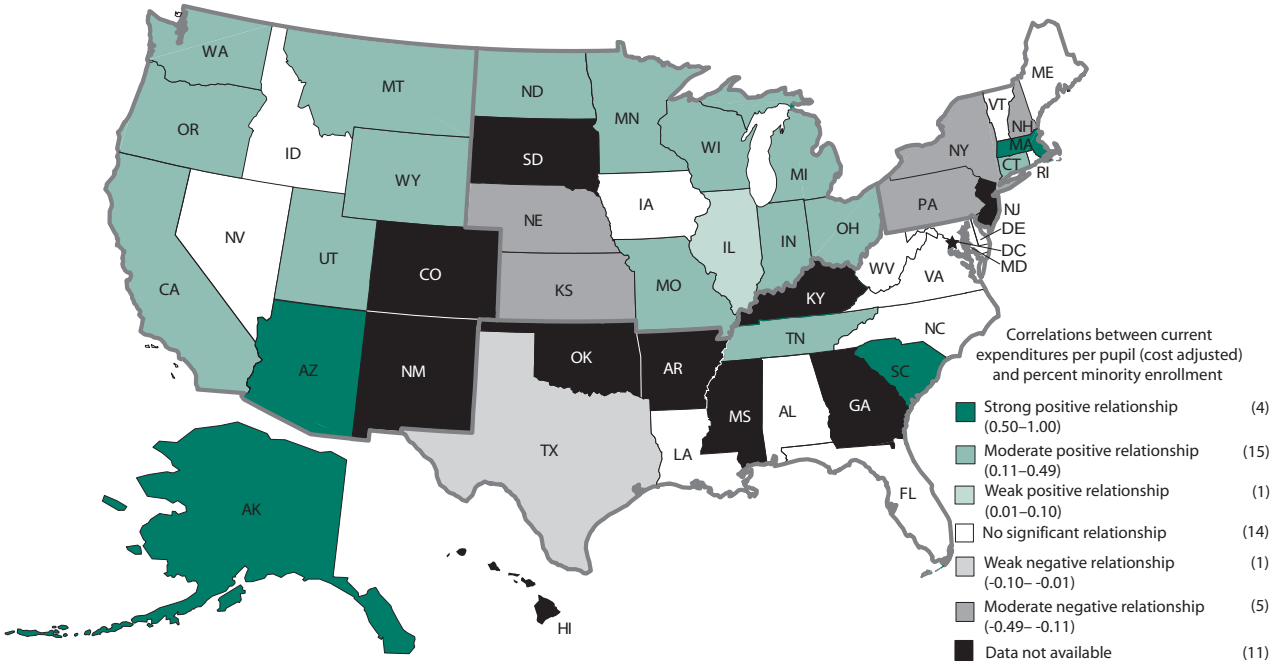
Figure 3-3. Correlations between current expenditures per pupil and median household income (cost-adjusted dollars), by state: 1997–98




NOTE: No state-level correlation analysis was possible for the District of Columbia or Hawaii since they only have one district. Nine other states (Arkansas, Colorado, Georgia, Kentucky, Mississippi, New Jersey, New Mexico, Oklahoma, and South Dakota) were excluded from state-level correlation analysis because more than 50 percent of the school districts were missing Census data. Regions are delineated in green; Alaska and Hawaii are part of the Western Region.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

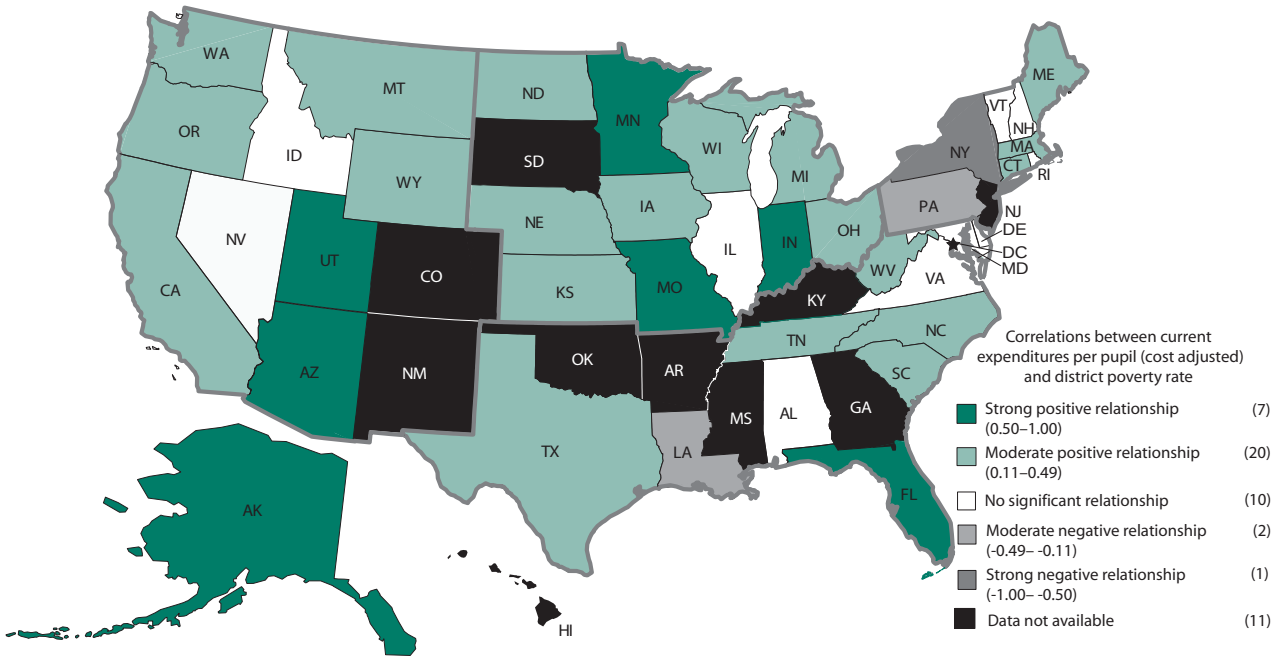
Figure 3-4. Correlations between current expenditures per pupil and percent minority enrollment (cost-adjusted dollars), by state: 1997–98




NOTE: No state-level correlation analysis was possible for the District of Columbia or Hawaii since they only have one district. Nine other states (Arkansas, Colorado, Georgia, Kentucky, Mississippi, New Jersey, New Mexico, Oklahoma, and South Dakota) were excluded from state-level correlation analysis because more than 50 percent of the school districts were missing Census data. Regions are delineated in gray; Alaska and Hawaii are part of the Western Region.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

Figure 3-5. Correlations between current expenditures per pupil and district poverty rate (cost-adjusted dollars), by state: 1997–98




NOTE: No state-level correlation analysis was possible for the District of Columbia or Hawaii since they only have one district. Nine other states (Arkansas, Colorado, Georgia, Kentucky, Mississippi, New Jersey, New Mexico, Oklahoma, and South Dakota) were excluded from state-level correlation analysis because more than 50 percent of the school districts were missing Census data. Regions are delineated in gray; Alaska and Hawaii are part of the Western Region.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

## Salaries

School district spending on salaries for public elementary and secondary education totaled $181.8 billion in 1997–98 before cost adjustments (table 3-6). This was nearly 66 percent of current expenditures ($274.9 billion) in 1997–98.

## Salary Expenditures Per Pupil

Expenditures per pupil for salaries in the United States averaged $3,985 in 1997–98 before cost adjustments (table 3-6). Expenditures per pupil for salaries were highest in the Northeast ($5,338) and lowest in the West ($3,543). At $3,973 per pupil, expenditures per pupil for salaries in the Midwest were higher than in the South ($3,625). Expenditures per pupil in the highest region were 1.5 times greater than those in the lowest region before cost adjustments and 1.4 times greater after adjustments. Further, the difference between these two regions decreased from $1,795 to $1,441 after cost adjustments. The Northeast ($4,808) remained the region with the highest per pupil expenditures, and the West ($3,367) remained the region with lowest expenditures per pupil for salaries.

Before cost adjustments, mid-sized districts had higher expenditures per pupil for salaries than small and large districts. Expenditures per pupil averaged $4,035 in districts with 1,000–4,999 students and $4,091 in districts with 5,000–9,999 students, compared to $3,935 in districts with fewer than 1,000 students and $3,929 in districts with 10,000 or more students. After cost adjustments, districts with fewer than 1,000 students had the highest average salary expenditures per pupil ($4,417). In addition, the difference between the smallest and the largest districts increased from $162 to $594 per pupil.

Table 3-6. Salary expenditures, cost-adjusted salary expenditures, salary expenditures per pupil, and cost-adjusted salary expenditures per pupil in public school districts, by region, district enrollment, minority enrollment, district poverty rate, median household income, and median housing value: 1997–98

| School district characteristics | Salary expenditures (in thousands) | Cost-adjusted salary expenditures (in thousands) | Salary expenditures per pupil | Cost-adjusted salary expenditures per pupil |
|---|---|---|---|---|
| All districts | $181,843,622 | $180,591,621 | $3,985 | $3,969 |
| Region | | | | |
| Northeast | 42,339,640 | 38,016,011 | 5,338 | 4,808 |
| Midwest | 42,199,621 | 43,079,923 | 3,973 | 4,077 |
| South | 59,720,016 | 63,980,727 | 3,625 | 3,883 |
| West | 37,584,345 | 35,514,959 | 3,543 | 3,367 |
| District enrollment | | | | |
| 0–999 | 10,698,680 | 11,837,126 | 3,935 | 4,417 |
| 1,000–4,999 | 52,402,829 | 53,149,216 | 4,035 | 4,111 |
| 5,000–9,999 | 28,864,876 | 28,248,499 | 4,091 | 4,012 |
| 10,000 or more | 89,877,237 | 87,356,779 | 3,929 | 3,823 |
| Minority enrollment | | | | |
| Less than 5 percent | 44,170,530 | 45,418,175 | 3,911 | 4,024 |
| 5 percent–<20 percent | 47,836,092 | 47,424,249 | 3,986 | 3,952 |
| 20 percent–<50 percent | 49,921,440 | 49,739,325 | 3,889 | 3,875 |
| 50 percent or more | 30,458,491 | 28,669,632 | 4,272 | 4,021 |
| Data missing[1] | 9,457,069 | 9,340,239 | — | — |
| District poverty rate | | | | |
| Less than 5 percent | 24,417,526 | 22,410,475 | 4,721 | 4,338 |
| 5 percent–<15 percent | 59,852,176 | 59,429,559 | 3,865 | 3,838 |
| 15 percent–<25 percent | 43,966,285 | 45,656,329 | 3,710 | 3,853 |
| 25 percent or more | 44,150,566 | 43,755,019 | 4,105 | 4,068 |
| Data missing[1] | 9,457,069 | 9,340,239 | — | — |
| Median household income | | | | |
| Less than $20,000 | 13,042,206 | 14,323,739 | 3,768 | 4,139 |
| $20,000–<$25,000 | 31,514,660 | 33,636,727 | 3,753 | 4,006 |
| $25,000–<$30,000 | 44,330,201 | 44,463,381 | 3,955 | 3,967 |
| $30,000–<$35,000 | 28,911,824 | 28,468,444 | 3,823 | 3,764 |
| $35,000 or more | 54,587,662 | 50,359,091 | 4,321 | 3,989 |
| Data missing[1] | 9,457,069 | 9,340,239 | — | — |
| Median housing value | | | | |
| Less than $40,000 | 14,125,712 | 15,680,700 | 3,861 | 4,286 |
| $40,000–<$55,000 | 28,787,456 | 31,068,883 | 3,677 | 3,969 |
| $55,000–<$85,000 | 53,698,904 | 55,291,574 | 3,717 | 3,828 |
| $85,000 or more | 75,774,481 | 69,210,226 | 4,374 | 3,995 |
| Data missing[1] | 9,457,069 | 9,340,239 | — | — |

—Not available.
[1]These districts were missing 1990 Census demographic data.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

Correlation analysis, however, found no significant relationship between district enrollment and salary expenditures per pupil before cost adjustments, and a weak negative relationship (-0.07) after cost adjustments (tables A-1 and A-2).

Before cost adjustments, salary expenditures per pupil showed a weak positive relationship with two measures of district wealth—median household income (+0.33) and median housing value (+0.33) (table A-7). School districts with median household income at or above $35,000 had the highest average expenditures per pupil ($4,321), while districts with median income between $20,000 and $25,000 had the lowest expenditures per pupil ($3,753). Similarly, districts with median housing values at or above $85,000 had the highest average salary expenditures per pupil ($4,374), while districts with median housing values between $40,000 and $55,000 had the lowest expenditures per pupil ($3,677).

After cost adjustments, districts with median household income less than $20,000 replaced districts with median household income at or above $35,000 as the districts with the highest salary expenditures per pupil ($4,139). Adjustments also raised salary expenditures per pupil in districts with the lowest median housing values ($4,286) and lowered them in districts with the highest housing values ($3,995). Correlation measures were weakened by cost adjustments; the relationship between adjusted expenditures and household income was +0.09, while the relationship with housing value was +0.02 (table A-8).

Salary expenditures per pupil showed a moderate positive relationship with minority enrollment before cost adjustments (+0.11), but the relationship was not statistically significant after cost adjustments. Salary expenditures per pupil showed a weak relationship with district poverty rate, both before (-0.07) and after (+0.02) cost adjustments. Expenditures per pupil were higher in the lowest-poverty districts than in the highest-poverty districts both before cost adjustments ($4,721 and $4,105, respectively) and after cost adjustments ($4,338 and $4,068, respectively).

## Variations in Salary Expenditures Per Pupil

The restricted range ratio for unadjusted salary expenditures ranged from 0.10 in Nevada to 1.2 in Illinois (table 3-7). The United States ratio was 1.08, with only Illinois exceeding the national measure. Cost adjustments decreased the range between the lowest-variation and the highest-variation states. After cost adjustments, the restricted range ratio ranged from 0.12 in Nevada to 1.05 in Illinois. The cost-adjusted United States ratio was 0.90, with only 2 states (Montana and Illinois) exceeding the national measure (table 3-8).

The coefficient of variation for unadjusted salary expenditures ranged from 0.05 in West Virginia to 0.28 in Alaska. Alaska and Illinois exceeded the national variation of 0.26. After cost adjustments, the coefficient of variation ranged from 0.06 in West Virginia to 0.27 in Montana. The cost-adjusted United States coefficient was 0.21 with four states (Alaska, Illinois, Montana, and North Dakota) exceeding the national measure.

Before cost adjustments, the Gini coefficient for salary expenditures ranged from 0.02 in Nevada to 0.13 in Illinois. The unadjusted coefficient for the United States was 0.13. Cost adjustments decreased the range between the highest- and lowest-variation states. After cost adjustments, the coefficient ranged from 0.02 in Nevada to 0.12 in Illinois and Montana. The adjusted national Gini coefficient was 0.11. Only Illinois and Montana had higher Gini coefficients than the national measure.

## Relationship Between Salary Expenditures Per Pupil and Selected District Fiscal and Demographic Characteristics

For the United States as a whole and for many states, salary expenditures per pupil showed a positive relationship with two measures of district fiscal capacity—median housing value (+0.33) and median household income (+0.33)—before cost adjustments (table A-7). After cost adjustments, the national relationships were weak (+0.09 with household income, +0.02 with housing value) (table A-8). Before cost adjustments, 20 of the states with sufficient data showed a positive relationship with median housing value (table 3-9). After cost adjustments, 8 of these states showed a positive relationship, while 16 showed a negative relationship.

Table 3-7. Variation in salary expenditures per pupil (unadjusted dollars), by state: 1997–98

| State | Restricted range ratio | | Coefficient of variation | | Gini coefficient | | Synthesized measure of variation | |
|---|---|---|---|---|---|---|---|---|
| | Value | Rank | Value | Rank | Value | Rank | Average rank | Average quartile |
| United States | 1.08 | † | 0.26 | † | 0.13 | † | † | † |
| Alabama | 0.38 | 15 | 0.10 | 10 | 0.05 | 5 | 10.00 | 2 |
| Alaska | 0.85 | 47 | 0.28 | 49 | 0.12 | 48 | 48.00 | 4 |
| Arizona | 0.50 | 28 | 0.13 | 21 | 0.07 | 22 | 23.67 | 3 |
| Arkansas | 0.55 | 33 | 0.14 | 29 | 0.07 | 22 | 28.00 | 3 |
| California | 0.32 | 9 | 0.11 | 15 | 0.06 | 16 | 13.33 | 2 |
| Colorado | 0.35 | 10 | 0.10 | 10 | 0.05 | 5 | 8.33 | 1 |
| Connecticut | 0.46 | 23 | 0.13 | 21 | 0.07 | 22 | 22.00 | 2 |
| Delaware | 0.26 | 3 | 0.08 | 2 | 0.05 | 5 | 3.33 | 1 |
| District of Columbia | (1) | (1) | (1) | (1) | (1) | (1) | (1) | (1) |
| Florida | 0.37 | 14 | 0.09 | 3 | 0.05 | 5 | 7.33 | 1 |
| Georgia | 0.46 | 23 | 0.11 | 15 | 0.06 | 16 | 18.00 | 2 |
| Hawaii | (1) | (1) | (1) | (1) | (1) | (1) | (1) | (1) |
| Idaho | 0.49 | 27 | 0.14 | 29 | 0.07 | 22 | 26.00 | 3 |
| Illinois | 1.20 | 49 | 0.27 | 48 | 0.13 | 49 | 48.67 | 4 |
| Indiana | 0.61 | 36 | 0.14 | 29 | 0.08 | 33 | 32.67 | 3 |
| Iowa | 0.40 | 17 | 0.09 | 3 | 0.05 | 5 | 8.33 | 1 |
| Kansas | 0.54 | 32 | 0.14 | 29 | 0.08 | 33 | 31.33 | 3 |
| Kentucky | 0.29 | 6 | 0.09 | 3 | 0.05 | 5 | 4.67 | 1 |
| Louisiana | 0.26 | 3 | 0.09 | 3 | 0.05 | 5 | 3.67 | 1 |
| Maine | 0.50 | 28 | 0.13 | 21 | 0.07 | 22 | 23.67 | 3 |
| Maryland | 0.46 | 23 | 0.13 | 21 | 0.07 | 22 | 22.00 | 2 |
| Massachusetts | 0.61 | 36 | 0.16 | 35 | 0.08 | 33 | 34.67 | 3 |
| Michigan | 0.62 | 38 | 0.18 | 38 | 0.10 | 41 | 39.00 | 4 |
| Minnesota | 0.74 | 44 | 0.20 | 43 | 0.09 | 37 | 41.33 | 4 |
| Mississippi | 0.45 | 22 | 0.12 | 19 | 0.07 | 22 | 21.00 | 2 |
| Missouri | 0.68 | 39 | 0.18 | 38 | 0.10 | 41 | 39.33 | 4 |
| Montana | 0.85 | 47 | 0.24 | 47 | 0.11 | 46 | 46.67 | 4 |
| Nebraska | 0.43 | 19 | 0.13 | 21 | 0.07 | 22 | 20.67 | 2 |
| Nevada | 0.10 | 1 | 0.09 | 3 | 0.02 | 1 | 1.67 | 1 |
| New Hampshire | 0.76 | 45 | 0.16 | 35 | 0.09 | 37 | 39.00 | 4 |
| New Jersey | 0.71 | 43 | 0.16 | 35 | 0.09 | 37 | 38.33 | 4 |
| New Mexico | 0.48 | 26 | 0.13 | 21 | 0.06 | 16 | 21.00 | 2 |
| New York | 0.70 | 41 | 0.21 | 46 | 0.10 | 41 | 42.67 | 4 |
| North Carolina | 0.30 | 8 | 0.09 | 3 | 0.05 | 5 | 5.33 | 1 |
| North Dakota | 0.59 | 35 | 0.20 | 43 | 0.08 | 33 | 37.00 | 3 |
| Ohio | 0.77 | 46 | 0.20 | 43 | 0.11 | 46 | 45.00 | 4 |
| Oklahoma | 0.41 | 18 | 0.13 | 21 | 0.06 | 16 | 18.33 | 2 |
| Oregon | 0.35 | 10 | 0.10 | 10 | 0.05 | 5 | 8.33 | 1 |
| Pennsylvania | 0.70 | 41 | 0.18 | 38 | 0.10 | 41 | 40.00 | 4 |
| Rhode Island | 0.35 | 10 | 0.10 | 10 | 0.05 | 5 | 8.33 | 1 |
| South Carolina | 0.39 | 16 | 0.11 | 15 | 0.06 | 16 | 15.67 | 2 |
| South Dakota | 0.44 | 20 | 0.14 | 29 | 0.07 | 22 | 23.67 | 3 |
| Tennessee | 0.57 | 34 | 0.14 | 29 | 0.07 | 22 | 28.33 | 3 |
| Texas | 0.36 | 13 | 0.11 | 15 | 0.05 | 5 | 11.00 | 2 |
| Utah | 0.27 | 5 | 0.10 | 10 | 0.04 | 3 | 6.00 | 1 |
| Vermont | 0.68 | 39 | 0.18 | 38 | 0.10 | 41 | 39.33 | 4 |
| Virginia | 0.53 | 31 | 0.19 | 42 | 0.09 | 37 | 36.67 | 3 |
| Washington | 0.29 | 6 | 0.09 | 3 | 0.04 | 3 | 4.00 | 1 |
| West Virginia | 0.16 | 2 | 0.05 | 1 | 0.03 | 2 | 1.67 | 1 |
| Wisconsin | 0.52 | 30 | 0.12 | 19 | 0.06 | 16 | 21.67 | 2 |
| Wyoming | 0.44 | 20 | 0.13 | 21 | 0.07 | 22 | 21.00 | 2 |

†Not applicable.
[1]Variation is not measured in the District of Columbia or Hawaii where there is only one school district.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98."

Table 3-8. Variation in salary expenditures per pupil (cost-adjusted dollars), by state: 1997–98

| State | Restricted range ratio | | Coefficient of variation | | Gini coefficient | | Synthesized measure of variation | |
|---|---|---|---|---|---|---|---|---|
| | Value | Rank | Value | Rank | Value | Rank | Average rank | Average quartile |
| United States | 0.90 | † | 0.21 | † | 0.11 | † | † | † |
| Alabama | 0.31 | 10 | 0.09 | 4 | 0.05 | 5 | 6.33 | 1 |
| Alaska | 0.85 | 46 | 0.26 | 48 | 0.11 | 47 | 47.00 | 4 |
| Arizona | 0.50 | 27 | 0.15 | 31 | 0.08 | 33 | 30.33 | 3 |
| Arkansas | 0.42 | 19 | 0.11 | 12 | 0.06 | 14 | 15.00 | 2 |
| California | 0.41 | 18 | 0.12 | 17 | 0.06 | 14 | 16.33 | 2 |
| Colorado | 0.29 | 7 | 0.10 | 10 | 0.05 | 5 | 7.33 | 1 |
| Connecticut | 0.43 | 20 | 0.12 | 17 | 0.07 | 23 | 20.00 | 2 |
| Delaware | 0.18 | 2 | 0.08 | 2 | 0.04 | 3 | 2.33 | 1 |
| District of Columbia | (1) | (1) | (1) | (1) | (1) | (1) | (1) | (1) |
| Florida | 0.26 | 5 | 0.08 | 2 | 0.04 | 3 | 3.33 | 1 |
| Georgia | 0.32 | 12 | 0.09 | 4 | 0.05 | 5 | 7.00 | 1 |
| Hawaii | (1) | (1) | (1) | (1) | (1) | (1) | (1) | (1) |
| Idaho | 0.60 | 39 | 0.15 | 31 | 0.08 | 33 | 34.33 | 3 |
| Illinois | 1.05 | 49 | 0.23 | 46 | 0.12 | 48 | 47.67 | 4 |
| Indiana | 0.46 | 25 | 0.13 | 24 | 0.07 | 23 | 24.00 | 3 |
| Iowa | 0.30 | 8 | 0.09 | 4 | 0.05 | 5 | 5.67 | 1 |
| Kansas | 0.74 | 45 | 0.18 | 42 | 0.09 | 41 | 42.67 | 4 |
| Kentucky | 0.33 | 13 | 0.09 | 4 | 0.05 | 5 | 7.33 | 1 |
| Louisiana | 0.25 | 4 | 0.09 | 4 | 0.05 | 5 | 4.33 | 1 |
| Maine | 0.50 | 27 | 0.14 | 26 | 0.07 | 23 | 25.33 | 3 |
| Maryland | 0.39 | 16 | 0.11 | 12 | 0.06 | 14 | 14.00 | 2 |
| Massachusetts | 0.56 | 35 | 0.16 | 36 | 0.08 | 33 | 34.67 | 4 |
| Michigan | 0.50 | 27 | 0.13 | 24 | 0.07 | 23 | 24.67 | 3 |
| Minnesota | 0.48 | 26 | 0.19 | 44 | 0.07 | 23 | 31.00 | 3 |
| Mississippi | 0.45 | 24 | 0.11 | 12 | 0.06 | 14 | 16.67 | 2 |
| Missouri | 0.50 | 27 | 0.14 | 26 | 0.08 | 33 | 28.67 | 3 |
| Montana | 1.00 | 48 | 0.27 | 49 | 0.12 | 48 | 48.33 | 4 |
| Nebraska | 0.56 | 35 | 0.17 | 40 | 0.08 | 33 | 36.00 | 4 |
| Nevada | 0.12 | 1 | 0.10 | 10 | 0.02 | 1 | 4.00 | 1 |
| New Hampshire | 0.87 | 47 | 0.18 | 42 | 0.10 | 45 | 44.67 | 4 |
| New Jersey | 0.58 | 37 | 0.14 | 26 | 0.08 | 33 | 32.00 | 3 |
| New Mexico | 0.50 | 27 | 0.14 | 26 | 0.06 | 14 | 22.33 | 2 |
| New York | 0.63 | 43 | 0.19 | 44 | 0.10 | 45 | 44.00 | 4 |
| North Carolina | 0.28 | 6 | 0.09 | 4 | 0.05 | 5 | 5.00 | 1 |
| North Dakota | 0.65 | 44 | 0.23 | 46 | 0.09 | 41 | 43.67 | 4 |
| Ohio | 0.61 | 40 | 0.16 | 36 | 0.09 | 41 | 39.00 | 4 |
| Oklahoma | 0.61 | 40 | 0.17 | 40 | 0.08 | 33 | 37.67 | 4 |
| Oregon | 0.36 | 15 | 0.12 | 17 | 0.05 | 5 | 12.33 | 2 |
| Pennsylvania | 0.53 | 34 | 0.15 | 31 | 0.08 | 33 | 32.67 | 3 |
| Rhode Island | 0.43 | 20 | 0.12 | 17 | 0.07 | 23 | 20.00 | 2 |
| South Carolina | 0.39 | 16 | 0.11 | 12 | 0.06 | 14 | 14.00 | 2 |
| South Dakota | 0.59 | 38 | 0.16 | 36 | 0.07 | 23 | 32.33 | 3 |
| Tennessee | 0.43 | 20 | 0.12 | 17 | 0.06 | 14 | 17.00 | 2 |
| Texas | 0.50 | 27 | 0.15 | 31 | 0.07 | 23 | 27.00 | 3 |
| Utah | 0.31 | 10 | 0.12 | 17 | 0.05 | 5 | 10.67 | 1 |
| Vermont | 0.61 | 40 | 0.16 | 36 | 0.09 | 41 | 39.00 | 4 |
| Virginia | 0.35 | 14 | 0.14 | 26 | 0.07 | 23 | 21.00 | 2 |
| Washington | 0.30 | 8 | 0.12 | 17 | 0.06 | 14 | 13.00 | 2 |
| West Virginia | 0.21 | 3 | 0.06 | 1 | 0.03 | 2 | 2.00 | 1 |
| Wisconsin | 0.43 | 20 | 0.11 | 12 | 0.06 | 14 | 15.33 | 2 |
| Wyoming | 0.51 | 33 | 0.15 | 31 | 0.07 | 23 | 29.00 | 3 |

†Not applicable.
[1]Variation is not measured in the District of Columbia or Hawaii where there is only one school district.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98."

Table 3-9. Correlations between salary expenditures per pupil and selected fiscal and demographic characteristics, by state: 1997–98

| Characteristics | States (before cost adjustments) | States (after cost adjustments) |
|---|---|---|
| **Minority enrollment** | | |
| Strong positive relationship | Alaska, Indiana, Iowa, Minnesota, Missouri, Ohio, Oregon, Utah | Alaska, Ohio |
| Moderate positive relationship | Arizona, California, Connecticut, Florida, Illinois, Maine, Massachusetts, Michigan, Montana, New Hampshire, North Dakota, South Carolina, Tennessee, Texas, Vermont, Washington, West Virginia, Wisconsin, Wyoming, *US overall* | Arizona, California, Connecticut, Indiana,[1] Iowa,[1] Maine, Massachusetts, Michigan, Minnesota,[1] Missouri,[1] Montana, North Dakota, Oregon,[1] South Carolina, Tennessee, Utah,[1] Washington, Wyoming |
| Weak positive relationship | Nebraska | [none] |
| Weak negative relationship | [none] | [none] |
| Moderate negative relationship | New York | Kansas,[1] Louisiana,[1] Nebraska,[1] Pennsylvania[1] |
| Strong negative relationship | [none] | New York[1] |
| No significant relationship | Alabama, Delaware, Idaho, Kansas, Louisiana, Maryland, Nevada, North Carolina, Pennsylvania, Rhode Island, Virginia | Alabama, Delaware, Florida,[1] Idaho, Illinois,[1] Maryland, Nevada, New Hampshire,[1] North Carolina, Rhode Island, Texas,[1] Vermont,[1] Virginia, West Virginia,[1] Wisconsin,[1] *US overall*[1] |
| **District poverty rate** | | |
| Strong positive relationship | Alaska, Indiana, Utah | Alaska, Indiana, Utah |
| Moderate positive relationship | Arizona, California, Connecticut, Florida, Iowa, Kansas, Massachusetts, Minnesota, Missouri, Montana, North Dakota, Ohio, Oregon, Texas, Washington, Wisconsin, Wyoming | Alabama,[1] Arizona, California, Connecticut, Florida, Iowa, Kansas, Maine,[1] Massachusetts, Michigan,[1] Minnesota, Missouri, Montana, Nebraska,[1] North Carolina,[1] North Dakota, Ohio, Oregon, South Carolina,[1] Tennessee,[1] Texas, Washington, West Virginia,[1] Wisconsin, Wyoming |
| Weak positive relationship | Nebraska | *US overall*[1] |
| Weak negative relationship | *US overall* | [none] |
| Moderate negative relationship | Louisiana, Pennsylvania | Louisiana, Maryland,[1] Pennsylvania, Rhode Island[1] |
| Strong negative relationship | New York | New York |
| No significant relationship | Alabama, Delaware, Idaho, Illinois, Maine, Maryland, Michigan, Nevada, New Hampshire, North Carolina, Rhode Island, South Carolina, Tennessee, Vermont, Virginia, West Virginia | Delaware, Idaho, Illinois, Nevada, New Hampshire, Vermont, Virginia |
| **Median household income** | | |
| Strong positive relationship | Louisiana, Maryland, New York, Pennsylvania, Virginia | Maryland, New York |
| Moderate positive relationship | Illinois, Michigan, Missouri, North Carolina, Wisconsin, *US overall* | Illinois, Louisiana,[1] Michigan, Pennsylvania,[1] Virginia[1] |
| Weak positive relationship | [none] | *US overall*[1] |
| Weak negative relationship | Nebraska | [none] |
| Moderate negative relationship | Alaska, Arizona, California, Indiana, Kansas, Montana, North Dakota, Texas, Washington | Alaska, Arizona, California, Florida,[1] Indiana, Iowa,[1] Kansas, Maine,[1] Minnesota,[1] Missouri,[1] Montana, Nebraska,[1] New Hampshire,[1] North Carolina,[1] North Dakota, Oregon,[1] South Carolina,[1] Texas, Washington, West Virginia[1] |
| Strong negative relationship | Utah | Utah |
| No significant relationship | Alabama, Connecticut, Delaware, Florida, Idaho, Iowa, Maine, Massachusetts, Minnesota, Nevada, New Hampshire, Ohio, Oregon, Rhode Island, South Carolina, Tennessee, Vermont, West Virginia, Wyoming | Alabama, Connecticut, Delaware, Idaho, Massachusetts, Nevada, Ohio, Rhode Island, Tennessee, Vermont, Wisconsin,[1] Wyoming |
| **Median housing value** | | |
| Strong positive relationship | Florida, Illinois, Maryland, Pennsylvania, Virginia | Maryland, Virginia |
| Moderate positive relationship | Alabama, California, Louisiana, Maine, Massachusetts, Michigan, Minnesota, Missouri, New Hampshire, New York, North Carolina, Ohio, Tennessee, Vermont, Wisconsin, *US overall* | Illinois,[1] Massachusetts, Michigan, Ohio, Pennsylvania,[1] Vermont |
| Weak positive relationship | [none] | *US overall*[1] |
| Weak negative relationship | [none] | [none] |
| Moderate negative relationship | Arizona, Indiana, Kansas, Montana, Texas, Utah | Arizona, California,[1] Indiana, Iowa,[1] Kansas, Minnesota,[1] Missouri,[1] Montana, Nebraska,[1] North Dakota,[1] Oregon,[1] Texas, Utah, Washington,[1] West Virginia[1] |
| Strong negative relationship | Alaska | Alaska |
| No significant relationship | Connecticut, Delaware, Idaho, Iowa, Nebraska, Nevada, North Dakota, Oregon, Rhode Island, South Carolina, Washington, West Virginia, Wyoming | Alabama,[1] Connecticut, Delaware, Florida,[1] Idaho, Louisiana,[1] Maine,[1] Nevada, New Hampshire,[1] New York,[1] North Carolina,[1] Rhode Island, South Carolina, Tennessee,[1] Wisconsin,[1] Wyoming |

Table 3-9. Correlations between salary expenditures per pupil and selected fiscal and demographic characteristics, by state: 1997–98—Continued

| Characteristics | States (before cost adjustments) | States (after cost adjustments) |
|---|---|---|
| **Student Membership** | | |
| Strong positive relationship | Delaware | [none] |
| Moderate positive relationship | Arkansas, Connecticut, Florida, Georgia, Indiana, Maryland, Michigan, Missouri, Ohio, Tennessee, Vermont | Indiana, Ohio |
| Weak positive relationship | Wisconsin | Michigan[1] |
| Weak negative relationship | [none] | Nebraska,[1] *US overall*[1] |
| Moderate negative relationship | Alaska, Arizona, Idaho, Kansas, Montana, New Mexico, North Carolina, Oklahoma, Texas, Utah, Washington, Wyoming | Alabama,[1] Alaska, Arizona, Colorado,[1] Georgia,[1] Idaho, Iowa,[1] Kansas, Maine,[1] Mississippi,[1] Missouri,[1] Montana, New Mexico, North Carolina, North Dakota,[1] Oklahoma, Oregon,[1] South Dakota,[1] Texas, Utah, Washington, Wyoming |
| Strong negative relationship | [none] | [none] |
| No significant relationship | Alabama, California, Colorado, Illinois, Iowa, Kentucky, Louisiana, Maine, Massachusetts, Minnesota, Mississippi, Nebraska, Nevada, New Hampshire, New Jersey, New York, North Dakota, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Virginia, West Virginia, *US overall* | Arkansas,[1] California, Connecticut,[1] Delaware,[1] Florida,[1] Illinois, Kentucky, Louisiana, Maryland,[1] Massachusetts, Minnesota, Nevada, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, South Carolina, Tennessee,[1] Vermont,[1] Virginia, West Virginia, Wisconsin[1] |

[1]State changed categories after cost adjustments.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

Ten states showed a strong or moderate positive relationship between salary expenditures per pupil and median household income. Another 10 states demonstrated a strong or moderate negative relationship. After cost adjustments, seven states (Illinois, Louisiana, Maryland, Michigan, New York, Pennsylvania, and Virginia) had a strong or moderate positive relationship between expenditures per pupil and household income. Twenty-one states had a strong or moderate negative relationship.

For the United States as a whole, a moderate positive relationship was found between salary expenditures per pupil and minority enrollment before cost adjustments (+0.11). Twenty-seven states, scattered throughout the country, showed a strong or moderate positive relationship between these variables, 11 states showed no significant relationship, and 1 state (New York) showed a moderate negative relationship. After cost adjustments were applied, the correlation at the United States level was no longer significant. Twenty states showed a strong or moderate positive relationship, and seven states (Florida, Illinois, New Hampshire, Texas, Vermont, West Virginia, and Wisconsin) joined the states with no significant relationship between expenditures per pupil and minority enrollment. Five states (Kansas, Louisiana, Nebraska, Pennsylvania, and New York) demonstrated a strong or moderate negative relationship between cost-adjusted expenditures per pupil and minority enrollment.

In contrast, district poverty rate showed a weak correlation with salary expenditures per pupil, both before (-0.07) and after (+0.02) cost adjustments. Before cost adjustments, three states (Alaska, Indiana, and Utah) showed a strong positive relationship, and one state (New York) showed a strong negative relationship. After cost adjustments, Alaska, Indiana, and Utah continued to show a strong positive relationship, while New York retained a strong negative relationship.

## Expenditures for Salaries and Benefits

Salary and benefit expenditures for public elementary and secondary education totaled $229.4 billion in 1997–98 (table 3-10). This was just over 83 percent of current expenditures ($274.9 billion) in 1997–98.

Table 3-10. Salaries and benefits expenditures, cost-adjusted salaries and benefits expenditures, salaries and benefits expenditures per pupil, and cost-adjusted salaries and benefits expenditures per pupil in public school districts, by region, district enrollment, minority enrollment, district poverty rate, median household income, and median housing value: 1997–98

| School district characteristics | Salaries and benefits expenditures (in thousands) | Cost-adjusted salaries and benefits expenditures (in thousands) | Salaries and benefits expenditures per pupil | Cost-adjusted salaries and benefits expenditures per pupil |
|---|---|---|---|---|
| All districts | $229,359,397 | $227,668,197 | $5,026 | $5,004 |
| Region | | | | |
| Northeast | 53,463,830 | 48,033,708 | 6,741 | 6,075 |
| Midwest | 53,793,481 | 54,908,016 | 5,065 | 5,196 |
| South | 74,301,073 | 79,551,954 | 4,510 | 4,828 |
| West | 47,801,013 | 45,174,519 | 4,506 | 4,283 |
| District enrollment | | | | |
| 0–999 | 13,294,179 | 14,686,919 | 4,890 | 5,481 |
| 1,000–4,999 | 65,850,292 | 66,789,386 | 5,070 | 5,166 |
| 5,000–9,999 | 36,379,151 | 35,602,536 | 5,156 | 5,057 |
| 10,000 or more | 113,835,775 | 110,589,356 | 4,976 | 4,840 |
| Minority enrollment | | | | |
| Less than 5 percent | 56,215,856 | 57,810,367 | 4,978 | 5,121 |
| 5 percent–<20 percent | 60,139,730 | 59,608,183 | 5,011 | 4,967 |
| 20 percent–<50 percent | 62,667,322 | 62,364,281 | 4,882 | 4,858 |
| 50 percent or more | 38,626,270 | 36,328,537 | 5,418 | 5,096 |
| Data missing[1] | 11,710,219 | 11,556,829 | — | — |
| District poverty rate | | | | |
| Less than 5 percent | 30,551,637 | 28,051,830 | 5,907 | 5,430 |
| 5 percent–<15 percent | 75,710,505 | 75,163,695 | 4,889 | 4,854 |
| 15 percent–<25 percent | 55,873,760 | 57,968,032 | 4,715 | 4,892 |
| 25 percent or more | 55,513,276 | 54,927,812 | 5,162 | 5,107 |
| Data missing[1] | 11,710,219 | 11,556,829 | — | — |
| Median household income | | | | |
| Less than $20,000 | 16,275,087 | 17,852,592 | 4,703 | 5,158 |
| $20,000–<$25,000 | 39,838,574 | 42,462,814 | 4,744 | 5,057 |
| $25,000–<$30,000 | 56,306,546 | 56,449,343 | 5,024 | 5,036 |
| $30,000–<$35,000 | 36,551,591 | 35,985,481 | 4,833 | 4,758 |
| $35,000 or more | 68,677,380 | 63,361,140 | 5,437 | 5,018 |
| Data missing[1] | 11,710,219 | 11,556,829 | — | — |
| Median housing value | | | | |
| Less than $40,000 | 17,638,926 | 19,540,137 | 4,821 | 5,340 |
| $40,000–<$55,000 | 36,469,096 | 39,314,786 | 4,658 | 5,022 |
| $55,000–<$85,000 | 67,500,476 | 69,516,314 | 4,672 | 4,813 |
| $85,000 or more | 96,040,680 | 87,740,133 | 5,543 | 5,065 |
| Data missing[1] | 11,710,219 | 11,556,829 | — | — |

—Not available.
[1]These districts were missing 1990 Census demographic data.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

## Salary and Benefit Expenditures Per Pupil

Salary and benefit expenditures per pupil in the United States averaged $5,026 in 1997–98 before cost adjustments (table 3-10). Salary and benefit expenditures per pupil were highest in the Northeast ($6,741) and lowest in the West ($4,506). At $5,065 per pupil, salary and benefit expenditures in the Midwest were higher than in the South ($4,510). Expenditures per pupil in the highest region were 1.5 times greater than those in the lowest region before cost adjustments and 1.4 times greater after adjustments. Further, the difference between these two regions decreased from $2,235 to $1,792 after cost adjustments. The Northeast ($6,075) remained the region with the highest per pupil expenditures, and the West ($4,283) remained the region with the lowest salary and benefit expenditures per pupil.

Salary and benefit expenditures per pupil showed a positive relationship with the two measures of district wealth—median household income (+0.31) and median housing value (+0.34)—before cost adjustments (table A-9). School districts with median household income at or above $35,000 had the highest average expenditures per pupil ($5,437) before cost adjustments, while districts with median household incomes below $20,000 had the lowest expenditures per pupil ($4,703). After cost adjustments, the figures were $5,018 and $5,158, respectively. Similarly, districts with median housing values at or above $85,000 had average current salary and benefit expenditures of $5,543 per pupil, while districts with median housing values below $40,000 had expenditures per pupil of $4,821 before cost adjustments. After cost adjustments, the figures were $5,065 and $5,340, respectively. After cost adjustments, there was a weak positive correlation between salaries and benefits expenditures per pupil and district wealth (+0.08 with household income, +0.03 with housing value) (table A-10).

Salary and benefit expenditures per pupil showed a weak relationship with both district poverty rate (-0.07) and minority enrollment (+0.10) across the United States before cost adjustments, and no statistically significant relationship after. Average unadjusted expenditures per pupil were lowest in districts with poverty rates between 15 and 25 percent ($4,715) and highest in districts with rates less than 5 percent ($5,907). After cost adjustments, districts with poverty rates between 5 and 15 percent had the lowest expenditures per pupil ($4,854) and districts with poverty rates below 5 percent maintained the highest expenditures per pupil ($5,430). Districts with the highest minority levels also had the highest expenditures per pupil before cost adjustments ($5,418) while districts with the lowest minority enrollments had the highest expenditures per pupil after cost adjustments ($5,121).

## Variations in Salary and Benefit Expenditures Per Pupil

### *Restricted Range Ratio*

The restricted range ratio for unadjusted salaries and benefits expenditures per pupil across the United States was 1.10 (table 3-11). This means salaries and benefits expenditures in the district at the 95th percentile were 1.10 times higher than salaries and benefits expenditures in the district at the 5th percentile. Variation across the states ranged from 0.11 in Nevada to 1.17 in Illinois. Only one state (Illinois) had a restricted range ratio higher than the United States ratio.

When cost adjustments were applied, the restricted range ratio for current expenditures per pupil across the United States decreased to 0.91 (table 3-12). Two states exceeded the national variation after cost adjustments: Illinois and Montana. Cost adjustments also reduced the range between the lowest-variation and highest-variation states. After cost adjustments, the restricted range ratio ranged from 0.13 in Nevada to 0.98 in Illinois and Montana.

### *Coefficient of Variation*

The coefficient of variation for unadjusted salaries and benefits expenditures per pupil across the United States was 0.26. This means approximately two-thirds of the districts nationally have salaries and benefits expenditures per pupil between $3,719 and $6,333, a range that is from 26 percent below the mean to 26 percent above the mean. Variation in the states ranged from 0.05 in West Virginia to 0.28 in Alaska. Two states had a coefficient of variation higher than the United States coefficient: Alaska and Illinois.

Table 3-11. Variation in salaries and benefits expenditures per pupil (unadjusted dollars), by state: 1997–98

| State | Restricted range ratio | | Coefficient of variation | | Gini coefficient | | Synthesized measure of variation | |
|---|---|---|---|---|---|---|---|---|
| | Value | Rank | Value | Rank | Value | Rank | Average rank | Average quartile |
| United States | 1.10 | † | 0.26 | † | 0.13 | † | † | † |
| Alabama | 0.37 | 15 | 0.10 | 10 | 0.05 | 4 | 9.67 | 2 |
| Alaska | 0.87 | 47 | 0.28 | 49 | 0.12 | 48 | 48.00 | 4 |
| Arizona | 0.51 | 27 | 0.13 | 22 | 0.07 | 22 | 23.67 | 3 |
| Arkansas | 0.61 | 33 | 0.14 | 27 | 0.08 | 29 | 29.67 | 3 |
| California | 0.30 | 9 | 0.10 | 10 | 0.05 | 4 | 7.67 | 1 |
| Colorado | 0.30 | 9 | 0.09 | 2 | 0.05 | 4 | 5.00 | 1 |
| Connecticut | 0.53 | 29 | 0.14 | 27 | 0.08 | 29 | 28.33 | 3 |
| Delaware | 0.28 | 4 | 0.09 | 2 | 0.05 | 4 | 3.33 | 1 |
| District of Columbia | (1) | (1) | (1) | (1) | (1) | (1) | (1) | (1) |
| Florida | 0.36 | 12 | 0.09 | 2 | 0.05 | 4 | 6.00 | 1 |
| Georgia | 0.48 | 22 | 0.11 | 15 | 0.06 | 15 | 17.33 | 2 |
| Hawaii | (1) | (1) | (1) | (1) | (1) | (1) | (1) | (1) |
| Idaho | 0.50 | 25 | 0.15 | 32 | 0.08 | 29 | 28.67 | 3 |
| Illinois | 1.17 | 49 | 0.27 | 48 | 0.13 | 49 | 48.67 | 4 |
| Indiana | 0.66 | 38 | 0.15 | 32 | 0.09 | 36 | 35.33 | 3 |
| Iowa | 0.46 | 21 | 0.11 | 15 | 0.06 | 15 | 17.00 | 2 |
| Kansas | 0.60 | 32 | 0.14 | 27 | 0.08 | 29 | 29.33 | 3 |
| Kentucky | 0.28 | 4 | 0.09 | 2 | 0.05 | 4 | 3.33 | 1 |
| Louisiana | 0.28 | 4 | 0.09 | 2 | 0.05 | 4 | 3.33 | 1 |
| Maine | 0.50 | 25 | 0.13 | 22 | 0.07 | 22 | 23.00 | 3 |
| Maryland | 0.48 | 22 | 0.13 | 22 | 0.07 | 22 | 22.00 | 2 |
| Massachusetts | 0.62 | 36 | 0.17 | 36 | 0.09 | 36 | 36.00 | 3 |
| Michigan | 0.61 | 33 | 0.18 | 39 | 0.10 | 42 | 38.00 | 4 |
| Minnesota | 0.77 | 46 | 0.21 | 46 | 0.09 | 36 | 42.67 | 4 |
| Mississippi | 0.45 | 20 | 0.12 | 19 | 0.07 | 22 | 20.33 | 2 |
| Missouri | 0.76 | 45 | 0.19 | 41 | 0.10 | 42 | 42.67 | 4 |
| Montana | 0.93 | 48 | 0.24 | 47 | 0.11 | 46 | 47.00 | 4 |
| Nebraska | 0.48 | 22 | 0.13 | 22 | 0.07 | 22 | 22.00 | 2 |
| Nevada | 0.11 | 1 | 0.09 | 2 | 0.02 | 1 | 1.33 | 1 |
| New Hampshire | 0.69 | 40 | 0.17 | 36 | 0.09 | 36 | 37.33 | 4 |
| New Jersey | 0.69 | 40 | 0.15 | 32 | 0.08 | 29 | 33.67 | 3 |
| New Mexico | 0.51 | 27 | 0.13 | 22 | 0.06 | 15 | 21.33 | 2 |
| New York | 0.67 | 39 | 0.19 | 41 | 0.09 | 36 | 38.67 | 4 |
| North Carolina | 0.29 | 8 | 0.09 | 2 | 0.05 | 4 | 4.67 | 1 |
| North Dakota | 0.61 | 33 | 0.20 | 44 | 0.08 | 29 | 35.33 | 3 |
| Ohio | 0.69 | 40 | 0.20 | 44 | 0.11 | 46 | 43.33 | 4 |
| Oklahoma | 0.36 | 12 | 0.12 | 19 | 0.06 | 15 | 15.33 | 2 |
| Oregon | 0.34 | 11 | 0.10 | 10 | 0.05 | 4 | 8.33 | 1 |
| Pennsylvania | 0.69 | 40 | 0.17 | 36 | 0.09 | 36 | 37.33 | 4 |
| Rhode Island | 0.36 | 12 | 0.10 | 10 | 0.05 | 4 | 8.67 | 2 |
| South Carolina | 0.37 | 15 | 0.11 | 15 | 0.06 | 15 | 15.00 | 2 |
| South Dakota | 0.40 | 18 | 0.14 | 27 | 0.07 | 22 | 22.33 | 2 |
| Tennessee | 0.65 | 37 | 0.15 | 32 | 0.08 | 29 | 32.67 | 3 |
| Texas | 0.39 | 17 | 0.11 | 15 | 0.06 | 15 | 15.67 | 2 |
| Utah | 0.24 | 3 | 0.10 | 10 | 0.05 | 4 | 5.67 | 1 |
| Vermont | 0.71 | 44 | 0.18 | 39 | 0.10 | 42 | 41.67 | 4 |
| Virginia | 0.56 | 31 | 0.19 | 41 | 0.10 | 42 | 38.00 | 4 |
| Washington | 0.28 | 4 | 0.09 | 2 | 0.04 | 3 | 3.00 | 1 |
| West Virginia | 0.17 | 2 | 0.05 | 1 | 0.03 | 2 | 1.67 | 1 |
| Wisconsin | 0.53 | 29 | 0.12 | 19 | 0.07 | 22 | 23.33 | 3 |
| Wyoming | 0.40 | 18 | 0.14 | 27 | 0.06 | 15 | 20.00 | 2 |

†Not applicable.
[1]Variation is not measured in the District of Columbia or Hawaii where there is only one school district.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98."

Table 3-12. Variation in salaries and benefits expenditures per pupil (cost-adjusted dollars), by state: 1997–98

| State | Restricted range ratio | | Coefficient of variation | | Gini coefficient | | Synthesized measure of variation | |
|---|---|---|---|---|---|---|---|---|
| | Value | Rank | Value | Rank | Value | Rank | Average rank | Average quartile |
| United States | 0.91 | † | 0.21 | † | 0.11 | † | † | † |
| Alabama | 0.31 | 8 | 0.09 | 4 | 0.05 | 5 | 5.67 | 1 |
| Alaska | 0.87 | 46 | 0.26 | 48 | 0.11 | 47 | 47.00 | 4 |
| Arizona | 0.49 | 28 | 0.15 | 30 | 0.07 | 22 | 26.67 | 3 |
| Arkansas | 0.48 | 25 | 0.12 | 16 | 0.06 | 13 | 18.00 | 2 |
| California | 0.39 | 16 | 0.12 | 16 | 0.06 | 13 | 15.00 | 2 |
| Colorado | 0.29 | 6 | 0.11 | 11 | 0.05 | 5 | 7.33 | 1 |
| Connecticut | 0.47 | 23 | 0.13 | 21 | 0.07 | 22 | 22.00 | 2 |
| Delaware | 0.20 | 2 | 0.08 | 2 | 0.04 | 3 | 2.33 | 1 |
| District of Columbia | (1) | (1) | (1) | (1) | (1) | (1) | (1) | (1) |
| Florida | 0.25 | 4 | 0.08 | 2 | 0.04 | 3 | 3.00 | 1 |
| Georgia | 0.35 | 12 | 0.09 | 4 | 0.05 | 5 | 7.00 | 1 |
| Hawaii | (1) | (1) | (1) | (1) | (1) | (1) | (1) | (1) |
| Idaho | 0.59 | 41 | 0.16 | 35 | 0.08 | 31 | 35.67 | 3 |
| Illinois | 0.98 | 48 | 0.24 | 47 | 0.12 | 48 | 47.67 | 4 |
| Indiana | 0.51 | 29 | 0.13 | 21 | 0.08 | 31 | 27.00 | 3 |
| Iowa | 0.35 | 12 | 0.10 | 9 | 0.05 | 5 | 8.67 | 1 |
| Kansas | 0.75 | 45 | 0.18 | 42 | 0.09 | 40 | 42.33 | 4 |
| Kentucky | 0.34 | 11 | 0.09 | 4 | 0.05 | 5 | 6.67 | 1 |
| Louisiana | 0.25 | 4 | 0.09 | 4 | 0.05 | 5 | 4.33 | 1 |
| Maine | 0.48 | 25 | 0.14 | 26 | 0.08 | 31 | 27.33 | 3 |
| Maryland | 0.39 | 16 | 0.11 | 11 | 0.06 | 13 | 13.33 | 2 |
| Massachusetts | 0.61 | 42 | 0.17 | 40 | 0.09 | 40 | 40.67 | 4 |
| Michigan | 0.47 | 23 | 0.13 | 21 | 0.07 | 22 | 22.00 | 2 |
| Minnesota | 0.52 | 32 | 0.19 | 45 | 0.08 | 31 | 36.00 | 4 |
| Mississippi | 0.46 | 22 | 0.11 | 11 | 0.07 | 22 | 18.33 | 2 |
| Missouri | 0.56 | 35 | 0.15 | 30 | 0.08 | 31 | 32.00 | 3 |
| Montana | 0.98 | 48 | 0.28 | 49 | 0.12 | 48 | 48.33 | 4 |
| Nebraska | 0.58 | 38 | 0.17 | 40 | 0.08 | 31 | 36.33 | 4 |
| Nevada | 0.13 | 1 | 0.10 | 9 | 0.02 | 1 | 3.67 | 1 |
| New Hampshire | 0.87 | 46 | 0.18 | 42 | 0.10 | 46 | 44.67 | 4 |
| New Jersey | 0.56 | 35 | 0.14 | 26 | 0.08 | 31 | 30.67 | 3 |
| New Mexico | 0.52 | 32 | 0.14 | 26 | 0.06 | 13 | 23.67 | 2 |
| New York | 0.57 | 37 | 0.18 | 42 | 0.09 | 40 | 39.67 | 4 |
| North Carolina | 0.29 | 6 | 0.09 | 4 | 0.05 | 5 | 5.00 | 1 |
| North Dakota | 0.69 | 44 | 0.23 | 46 | 0.09 | 40 | 43.33 | 4 |
| Ohio | 0.58 | 38 | 0.16 | 35 | 0.09 | 40 | 37.67 | 4 |
| Oklahoma | 0.53 | 34 | 0.16 | 35 | 0.08 | 31 | 33.33 | 3 |
| Oregon | 0.36 | 14 | 0.13 | 21 | 0.06 | 13 | 16.00 | 2 |
| Pennsylvania | 0.51 | 29 | 0.14 | 26 | 0.07 | 22 | 25.67 | 3 |
| Rhode Island | 0.43 | 19 | 0.12 | 16 | 0.06 | 13 | 16.00 | 2 |
| South Carolina | 0.38 | 15 | 0.11 | 11 | 0.06 | 13 | 13.00 | 2 |
| South Dakota | 0.58 | 38 | 0.16 | 35 | 0.07 | 22 | 31.67 | 3 |
| Tennessee | 0.48 | 25 | 0.13 | 21 | 0.07 | 22 | 22.67 | 2 |
| Texas | 0.51 | 29 | 0.15 | 30 | 0.07 | 22 | 27.00 | 3 |
| Utah | 0.31 | 8 | 0.12 | 16 | 0.05 | 5 | 9.67 | 1 |
| Vermont | 0.61 | 42 | 0.16 | 35 | 0.09 | 40 | 39.00 | 4 |
| Virginia | 0.41 | 18 | 0.15 | 30 | 0.08 | 31 | 26.33 | 3 |
| Washington | 0.31 | 8 | 0.12 | 16 | 0.06 | 13 | 12.33 | 2 |
| West Virginia | 0.22 | 3 | 0.06 | 1 | 0.03 | 2 | 2.00 | 1 |
| Wisconsin | 0.44 | 21 | 0.11 | 11 | 0.06 | 13 | 15.00 | 2 |
| Wyoming | 0.43 | 19 | 0.15 | 30 | 0.07 | 22 | 23.67 | 2 |

†Not applicable.
[1]Variation is not measured in the District of Columbia or Hawaii where there is only one school district.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98."

When salaries and benefits expenditures were adjusted for cost-of-education differences, the coefficient of variation for expenditures per pupil across the United States decreased to 0.21. Four states exceeded the national variation after cost adjustments: Alaska, Illinois, Montana, and North Dakota. Cost adjustments decreased the range between the lowest-variation and highest-variation states. After cost adjustments, the coefficient of variation ranged from 0.06 in West Virginia to 0.28 in Montana.

### Gini Coefficient

The Gini coefficient for unadjusted salary and benefits expenditures per pupil across the United States was 0.13. A Gini coefficient of 0 means expenditures are distributed equally; higher values such as 0.13 imply expenditures are more concentrated among fewer students. Variation in the states ranged from 0.02 in Nevada to 0.13 in Illinois.

Cost-of-education adjustments reduced the Gini coefficient to 0.11. After cost adjustments, Illinois and Montana exceeded the United States level of variation, and the range of variation remained almost unchanged. After adjustments, the Gini coefficient ranged from 0.02 in Nevada to 0.12 in Illinois and Montana.

### Overall Variation

In a synthesis of the three variation measures, Southern and Western states had the highest percentage of states in the two quartiles with the lowest variation in salaries and benefits expenditures per pupil (table 3-13 and figure 3-6). After cost adjustments, 81 percent of Southern states and 67 percent of Western states were in these two quartiles. In contrast, 78 percent of Northeastern and 75 percent of Midwestern states were in the two high-variation quartiles.

Table 3-13. Variation in salaries and benefits expenditures per pupil, by region: 1997–98

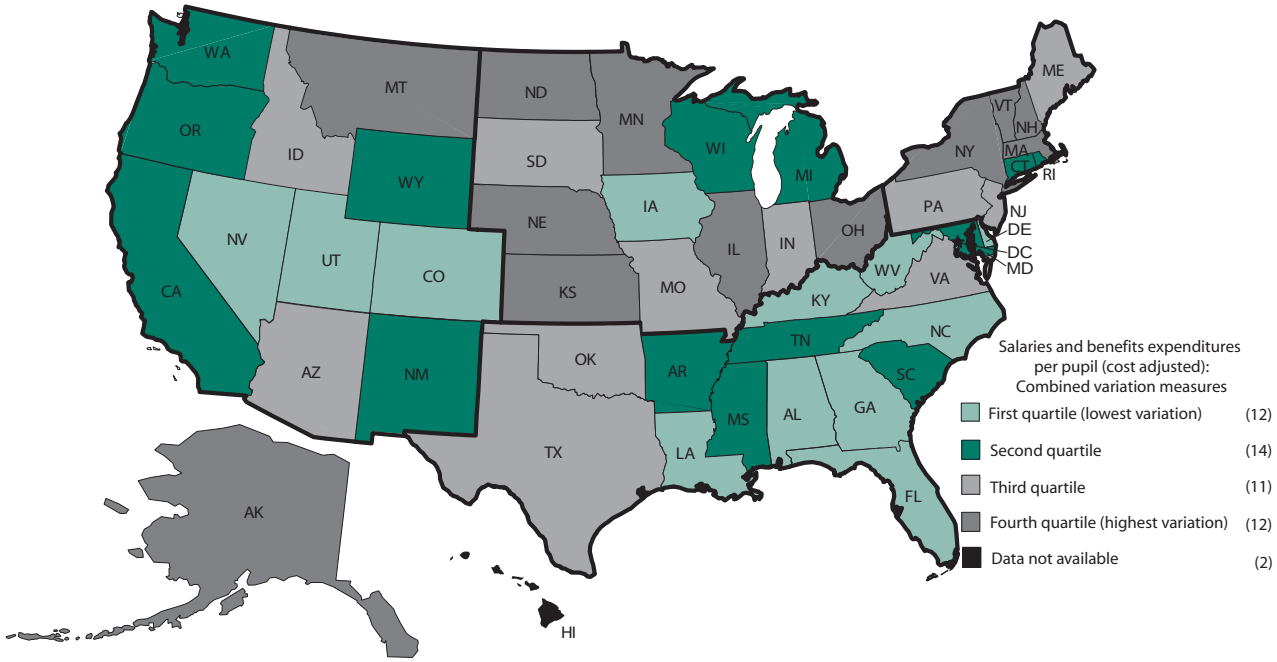
| Region | Percent of states in quartiles 1 and 2 (low variation) | Percent of states in quartiles 3 and 4 (high variation) |
|---|---|---|
| Unadjusted salaries and benefits expenditures per pupil | | |
| Northeast | 11 | 89 |
| Midwest | 25 | 75 |
| South | 81 | 19 |
| West | 67 | 33 |
| Cost-adjusted salaries and benefits expenditures per pupil | | |
| Northeast | 22 | 78 |
| Midwest | 25 | 75 |
| South | 81 | 19 |
| West | 67 | 33 |

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98."

## Relationship Between Salaries and Benefits Expenditures Per Pupil and Selected District Fiscal and Demographic Characteristics

For the United States as a whole, salaries and benefits expenditures per pupil in unadjusted dollars showed a positive relationship with a school district's median household income (+0.31) and median housing value (+0.34) (table A-9). Similarly, median housing value was positively related to salaries and benefits expenditures per pupil in 21 of the 40 states with available data, and negatively to salaries

Figure 3-6. Synthesis of variation measures of salaries and benefits expenditures per pupil (cost-adjusted dollars), by state: 1997–98




NOTE: Variation is not measured in the District of Columbia or Hawaii where there is only one school district. Regions are delineated in black; Alaska and Hawaii are part of the Western Region.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98."

and benefits expenditures per pupil in 9 of the 40 states (table 3-14). Six of these were strongly related. Median household income was related to salaries and benefits expenditures per pupil in fewer states. Nineteen states showed no statistically significant relationship between district income and expenditures per pupil, 9 states showed a positive relationship between income and expenditures, and 12 states showed a negative relationship.

After cost adjustments, the positive relationships between district wealth and salaries and benefits expenditures per pupil became weak for the United States as a whole (+0.08 with household income, +0.03 with housing value) (table A-10). After cost adjustments, a majority of states in the South showed no relationship between salaries and benefits expenditures per pupil and median housing value (figure 3-7). Two states (Maryland and Virginia) showed a strong positive relationship. Three states (Alaska, Montana, and West Virginia) showed a strong negative relationship. Two states (Maryland and New York) showed a strong positive relationship between a district's median household income and adjusted expenditures per pupil and five states showed a moderate positive relationship between these variables. Twenty states showed a moderate negative relationship and two states showed a strong negative relationship (figure 3-8).

Salary and benefits expenditures per pupil showed a weak positive relationship with minority enrollment for the United States as a whole before cost adjustments (+0.10) and no statistically significant relationship after adjustments. Nine states (Alaska, Indiana, Iowa, Massachusetts, Minnesota, Missouri, Ohio, Oregon, and Utah) showed a strong positive relationship between minority enrollment and salary and benefits expenditures per pupil before cost adjustments and only two states (Alaska and Ohio) showed this relationship after cost adjustments (figure 3-9). No state showed a strong negative

Table 3-14. Correlations between salaries and benefits expenditures per pupil and selected fiscal and demographic characteristics, by state: 1997–98

| Characteristics | States (before cost adjustments) | States (after cost adjustments) |
|---|---|---|
| **Minority enrollment** | | |
| Strong positive relationship | Alaska, Indiana, Iowa, Massachusetts, Minnesota, Missouri, Ohio, Oregon, Utah | Alaska, Ohio |
| Moderate positive relationship | Arizona, California, Connecticut, Florida, Illinois, Maine, Michigan, Montana, North Dakota, South Carolina, Tennessee, Texas, Vermont, Washington, Wisconsin, Wyoming | Arizona, California, Connecticut, Florida, Indiana,[1] Iowa,[1] Massachusetts,[1] Michigan, Minnesota,[1] Missouri,[1] Montana, North Dakota, Oregon,[1] South Carolina, Tennessee, Utah,[1] Washington, Wisconsin, Wyoming |
| Weak positive relationship | *US overall* | [none] |
| Weak negative relationship | [none] | [none] |
| Moderate negative relationship | New York | Kansas,[1] Louisiana,[1] Nebraska[1] |
| Strong negative relationship | [none] | New York[1] |
| No significant relationship | Alabama, Delaware, Idaho, Kansas, Louisiana, Maryland, Nebraska, Nevada, New Hampshire, North Carolina, Pennsylvania, Rhode Island, Virginia, West Virginia | Alabama, Delaware, Idaho, Illinois,[1] Maine,[1] Maryland, Nevada, New Hampshire, North Carolina, Pennsylvania, Rhode Island, Texas,[1] Vermont,[1] Virginia, West Virginia, *US overall*[1] |
| **District poverty rate** | | |
| Strong positive relationship | Alaska, Indiana, Utah | Alaska, Indiana, Utah |
| Moderate positive relationship | Arizona, California, Connecticut, Florida, Iowa, Kansas, Maine, Massachusetts, Minnesota, Missouri, Montana, North Dakota, Ohio, Oregon, Texas, Washington, West Virginia, Wisconsin, Wyoming | Alabama,[1] Arizona, California, Connecticut, Florida, Iowa, Kansas, Maine, Massachusetts, Michigan,[1] Minnesota, Missouri, Montana, Nebraska,[1] North Carolina,[1] North Dakota, Ohio, Oregon, South Carolina,[1] Tennessee,[1] Texas, Washington, West Virginia, Wisconsin, Wyoming |
| Weak positive relationship | Michigan, Nebraska | [none] |
| Weak negative relationship | Illinois, *US overall* | [none] |
| Moderate negative relationship | Louisiana, Pennsylvania | Louisiana, Pennsylvania |
| Strong negative relationship | New York | New York |
| No significant relationship | Alabama, Delaware, Idaho, Maryland, Nevada, New Hampshire, North Carolina, Rhode Island, South Carolina, Tennessee, Vermont, Virginia | Delaware, Idaho, Illinois,[1] Maryland, Nevada, New Hampshire, Rhode Island, Vermont, Virginia, *US overall*[1] |
| **Median household income** | | |
| Strong positive relationship | Louisiana, Maryland, New York, Pennsylvania, Virginia | Maryland, New York |
| Moderate positive relationship | Illinois, Michigan, Missouri, Wisconsin, *US overall* | Illinois, Louisiana,[1] Michigan, Pennsylvania,[1] Virginia[1] |
| Weak positive relationship | [none] | *US overall*[1] |
| Weak negative relationship | [none] | [none] |
| Moderate negative relationship | Alaska, Arizona, California, Indiana, Kansas, Montana, Nebraska, North Dakota, Oregon, Texas, Washington | Alaska, Arizona, California, Florida,[1] Indiana, Iowa,[1] Kansas, Maine,[1] Minnesota,[1] Missouri,[1] Montana, Nebraska, New Hampshire,[1] North Carolina,[1] North Dakota, Oregon, South Carolina,[1] Texas, West Virginia,[1] Wisconsin[1] |
| Strong negative relationship | Utah | Utah, Washington[1] |
| No significant relationship | Alabama, Connecticut, Delaware, Florida, Idaho, Iowa, Maine, Massachusetts, Minnesota, Nevada, New Hampshire, North Carolina, Ohio, Rhode Island, South Carolina, Tennessee, Vermont, West Virginia, Wyoming | Alabama, Connecticut, Delaware, Idaho, Massachusetts, Nevada, Ohio, Rhode Island, Tennessee, Vermont, Wyoming |
| **Median housing value** | | |
| Strong positive relationship | Delaware, Florida, Maryland, Pennsylvania, Virginia | Maryland, Virginia |
| Moderate positive relationship | Alabama, California, Illinois, Louisiana, Maine, Massachusetts, Michigan, Minnesota, Missouri, New Hampshire, New York, North Carolina, Ohio, Tennessee, Vermont, Wisconsin, *US overall* | Illinois, Massachusetts, Michigan, Ohio, Pennsylvania,[1] Vermont |
| Weak positive relationship | [none] | *US overall*[1] |
| Weak negative relationship | [none] | Missouri[1] |
| Moderate negative relationship | Arizona, Indiana, Kansas, Montana, Oregon, Texas, Utah, West Virginia | Arizona, California,[1] Indiana, Iowa,[1] Kansas, Minnesota,[1] Nebraska,[1] North Dakota,[1] Oregon, Texas, Utah, Washington[1] |
| Strong negative relationship | Alaska | Alaska, Montana,[1] West Virginia[1] |
| No significant relationship | Connecticut, Idaho, Iowa, Nebraska, Nevada, North Dakota, Rhode Island, South Carolina, Washington, Wyoming | Alabama,[1] Connecticut, Delaware,[1] Florida,[1] Idaho, Louisiana,[1] Maine,[1] Nevada, New Hampshire,[1] New York,[1] North Carolina,[1] Rhode Island, South Carolina, Tennessee,[1] Wisconsin,[1] Wyoming |

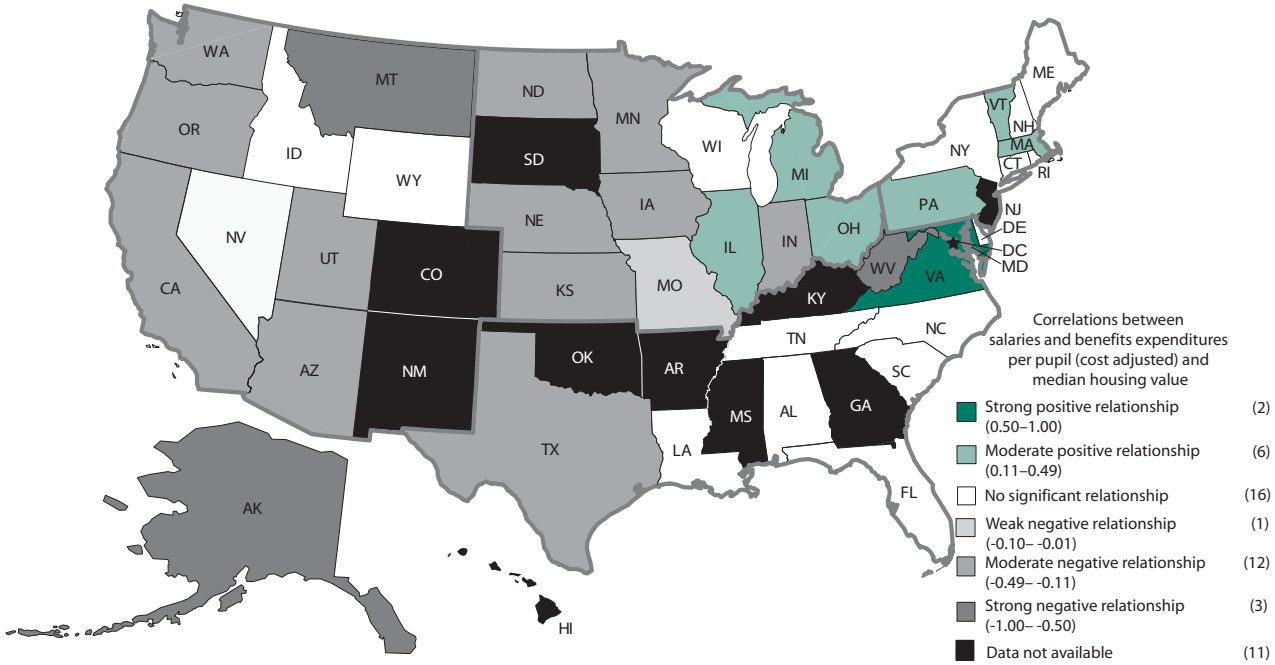
Table 3-14. Correlations between salaries and benefits expenditures per pupil and selected fiscal and demographic characteristics, by state: 1997–98—Continued

| Characteristics | States (before cost adjustments) | States (after cost adjustments) |
|---|---|---|
| **Student membership** | | |
| Strong positive relationship | Delaware, Maryland | [none] |
| Moderate positive relationship | Connecticut, Florida, Georgia, Indiana, Michigan, Missouri, Ohio, Tennessee, Vermont | Indiana, Ohio |
| Weak positive relationship | New Jersey, Wisconsin | Michigan[1] |
| Weak negative relationship | [none] | California,[1] *US overall*[1] |
| Moderate negative relationship | Alaska, Arizona, Idaho, Kansas, Montana, New Mexico, North Carolina, Oklahoma, Texas, Utah, Washington, Wyoming | Alabama,[1] Alaska, Arizona, Colorado,[1] Georgia,[1] Idaho, Kansas, Maine,[1] Mississippi,[1] Missouri,[1] Montana, New Mexico, North Carolina, North Dakota,[1] Oklahoma, Oregon,[1] South Dakota,[1] Texas, Utah, Washington, Wyoming |
| Strong negative relationship | [none] | [none] |
| No significant relationship | Alabama, Arkansas, California, Colorado, Illinois, Iowa, Kentucky, Louisiana, Maine, Massachusetts, Minnesota, Mississippi, Nebraska, Nevada, New Hampshire, New York, North Dakota, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Virginia, West Virginia, *US overall* | Arkansas, Connecticut,[1] Delaware,[1] Florida,[1] Illinois, Iowa, Kentucky, Louisiana, Maryland,[1] Massachusetts, Minnesota, Nebraska, Nevada, New Hampshire, New Jersey,[1] New York, Pennsylvania, Rhode Island, South Carolina, Tennessee,[1] Vermont,[1] Virginia, West Virginia, Wisconsin[1] |

[1]State changed categories after cost adjustments.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

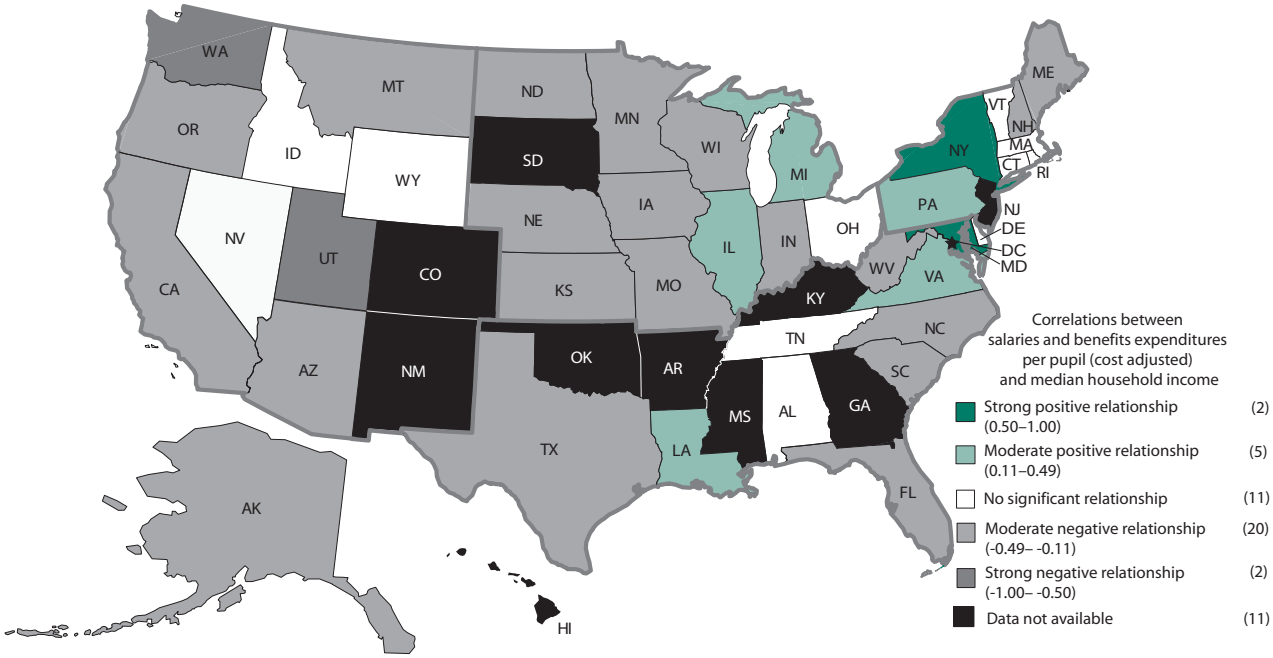
Figure 3-7. Correlations between salaries and benefits expenditures per pupil and median housing value (cost-adjusted dollars), by state: 1997–98




NOTE: No state-level correlation analysis was possible for the District of Columbia or Hawaii since they only have one district. Nine other states (Arkansas, Colorado, Georgia, Kentucky, Mississippi, New Jersey, New Mexico, Oklahoma, and South Dakota) were excluded from state-level correlation analysis because more than 50 percent of the school districts were missing Census data. Regions are delineated in gray; Alaska and Hawaii are part of the Western Region.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

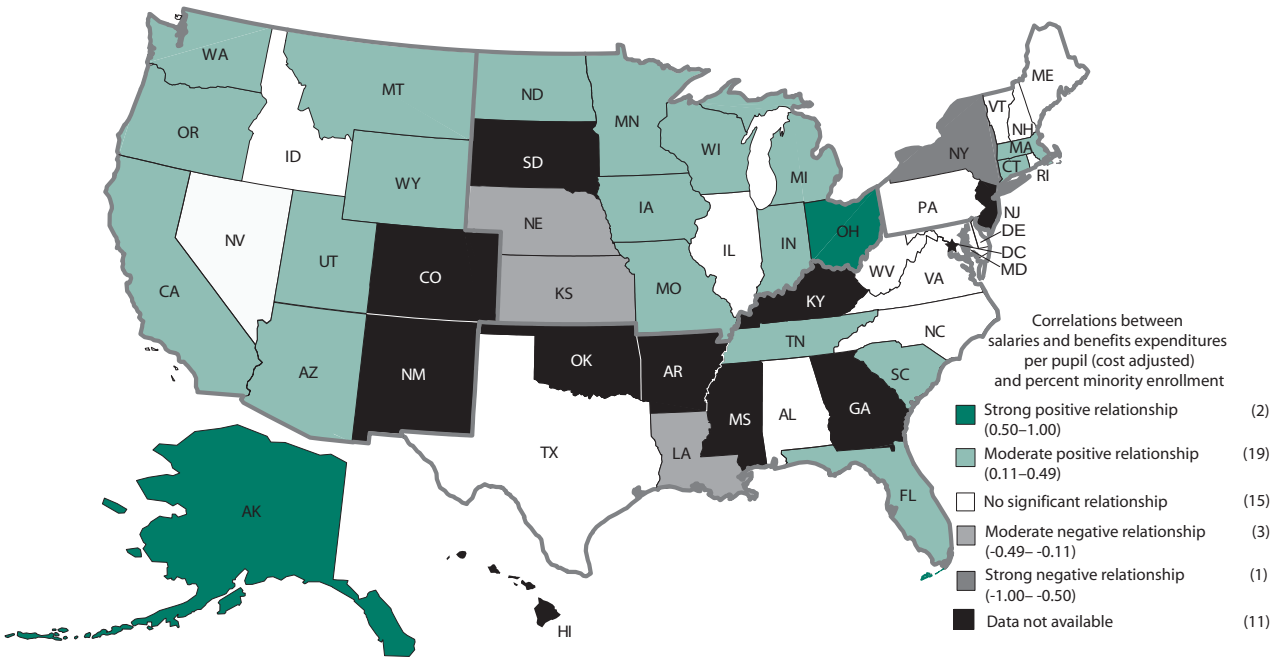
Figure 3-8. Correlations between salaries and benefits expenditures per pupil and median household income (cost-adjusted dollars), by state: 1997–98




NOTE: No state-level correlation analysis was possible for the District of Columbia or Hawaii since they only have one district. Nine other states (Arkansas, Colorado, Georgia, Kentucky, Mississippi, New Jersey, New Mexico, Oklahoma, and South Dakota) were excluded from state-level correlation analysis because more than 50 percent of the school districts were missing Census data. Regions are delineated in gray; Alaska and Hawaii are part of the Western Region.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

Figure 3-9. Correlations between salaries and benefits expenditures per pupil and percent minority enrollment (cost-adjusted dollars), by state: 1997–98



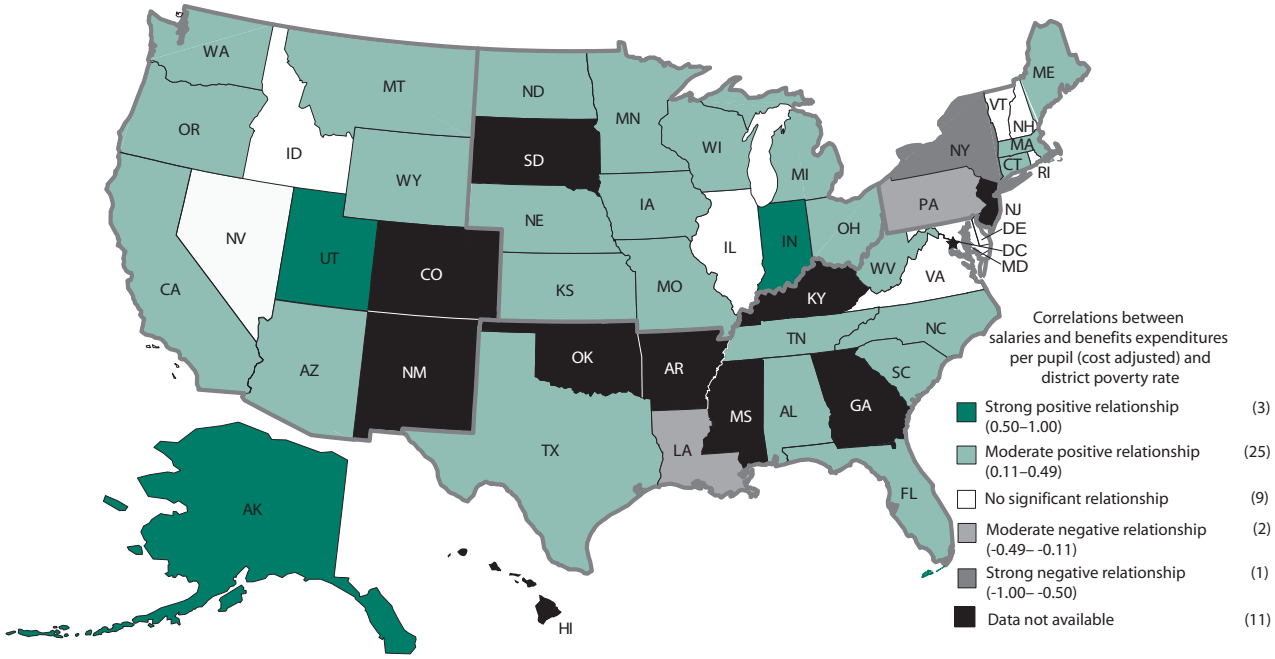

NOTE: No state-level correlation analysis was possible for the District of Columbia or Hawaii since they only have one district. Nine other states (Arkansas, Colorado, Georgia, Kentucky, Mississippi, New Jersey, New Mexico, Oklahoma, and South Dakota) were excluded from state-level correlation analysis because more than 50 percent of the school districts were missing Census data. Regions are delineated in gray; Alaska and Hawaii are part of the Western Region.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

relationship between salaries and benefits expenditures per pupil and minority enrollment before cost adjustments. Only one state (New York) showed a strong negative relationship after cost adjustments.

District poverty rate also showed a weak relationship with salaries and benefits expenditures per pupil at the national level before cost adjustments (-0.07) and no statistically significant relationship after. Only three states (Alaska, Indiana, and Utah) showed a strong positive relationship between district poverty rate and salaries and benefits expenditures per pupil, both before and after cost adjustments. Only one state (New York) showed a strong negative relationship between district poverty rate and salaries and benefits expenditures per pupil, both before and after cost adjustments (figure 3-10).

Figure 3-10. Correlations between salaries and benefits expenditures per pupil and district poverty rate (cost-adjusted dollars), by state: 1997–98




NOTE: No state-level correlation analysis was possible for the District of Columbia or Hawaii since they only have one district. Nine other states (Arkansas, Colorado, Georgia, Kentucky, Mississippi, New Jersey, New Mexico, Oklahoma, and South Dakota) were excluded from state-level correlation analysis because more than 50 percent of the school districts were missing Census data. Regions are delineated in gray; Alaska and Hawaii are part of the Western Region.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

# Chapter 4: Expenditures For Current Functions: Instruction, Student and Instructional Staff Support Services, Administration, and School Operations and Maintenance

## Instructional Expenditures

Instructional expenditures include current operating expenditures for activities directly related to classroom instruction or instruction in other settings, as well as cocurricular activities. Instructional expenditures for public elementary and secondary education totaled $171.0 billion in 1997–98 before adjustments (table 4-1). This was just over 52 percent of total district expenditures ($326.8 billion) and just over 62 percent of current district expenditures ($274.9 billion) in 1997–98.

## Instructional Expenditures Per Pupil

Instructional expenditures per pupil in the United States averaged $3,747 in 1997–98 before cost adjustments (table 4-1). Instructional expenditures per pupil were the highest in the Northeast ($5,318) and the lowest in the West ($3,302). Expenditures per pupil in the highest region were 1.6 times greater than those in the lowest region before cost adjustments and 1.5 times greater after adjustments. Further, the difference between these two regions decreased from $2,016 to $1,650. Instructional expenditures per pupil remained the highest in the Northeast after adjustments, followed by the Midwest, the South, and the West. (See the glossary to identify states associated with different geographic regions.)

Smaller districts had higher instructional expenditures per pupil, both before and after cost adjustments. Before cost adjustments, instructional expenditures per pupil averaged $3,855 in districts with fewer than 1,000 students, compared to $3,660 in districts with 10,000 or more students. After cost adjustments, smaller districts continued to have higher average instructional expenditures per pupil than larger districts. In addition, the difference between the smallest and the largest districts increased from $195 to $759 per pupil. Correlation analysis, however, showed a weak negative relationship between district enrollment and instructional expenditures per pupil, both before (-0.03) and after (-0.08) cost adjustments (tables A-1 and A-2).

Before cost adjustments, instructional expenditures per pupil showed weak but statistically significant positive relationships with two measures of district wealth—median household income (+0.28) and median housing value (+0.35) (table A-11). School districts with median household income at or above $35,000 had the highest average instructional expenditures per pupil ($4,023); districts with median household income less than $20,000 had the lowest expenditures per pupil ($3,490). Districts with median housing values at or above $85,000 had the highest average instructional expenditures of $4,161 per pupil, and districts with median housing values between $55,000 and $85,000 had the lowest instructional expenditures per pupil of $3,431.

Table 4-1. Instructional expenditures, cost-adjusted instructional expenditures, instructional expenditures per pupil, and cost-adjusted expenditures per pupil in public school districts, by region, district enrollment, minority enrollment, district poverty rate, median household income, and median housing value: 1997–98

| School district characteristics | Instructional expenditures (in thousands) | Cost-adjusted instructional expenditures (in thousands) | Instructional expenditures per pupil | Cost-adjusted instructional expenditures per pupil |
|---|---|---|---|---|
| All districts | $171,015,158 | $169,621,839 | $3,747 | $3,728 |
| Region | | | | |
| Northeast | 42,179,249 | 37,866,753 | 5,318 | 4,789 |
| Midwest | 39,269,206 | 40,158,779 | 3,697 | 3,800 |
| South | 54,538,340 | 58,488,452 | 3,310 | 3,550 |
| West | 35,028,363 | 33,107,854 | 3,302 | 3,139 |
| District enrollment | | | | |
| 0–999 | 10,480,114 | 11,553,950 | 3,855 | 4,312 |
| 1,000–4,999 | 49,715,815 | 50,406,433 | 3,828 | 3,899 |
| 5,000–9,999 | 27,090,126 | 26,492,122 | 3,839 | 3,763 |
| 10,000 or more | 83,729,103 | 81,169,334 | 3,660 | 3,553 |
| Minority enrollment | | | | |
| Less than 5 percent | 42,632,628 | 43,852,196 | 3,775 | 3,885 |
| 5 percent–<20 percent | 44,619,869 | 44,227,309 | 3,718 | 3,685 |
| 20 percent–<50 percent | 45,508,428 | 45,286,932 | 3,545 | 3,528 |
| 50 percent or more | 29,362,286 | 27,497,951 | 4,118 | 3,857 |
| Data missing[1] | 8,891,947 | 8,757,451 | — | — |
| District poverty rate | | | | |
| Less than 5 percent | 22,758,202 | 20,887,886 | 4,400 | 4,044 |
| 5 percent–<15 percent | 56,230,771 | 55,843,885 | 3,631 | 3,606 |
| 15 percent–<25 percent | 41,125,306 | 42,706,725 | 3,470 | 3,604 |
| 25 percent or more | 42,008,932 | 41,425,891 | 3,906 | 3,852 |
| Data missing[1] | 8,891,947 | 8,757,451 | — | — |
| Median household income | | | | |
| Less than $20,000 | 12,079,131 | 13,279,734 | 3,490 | 3,837 |
| $20,000–<$25,000 | 29,738,646 | 31,724,244 | 3,542 | 3,778 |
| $25,000–<$30,000 | 42,641,581 | 42,582,744 | 3,804 | 3,799 |
| $30,000–<$35,000 | 26,848,468 | 26,433,231 | 3,550 | 3,495 |
| $35,000 or more | 50,815,385 | 46,844,435 | 4,023 | 3,710 |
| Data missing[1] | 8,891,947 | 8,757,451 | — | — |
| Median housing value | | | | |
| Less than $40,000 | 13,217,971 | 14,690,292 | 3,613 | 4,015 |
| $40,000–<$55,000 | 27,247,709 | 29,393,241 | 3,480 | 3,755 |
| $55,000–<$85,000 | 49,565,175 | 51,059,820 | 3,431 | 3,535 |
| $85,000 or more | 72,092,356 | 65,721,035 | 4,161 | 3,794 |
| Data missing[1] | 8,891,947 | 8,757,451 | — | — |

—Not available.
[1]These districts were missing 1990 Census demographic data.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

After cost adjustments, the positive correlation was weak (+0.06 with both housing value and household income) (table A-12). Adjusted instructional expenditures per pupil were highest in districts with the lowest median household incomes ($3,837) and lower in districts with the highest incomes ($3,710). Adjustments also raised instructional expenditures per pupil in districts with the lowest median housing values and lowered them in districts with the highest housing values.

Instructional expenditures per pupil showed a weak relationship with minority enrollment, both before (+0.09) and after (-0.02) cost adjustments. Before adjustments, school districts with the highest minority enrollments had higher instructional expenditures per pupil than districts with the lowest minority enrollments, $4,118 and $3,775, respectively. After adjustments, however, instructional expenditures per pupil were nearly equal in the highest-minority districts ($3,857) and the lowest-minority districts ($3,885).

Instructional expenditures per pupil showed a weak relationship with district poverty rate, both before (-0.05) and after (+0.02) cost adjustments. Instructional expenditures per pupil were highest in the lowest-poverty districts before and after cost adjustments ($4,400 and $4,044). After cost adjustments, the difference between the lowest- and highest-poverty districts was reduced from $494 to $192.

## Variations in Instructional Expenditures Per Pupil

### *Restricted Range Ratio*

The restricted range ratio for unadjusted instructional expenditures per pupil across the United States was 1.19 (table 4-2). This means instructional expenditures in the district at the 95th percentile were 1.19 times higher than instructional expenditures in the district at the 5th percentile. Variation across the states ranged from 0.16 in Nevada to 1.14 in Alaska. No states had a restricted range ratio greater than that for the United States.

When cost adjustments were applied, the restricted range ratio for instructional expenditures per pupil across the United States decreased to 0.97 (table 4-3). Three states exceeded the national variation after cost adjustments: Alaska, Illinois, and Montana. After cost adjustments, the range between the lowest-variation and highest-variation states remained nearly unchanged. The restricted range ratio ranged from 0.15 in Nevada to 1.11 in Alaska.

### *Coefficient of Variation*

The coefficient of variation for unadjusted instructional expenditures per pupil across the United States was 0.27. This means approximately two- thirds of the districts nationally have instructional expenditures per pupil between $2,735 and $4,759, a range that is from 27 percent below the mean to 27 percent above the mean. Variation in the states ranged from 0.06 in West Virginia to 0.29 in Alaska. Only one state (Alaska) had a coefficient of variation higher than the United States ratio.

When instructional expenditures were adjusted for cost-of-education differences, the coefficient of variation for instructional expenditures per pupil across the United States decreased to 0.22. Alaska and Montana exceeded the national variation after cost adjustments. Cost adjustments decreased the range between the lowest-variation and highest-variation states. After cost adjustments, the coefficient of variation ranged from 0.07 in Delaware, Florida, and West Virginia to 0.29 in Alaska and Montana.

### *Gini Coefficient*

The Gini coefficient for unadjusted instructional expenditures per pupil across the United States was 0.14. A Gini coefficient of 0 means expenditures are distributed equally; higher values such as 0.14 imply expenditures are more concentrated among a smaller share of students. Variation in the states ranged from 0.03 in Nevada and West Virginia to 0.13 in Alaska and Illinois. No states had a Gini coefficient higher than that for the United States.

Cost-of-education adjustments reduced the Gini coefficient for the United States to 0.12. After cost adjustments, Alaska and Montana exceeded the United States level of variation, and the range of variation remained nearly unchanged. After adjustments, the Gini coefficient ranged from 0.03 in Delaware and Nevada to 0.14 in Alaska.

Table 4-2. Variation in instructional expenditures per pupil (unadjusted dollars), by state: 1997–98

| State | Restricted range ratio | | Coefficient of variation | | Gini coefficient | | Synthesized measure of variation | |
|---|---|---|---|---|---|---|---|---|
| | Value | Rank | Value | Rank | Value | Rank | Average rank | Average quartile |
| United States | 1.19 | † | 0.27 | † | 0.14 | † | † | † |
| Alabama | 0.36 | 16 | 0.10 | 10 | 0.05 | 7 | 11.00 | 2 |
| Alaska | 1.14 | 49 | 0.29 | 49 | 0.13 | 48 | 48.67 | 4 |
| Arizona | 0.44 | 22 | 0.12 | 21 | 0.06 | 19 | 20.67 | 2 |
| Arkansas | 0.45 | 23 | 0.10 | 10 | 0.05 | 7 | 13.33 | 2 |
| California | 0.29 | 7 | 0.09 | 4 | 0.05 | 7 | 6.00 | 1 |
| Colorado | 0.31 | 9 | 0.11 | 18 | 0.05 | 7 | 11.33 | 2 |
| Connecticut | 0.67 | 40 | 0.15 | 28 | 0.08 | 30 | 32.67 | 3 |
| Delaware | 0.36 | 16 | 0.09 | 4 | 0.05 | 7 | 9.00 | 1 |
| District of Columbia | (1) | (1) | (1) | (1) | (1) | (1) | (1) | (1) |
| Florida | 0.28 | 6 | 0.08 | 2 | 0.04 | 3 | 3.67 | 1 |
| Georgia | 0.46 | 24 | 0.10 | 10 | 0.05 | 7 | 13.67 | 2 |
| Hawaii | (1) | (1) | (1) | (1) | (1) | (1) | (1) | (1) |
| Idaho | 0.50 | 28 | 0.15 | 28 | 0.08 | 30 | 28.67 | 3 |
| Illinois | 1.10 | 48 | 0.24 | 47 | 0.13 | 48 | 47.67 | 4 |
| Indiana | 0.58 | 34 | 0.15 | 28 | 0.09 | 39 | 33.67 | 3 |
| Iowa | 0.40 | 20 | 0.10 | 10 | 0.06 | 19 | 16.33 | 2 |
| Kansas | 0.69 | 43 | 0.16 | 36 | 0.08 | 30 | 36.33 | 4 |
| Kentucky | 0.29 | 7 | 0.09 | 4 | 0.04 | 3 | 4.67 | 1 |
| Louisiana | 0.26 | 5 | 0.09 | 4 | 0.05 | 7 | 5.33 | 1 |
| Maine | 0.71 | 45 | 0.18 | 41 | 0.09 | 39 | 41.67 | 4 |
| Maryland | 0.43 | 21 | 0.13 | 23 | 0.07 | 26 | 23.33 | 2 |
| Massachusetts | 0.65 | 38 | 0.18 | 41 | 0.10 | 45 | 41.33 | 4 |
| Michigan | 0.53 | 33 | 0.15 | 28 | 0.08 | 30 | 30.33 | 3 |
| Minnesota | 0.67 | 40 | 0.22 | 46 | 0.08 | 30 | 38.67 | 4 |
| Mississippi | 0.39 | 19 | 0.10 | 10 | 0.06 | 19 | 16.00 | 2 |
| Missouri | 0.51 | 31 | 0.15 | 28 | 0.08 | 30 | 29.67 | 3 |
| Montana | 0.87 | 47 | 0.25 | 48 | 0.11 | 47 | 47.33 | 4 |
| Nebraska | 0.48 | 26 | 0.15 | 28 | 0.07 | 26 | 26.67 | 3 |
| Nevada | 0.16 | 1 | 0.10 | 10 | 0.03 | 1 | 4.00 | 1 |
| New Hampshire | 0.85 | 46 | 0.18 | 41 | 0.09 | 39 | 42.00 | 4 |
| New Jersey | 0.61 | 35 | 0.15 | 28 | 0.08 | 30 | 31.00 | 3 |
| New Mexico | 0.34 | 14 | 0.11 | 18 | 0.05 | 7 | 13.00 | 2 |
| New York | 0.68 | 42 | 0.16 | 36 | 0.08 | 30 | 36.00 | 3 |
| North Carolina | 0.25 | 4 | 0.08 | 2 | 0.04 | 3 | 3.00 | 1 |
| North Dakota | 0.61 | 35 | 0.19 | 45 | 0.09 | 39 | 39.67 | 4 |
| Ohio | 0.61 | 35 | 0.16 | 36 | 0.09 | 39 | 36.67 | 4 |
| Oklahoma | 0.46 | 24 | 0.14 | 26 | 0.07 | 26 | 25.33 | 3 |
| Oregon | 0.31 | 9 | 0.10 | 10 | 0.05 | 7 | 8.67 | 1 |
| Pennsylvania | 0.66 | 39 | 0.17 | 40 | 0.09 | 39 | 39.33 | 4 |
| Rhode Island | 0.33 | 13 | 0.09 | 4 | 0.05 | 7 | 8.00 | 1 |
| South Carolina | 0.31 | 9 | 0.10 | 10 | 0.05 | 7 | 8.67 | 1 |
| South Dakota | 0.49 | 27 | 0.14 | 26 | 0.06 | 19 | 24.00 | 3 |
| Tennessee | 0.52 | 32 | 0.13 | 23 | 0.07 | 26 | 27.00 | 3 |
| Texas | 0.38 | 18 | 0.13 | 23 | 0.06 | 19 | 20.00 | 2 |
| Utah | 0.31 | 9 | 0.11 | 18 | 0.05 | 7 | 11.33 | 2 |
| Vermont | 0.70 | 44 | 0.18 | 41 | 0.10 | 45 | 43.33 | 4 |
| Virginia | 0.50 | 28 | 0.16 | 36 | 0.08 | 30 | 31.33 | 3 |
| Washington | 0.23 | 3 | 0.09 | 4 | 0.04 | 3 | 3.33 | 1 |
| West Virginia | 0.22 | 2 | 0.06 | 1 | 0.03 | 1 | 1.33 | 1 |
| Wisconsin | 0.50 | 28 | 0.12 | 21 | 0.06 | 19 | 22.67 | 2 |
| Wyoming | 0.35 | 15 | 0.15 | 28 | 0.06 | 19 | 20.67 | 2 |

†Not applicable.
[1]Variation is not measured in the District of Columbia or Hawaii where there is only one school district.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98."

Table 4-3. Variation in instructional expenditures per pupil (cost-adjusted dollars), by state: 1997–98

| State | Restricted range ratio | | Coefficient of variation | | Gini coefficient | | Synthesized measure of variation | |
|---|---|---|---|---|---|---|---|---|
| | Value | Rank | Value | Rank | Value | Rank | Average rank | Average quartile |
| United States | 0.97 | † | 0.22 | † | 0.12 | † | † | † |
| Alabama | 0.31 | 9 | 0.09 | 7 | 0.05 | 7 | 7.67 | 1 |
| Alaska | 1.11 | 49 | 0.29 | 48 | 0.14 | 49 | 48.67 | 4 |
| Arizona | 0.37 | 17 | 0.13 | 21 | 0.07 | 26 | 21.33 | 3 |
| Arkansas | 0.31 | 9 | 0.10 | 8 | 0.05 | 7 | 8.00 | 1 |
| California | 0.33 | 11 | 0.11 | 14 | 0.06 | 13 | 12.67 | 2 |
| Colorado | 0.37 | 17 | 0.13 | 21 | 0.06 | 13 | 17.00 | 2 |
| Connecticut | 0.58 | 35 | 0.14 | 29 | 0.08 | 31 | 31.67 | 3 |
| Delaware | 0.24 | 3 | 0.07 | 1 | 0.03 | 1 | 1.67 | 1 |
| District of Columbia | ([1]) | ([1]) | ([1]) | ([1]) | ([1]) | ([1]) | ([1]) | ([1]) |
| Florida | 0.18 | 2 | 0.07 | 1 | 0.04 | 3 | 2.00 | 1 |
| Georgia | 0.27 | 5 | 0.08 | 4 | 0.05 | 7 | 5.33 | 1 |
| Hawaii | ([1]) | ([1]) | ([1]) | ([1]) | ([1]) | ([1]) | ([1]) | ([1]) |
| Idaho | 0.62 | 37 | 0.16 | 34 | 0.08 | 31 | 34.00 | 3 |
| Illinois | 1.05 | 47 | 0.21 | 44 | 0.11 | 47 | 46.00 | 4 |
| Indiana | 0.50 | 30 | 0.14 | 29 | 0.08 | 31 | 30.00 | 3 |
| Iowa | 0.37 | 17 | 0.10 | 8 | 0.06 | 13 | 12.67 | 2 |
| Kansas | 0.82 | 46 | 0.19 | 40 | 0.10 | 43 | 43.00 | 4 |
| Kentucky | 0.35 | 14 | 0.10 | 8 | 0.05 | 7 | 9.67 | 1 |
| Louisiana | 0.24 | 3 | 0.08 | 4 | 0.04 | 3 | 3.33 | 1 |
| Maine | 0.75 | 45 | 0.19 | 40 | 0.09 | 38 | 41.00 | 4 |
| Maryland | 0.36 | 15 | 0.11 | 14 | 0.06 | 13 | 14.00 | 2 |
| Massachusetts | 0.65 | 39 | 0.18 | 38 | 0.09 | 38 | 38.33 | 4 |
| Michigan | 0.42 | 24 | 0.12 | 19 | 0.07 | 26 | 23.00 | 3 |
| Minnesota | 0.51 | 32 | 0.22 | 47 | 0.08 | 31 | 36.67 | 3 |
| Mississippi | 0.36 | 15 | 0.10 | 8 | 0.06 | 13 | 12.00 | 1 |
| Missouri | 0.50 | 30 | 0.14 | 29 | 0.07 | 26 | 28.33 | 3 |
| Montana | 1.06 | 48 | 0.29 | 48 | 0.13 | 48 | 48.00 | 4 |
| Nebraska | 0.73 | 43 | 0.21 | 44 | 0.10 | 43 | 43.33 | 4 |
| Nevada | 0.15 | 1 | 0.11 | 14 | 0.03 | 1 | 5.33 | 1 |
| New Hampshire | 0.74 | 44 | 0.19 | 40 | 0.10 | 43 | 42.33 | 4 |
| New Jersey | 0.54 | 34 | 0.14 | 29 | 0.08 | 31 | 31.33 | 3 |
| New Mexico | 0.46 | 27 | 0.13 | 21 | 0.05 | 7 | 18.33 | 2 |
| New York | 0.47 | 29 | 0.13 | 21 | 0.06 | 13 | 21.00 | 2 |
| North Carolina | 0.27 | 5 | 0.08 | 4 | 0.04 | 3 | 4.00 | 1 |
| North Dakota | 0.68 | 41 | 0.21 | 44 | 0.09 | 38 | 41.00 | 4 |
| Ohio | 0.46 | 27 | 0.13 | 21 | 0.07 | 26 | 24.67 | 3 |
| Oklahoma | 0.70 | 42 | 0.19 | 40 | 0.10 | 43 | 41.67 | 4 |
| Oregon | 0.37 | 17 | 0.13 | 21 | 0.06 | 13 | 17.00 | 2 |
| Pennsylvania | 0.51 | 32 | 0.14 | 29 | 0.08 | 31 | 30.67 | 3 |
| Rhode Island | 0.39 | 22 | 0.11 | 14 | 0.06 | 13 | 16.33 | 2 |
| South Carolina | 0.33 | 11 | 0.10 | 8 | 0.05 | 7 | 8.67 | 1 |
| South Dakota | 0.65 | 39 | 0.17 | 37 | 0.08 | 31 | 35.67 | 3 |
| Tennessee | 0.38 | 21 | 0.11 | 14 | 0.06 | 13 | 16.00 | 2 |
| Texas | 0.60 | 36 | 0.18 | 38 | 0.09 | 38 | 37.33 | 4 |
| Utah | 0.43 | 26 | 0.13 | 21 | 0.06 | 13 | 20.00 | 2 |
| Vermont | 0.63 | 38 | 0.16 | 34 | 0.09 | 38 | 36.67 | 3 |
| Virginia | 0.30 | 8 | 0.12 | 19 | 0.06 | 13 | 13.33 | 2 |
| Washington | 0.34 | 13 | 0.13 | 21 | 0.06 | 13 | 15.67 | 2 |
| West Virginia | 0.27 | 5 | 0.07 | 1 | 0.04 | 3 | 3.00 | 1 |
| Wisconsin | 0.40 | 23 | 0.10 | 8 | 0.06 | 13 | 14.67 | 2 |
| Wyoming | 0.42 | 24 | 0.16 | 34 | 0.07 | 26 | 28.00 | 3 |

†Not applicable.
[1]Variation is not measured in the District of Columbia or Hawaii where there is only one school district.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98."

## Overall Variation

In a synthesis of the three variation measures, Southern states had the highest percentage of states in the two low-variation quartiles for instructional expenditures per pupil (table 4-4 and figure 4-1). After cost adjustments, 88 percent of Southern states were in the two quartiles with lowest variation compared with states across the country. In contrast, 78 percent of Northeastern and 83 percent of Midwestern states were in the two quartiles with highest variation. States in the West did not show a clear trend in variation.

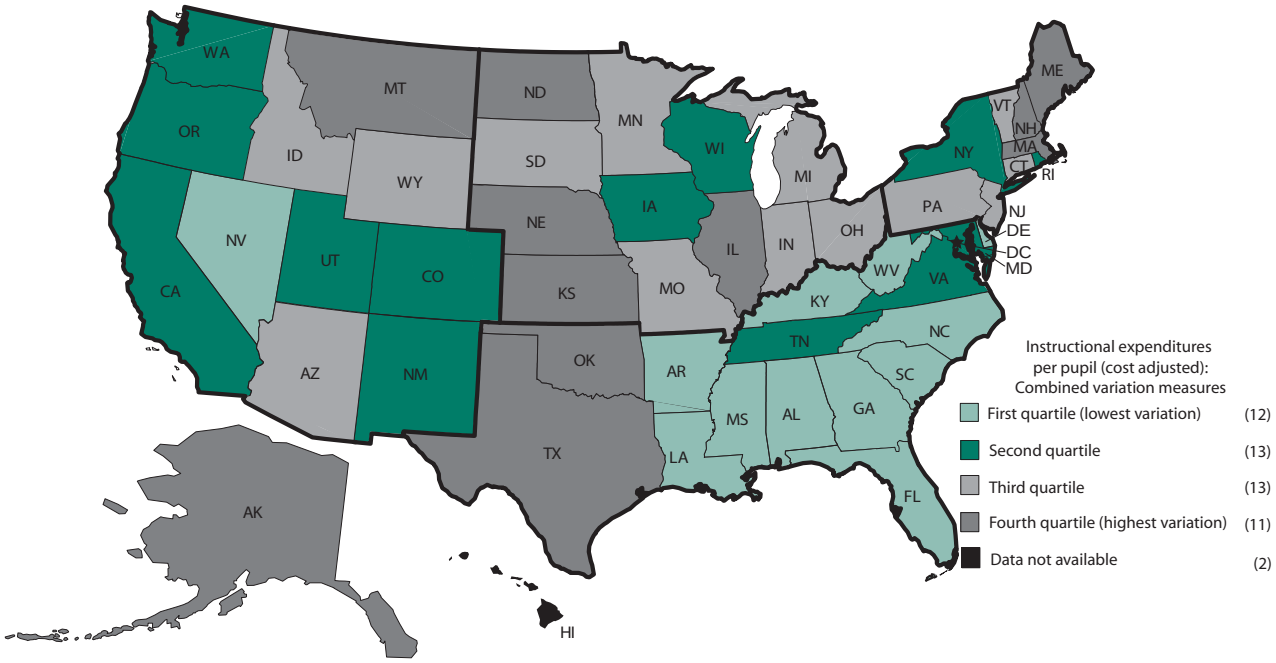
Table 4-4. Variation in instructional expenditures per pupil, by region: 1997–98

| Region | Percent of states in quartiles 1 and 2 (low variation) | Percent of states in quartiles 3 and 4 (high variation) |
|---|---|---|
| Unadjusted instructional expenditures per pupil | | |
| Northeast | 11 | 89 |
| Midwest | 17 | 83 |
| South | 81 | 19 |
| West | 75 | 25 |
| Cost-adjusted instructional expenditures per pupil | | |
| Northeast | 22 | 78 |
| Midwest | 17 | 83 |
| South | 88 | 13 |
| West | 58 | 42 |

NOTE: Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98."

Figure 4-1. Synthesis of variation measures of instructional expenditures per pupil (cost-adjusted dollars), by state: 1997–98




NOTE: Variation is not measured in the District of Columbia or Hawaii where there is only one school district. Regions are delineated in black; Alaska and Hawaii are part of the Western Region.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98."

## Relationship Between Instructional Expenditures Per Pupil and Selected District Fiscal and Demographic Characteristics

For the United States as a whole, instructional expenditures per pupil in unadjusted dollars showed a positive relationship with a school district's median household income (+0.28) and its median housing value (+0.35) (table A-11). Similarly, at the state level, median housing value was positively related to instructional expenditures per pupil in 18 of the 40 states with sufficient data, and negatively to instructional expenditures per pupil in 11 of the 40 states (table 4-5). Only one state (Alaska) showed a strong negative relationship. Fourteen states showed no statistically significant relationship between median household income and instructional expenditures per pupil, 10 states showed a positive relationship between income and expenditures, and 16 states showed a negative relationship.

After cost adjustments, the positive relationship between district wealth and instructional expenditures per pupil was weak for the United States as a whole (+0.06 with both household income and housing value) (table A-12). No state showed a strong positive relationship between instructional expenditures per pupil and median housing value. Three states (Alaska, Iowa, and West Virginia) showed a strong negative relationship (figure 4-2). No state had a strong positive relationship between a district's median household income and adjusted instructional expenditures per pupil and five states showed a moderate positive relationship between these variables. Sixteen states showed a moderate negative relationship and five states showed a strong negative relationship (figure 4-3).

Instructional expenditures per pupil showed a weak relationship with minority enrollment for the United States as a whole, both before (+0.09) and after (-0.02) cost adjustments. Seven states (Alaska, Connecticut, Indiana, Iowa, Massachusetts, Wisconsin, and Wyoming) showed a strong positive relationship between minority enrollment and instructional expenditures per pupil before cost adjustments but only four states (Alaska, Delaware, Massachusetts, and Wyoming) showed this relationship after cost adjustments (figure 4-4). Nevada showed a strong negative relationship between minority enrollment and instructional expenditures per pupil before cost adjustments. No state had a strong negative relationship after cost adjustments.

District poverty rate showed a weak relationship with instructional expenditures per pupil at the national level, both before (-0.05) and after (+0.02) cost adjustments. Three states (Alaska, Utah, and Wyoming) showed a strong positive relationship between district poverty rate and instructional expenditures per pupil and four states (Alaska, Utah, West Virginia, and Wyoming) showed this relationship after cost adjustments. No state showed a strong negative relationship between district poverty rate and instructional expenditures per pupil, either before or after cost adjustments (figure 4-5).

### *Student and Instructional Staff Support Services Expenditures*

Student support expenditures include expenditures for guidance, health, and logistical support that enhance instruction. Such support includes attendance, social work, student accounting, counseling, student appraisal, student records maintenance, and placement services. Student support services also include medical, dental, nursing, psychological, and speech services. Instructional staff support services include expenditures for supervision of instructional services, instructional staff training, and media, library, audiovisual, television, and computer-assisted instruction services.

Student and instructional staff support services expenditures for public elementary and secondary education totaled $23.3 billion in 1997–98 (table 4-6). This was just over 7 percent of total school district

Table 4-5. Correlations between instructional expenditures per pupil and selected fiscal and demographic characteristics, by state: 1997–98

| Characteristics | States (before cost adjustments) | States (after cost adjustments) |
|---|---|---|
| **Minority enrollment** | | |
| Strong positive relationship | Alaska, Connecticut, Indiana, Iowa, Massachusetts, Wisconsin, Wyoming | Alaska, Delaware,[1] Massachusetts, Wyoming |
| Moderate positive relationship | Arizona, California, Florida, Illinois, Michigan, Minnesota, Missouri, Montana, North Dakota, Ohio, Oregon, South Carolina, Tennessee, Utah, Washington | Arizona, Connecticut,[1] Illinois, Indiana,[1] Iowa,[1] Michigan, Minnesota, Missouri, Montana, North Dakota, Ohio, Oregon, South Carolina, Utah, Wisconsin[1] |
| Weak positive relationship | *US overall* | California[1] |
| Weak negative relationship | Texas | *US overall*[1] |
| Moderate negative relationship | Nebraska, Pennsylvania | Kansas,[1] Louisiana,[1] Nebraska, New Hampshire,[1] New York,[1] Pennsylvania, Texas[1] |
| Strong negative relationship | Nevada | [none] |
| No significant relationship | Alabama, Delaware, Idaho, Kansas, Louisiana, Maine, Maryland, New Hampshire, New York, North Carolina, Rhode Island, Vermont, Virginia, West Virginia | Alabama, Florida,[1] Idaho, Maine, Maryland, Nevada,[1] North Carolina, Rhode Island, Tennessee,[1] Vermont, Virginia, Washington,[1] West Virginia |
| **District poverty rate** | | |
| Strong positive relationship | Alaska, Utah, Wyoming | Alaska, Utah, West Virginia,[1] Wyoming |
| Moderate positive relationship | Arizona, California, Connecticut, Indiana, Iowa, Kansas, Massachusetts, Michigan, Minnesota, Missouri, Montana, North Dakota, Oregon, Texas, Washington, West Virginia, Wisconsin | Arizona, California, Connecticut, Florida,[1] Illinois,[1] Indiana, Iowa, Kansas, Maine,[1] Massachusetts, Michigan, Minnesota, Missouri, Montana, North Carolina,[1] North Dakota, Oregon, South Carolina,[1] Tennessee,[1] Texas, Washington, Wisconsin |
| Weak positive relationship | Illinois | Nebraska,[1] *US overall*[1] |
| Weak negative relationship | *US overall* | [none] |
| Moderate negative relationship | Alabama, Louisiana, New York, Pennsylvania, Virginia | Louisiana, New York, Pennsylvania |
| Strong negative relationship | [none] | [none] |
| No significant relationship | Delaware, Florida, Idaho, Maine, Maryland, Nebraska, Nevada, New Hampshire, North Carolina, Ohio, Rhode Island, South Carolina, Tennessee, Vermont | Alabama,[1] Delaware, Idaho, Maryland, Nevada, New Hampshire, Ohio, Rhode Island, Vermont, Virginia[1] |
| **Median household income** | | |
| Strong positive relationship | Delaware, Louisiana, New York, Pennsylvania, Virginia | [none] |
| Moderate positive relationship | Alabama, Illinois, Michigan, Missouri, Ohio, *US overall* | Louisiana,[1] New York,[1] Ohio, Pennsylvania,[1] Virginia,[1] |
| Weak positive relationship | [none] | Illinois,[1] *US overall*[1] |
| Weak negative relationship | California | Michigan[1] |
| Moderate negative relationship | Arizona, Indiana, Iowa, Kansas, Massachusetts, Minnesota, Montana, Nebraska, North Dakota, Oregon, Texas, Washington, West Virginia | Arizona, California,[1] Indiana, Kansas, Maine,[1] Massachusetts, Minnesota, Missouri,[1] Montana, Nebraska, North Carolina,[1] North Dakota, Oregon, Texas, Wisconsin,[1] Wyoming[1] |
| Strong negative relationship | Alaska, Utah | Alaska, Iowa,[1] Utah, Washington,[1] West Virginia[1] |
| No significant relationship | Connecticut, Florida, Idaho, Maine, Maryland, Nevada, New Hampshire, North Carolina, Rhode Island, South Carolina, Tennessee, Vermont, Wisconsin, Wyoming | Alabama,[1] Connecticut, Delaware,[1] Florida, Idaho, Maryland, Nevada, New Hampshire, Rhode Island, South Carolina, Tennessee, Vermont |
| **Median housing value** | | |
| Strong positive relationship | Delaware, Florida, Louisiana, New York, Pennsylvania, Virginia | [none] |
| Moderate positive relationship | Alabama, California, Illinois, Massachusetts, Michigan, Missouri, New Hampshire, North Carolina, Ohio, Tennessee, Vermont, Wisconsin, *US overall* | Illinois, New York,[1] Ohio, Pennsylvania,[1] Vermont, Virginia[1] |
| Weak positive relationship | [none] | *US overall*[1] |
| Weak negative relationship | [none] | [none] |
| Moderate negative relationship | Arizona, Indiana, Iowa, Kansas, Montana, Nebraska, Oregon, Texas, Washington, West Virginia | Arizona, California,[1] Indiana, Kansas, Minnesota,[1] Missouri,[1] Montana, Nebraska, North Dakota,[1] Oregon, Texas, Utah,[1] Washington, Wyoming[1] |
| Strong negative relationship | Alaska | Alaska, Iowa,[1] West Virginia[1] |
| No significant relationship | Connecticut, Idaho, Maine, Maryland, Minnesota, Nevada, North Dakota, Rhode Island, South Carolina, Utah, Wyoming | Alabama,[1] Connecticut, Delaware,[1] Florida,[1] Idaho, Louisiana,[1] Maine, Maryland, Massachusetts,[1] Michigan,[1] Nevada, New Hampshire,[1] North Carolina,[1] Rhode Island, South Carolina, Tennessee,[1] Wisconsin[1] |

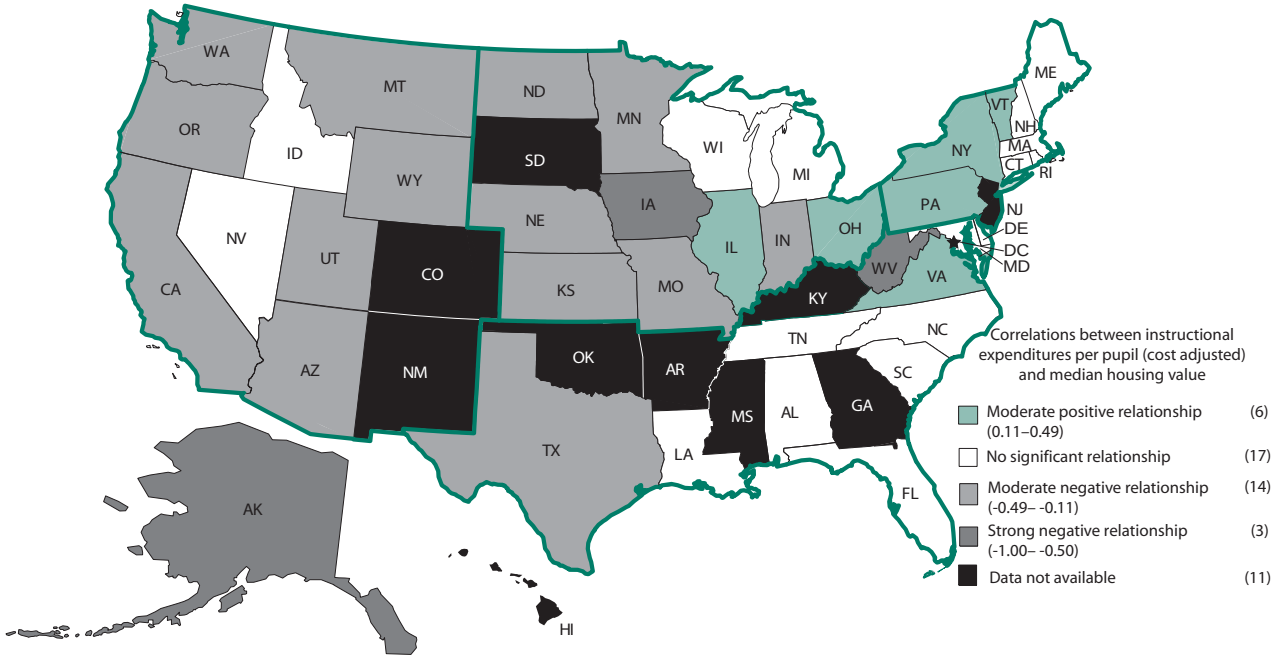
Table 4-5. Correlations between instructional expenditures per pupil and selected fiscal and demographic characteristics, by state: 1997–98—Continued

| Characteristics | States (before cost adjustments) | States (after cost adjustments) |
|---|---|---|
| **Student membership** | | |
| Strong positive relationship | Delaware | [none] |
| Moderate positive relationship | Connecticut, Florida, Georgia, Indiana, Maryland, Massachusetts, Michigan, Ohio, Tennessee, Vermont | Indiana |
| Weak positive relationship | [none] | [none] |
| Weak negative relationship | Nebraska, *US overall* | California,[1] *US overall* |
| Moderate negative relationship | Alaska, Arizona, Colorado, Idaho, Kansas, Maine, Montana, New Mexico, North Carolina, Oklahoma, Oregon, Texas, Utah, Washington, Wyoming | Alabama,[1] Alaska, Arizona, Arkansas,[1] Colorado, Georgia,[1] Idaho, Iowa,[1] Kansas, Kentucky,[1] Maine, Mississippi,[1] Missouri,[1] Montana, Nebraska,[1] New Hampshire,[1] New Mexico, North Carolina, North Dakota,[1] Oklahoma, Oregon, South Dakota,[1] Texas, Utah, Washington, Wyoming |
| Strong negative relationship | [none] | [none] |
| No significant relationship | Alabama, Arkansas, California, Illinois, Iowa, Kentucky, Louisiana, Minnesota, Mississippi, Missouri, Nevada, New Hampshire, New Jersey, New York, North Dakota, Pennsylvania, Rhode Island, South Carolina, South Dakota, Virginia, West Virginia, Wisconsin | Connecticut,[1] Delaware,[1] Florida,[1] Illinois, Louisiana, Maryland,[1] Massachusetts,[1] Michigan,[1] Minnesota, Nevada, New Jersey, New York, Ohio,[1] Pennsylvania, Rhode Island, South Carolina, Tennessee,[1] Vermont,[1] Virginia, West Virginia, Wisconsin |

[1]State changed categories after cost adjustments.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

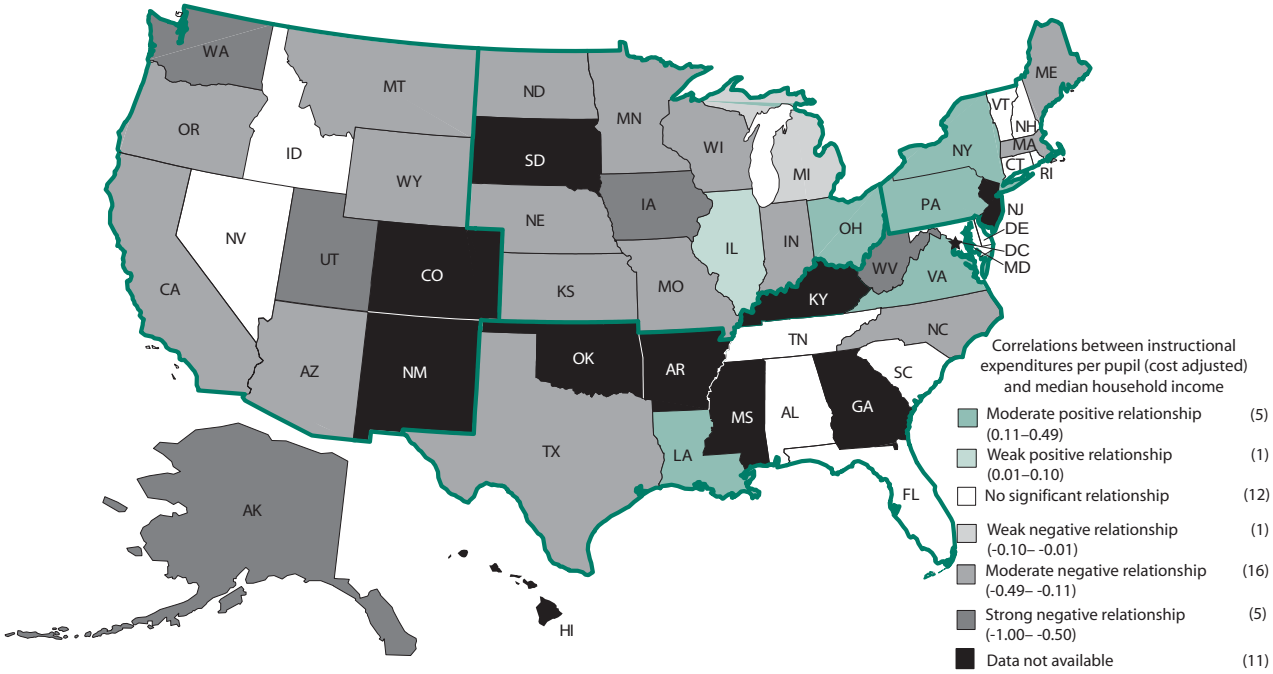
Figure 4-2. Correlations between instructional expenditures per pupil and median housing value (cost-adjusted dollars), by state: 1997–98




NOTE: No state-level correlation analysis was possible for the District of Columbia or Hawaii since they only have one district. Nine other states (Arkansas, Colorado, Georgia, Kentucky, Mississippi, New Jersey, New Mexico, Oklahoma, and South Dakota) were excluded from state-level correlation analysis because more than 50 percent of the school districts were missing Census data. Regions are delineated in green; Alaska and Hawaii are part of the Western Region.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

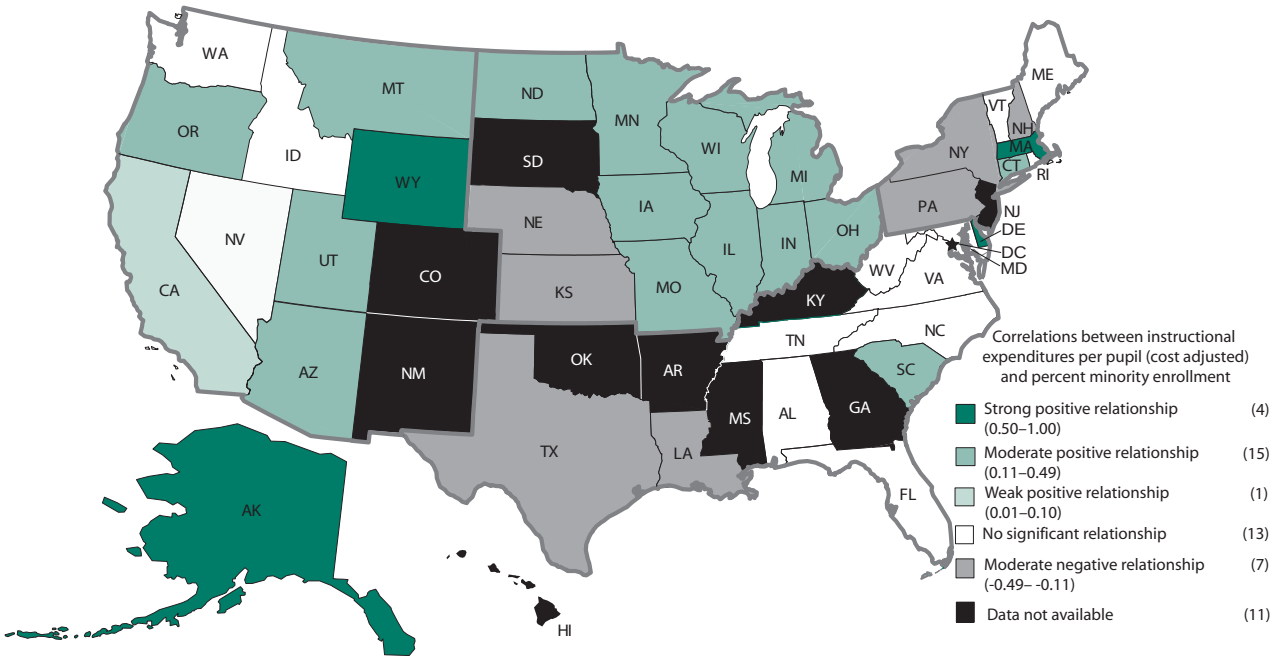
Figure 4-3. Correlations between instructional expenditures per pupil and median household income (cost-adjusted dollars), by state: 1997–98




NOTE: No state-level correlation analysis was possible for the District of Columbia or Hawaii since they only have one district. Nine other states (Arkansas, Colorado, Georgia, Kentucky, Mississippi, New Jersey, New Mexico, Oklahoma, and South Dakota) were excluded from state-level correlation analysis because more than 50 percent of the school districts were missing Census data. Regions are delineated in green; Alaska and Hawaii are part of the Western Region.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

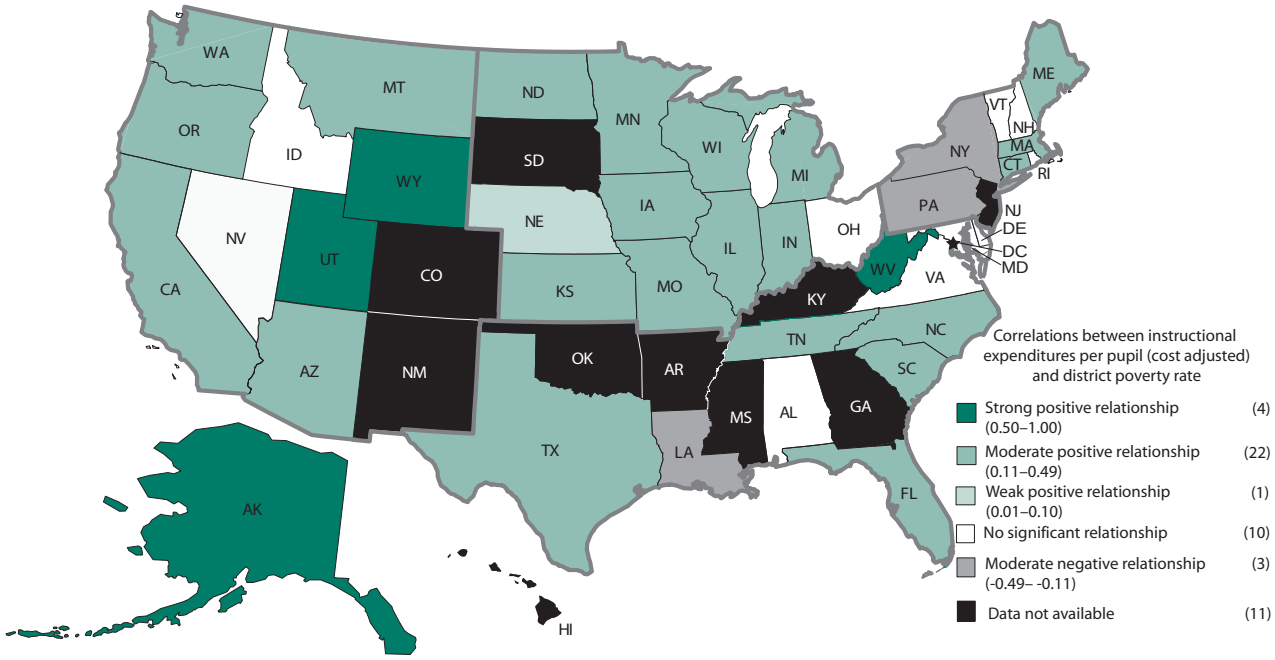
Figure 4-4. Correlations between instructional expenditures per pupil and percent minority enrollment (cost-adjusted dollars), by state: 1997–98




NOTE: No state-level correlation analysis was possible for the District of Columbia or Hawaii since they only have one district. Nine other states (Arkansas, Colorado, Georgia, Kentucky, Mississippi, New Jersey, New Mexico, Oklahoma, and South Dakota) were excluded from state-level correlation analysis because more than 50 percent of the school districts were missing Census data. Regions are delineated in gray; Alaska and Hawaii are part of the Western Region.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

Figure 4-5. Correlations between instructional expenditures per pupil and district poverty rate (cost-adjusted dollars), by state: 1997–98




NOTE: No state-level correlation analysis was possible for the District of Columbia or Hawaii since they only have one district. Nine other states (Arkansas, Colorado, Georgia, Kentucky, Mississippi, New Jersey, New Mexico, Oklahoma, and South Dakota) were excluded from state-level correlation analysis because more than 50 percent of the school districts were missing Census data. Regions are delineated in gray; Alaska and Hawaii are part of the Western Region.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

expenditures ($326.8 billion) and just over 8 percent of current district expenditures ($274.9 billion) in 1997–98.

## *Student and Instructional Staff Support Services Expenditures Per Pupil*

Public school district student and instructional staff support services expenditures per pupil in the United States averaged $512 in 1997–98 before cost adjustments (table 4-6). Student and instructional staff support services expenditures per pupil were the highest in the Northeast ($637) and the lowest in the West ($405). Expenditures per pupil in the highest region were 1.6 times greater than those in the lowest region before cost adjustments and 1.5 times greater after adjustments. Further, the difference between these two regions decreased from $232 to $184 after adjustments. Student and instructional staff support services expenditures per pupil remained the highest in the Northeast after adjustments, followed by the South, the Midwest, and the West.

Larger districts had higher student and instructional staff support services expenditures per pupil, both before and after cost adjustments. Before cost adjustments, districts with 10,000 or more students had an average expenditure of $533, compared to $391 in districts with less than 1,000 students. After cost adjustments, larger districts continued to have higher average student and instructional staff support services expenditures per pupil than smaller districts. However, the difference between the largest and the smallest districts decreased from $142 to $87 per pupil. Correlation analysis showed weak positive relationships between district enrollment and student and instructional staff support services expenditures per pupil, both before (+0.07) and after (+0.05) cost adjustments (tables A-1 and A-2).

Table 4-6. Student and instructional staff support services expenditures, cost-adjusted student and instructional staff support services expenditures, student and instructional staff support services expenditures per pupil, and cost-adjusted student and instructional staff support services expenditures per pupil in public school districts, by region, district enrollment, minority enrollment, district poverty rate, median household income, and median housing value: 1997–98

| School district characteristics | Student and instructional staff support services expenditures (in thousands) | Cost-adjusted student and instructional staff support services expenditures (in thousands) | Student and instructional staff support services expenditures per pupil | Cost-adjusted student and instructional staff support services expenditures per pupil |
|---|---|---|---|---|
| All districts | $23,348,428 | $23,211,918 | $512 | $510 |
| Region | | | | |
| Northeast | 5,048,339 | 4,521,418 | 637 | 572 |
| Midwest | 5,598,833 | 5,649,825 | 527 | 535 |
| South | 8,405,996 | 8,951,797 | 510 | 543 |
| West | 4,295,260 | 4,088,878 | 405 | 388 |
| District enrollment | | | | |
| 0–999 | 1,063,995 | 1,167,067 | 391 | 436 |
| 1,000–4,999 | 6,379,370 | 6,460,718 | 491 | 500 |
| 5,000–9,999 | 3,716,732 | 3,645,825 | 527 | 518 |
| 10,000 or more | 12,188,331 | 11,938,308 | 533 | 523 |
| Minority enrollment | | | | |
| Less than 5 percent | 5,125,251 | 5,233,219 | 454 | 464 |
| 5 percent–<20 percent | 6,258,862 | 6,195,966 | 522 | 516 |
| 20 percent–<50 percent | 6,889,032 | 6,897,650 | 537 | 537 |
| 50 percent or more | 3,802,067 | 3,626,749 | 533 | 509 |
| Data missing[1] | 1,273,216 | 1,258,334 | — | — |
| District poverty rate | | | | |
| Less than 5 percent | 3,282,564 | 3,005,462 | 635 | 582 |
| 5 percent–<15 percent | 7,442,243 | 7,384,173 | 481 | 477 |
| 15 percent–<25 percent | 5,784,526 | 6,004,465 | 488 | 507 |
| 25 percent or more | 5,565,879 | 5,559,483 | 518 | 517 |
| Data missing[1] | 1,273,216 | 1,258,334 | — | — |
| Median household income | | | | |
| Less than $20,000 | 1,609,425 | 1,759,991 | 465 | 509 |
| $20,000–<$25,000 | 4,054,833 | 4,314,541 | 483 | 514 |
| $25,000–<$30,000 | 5,504,652 | 5,578,527 | 491 | 498 |
| $30,000–<$35,000 | 3,849,152 | 3,783,434 | 509 | 500 |
| $35,000 or more | 7,057,150 | 6,517,091 | 559 | 516 |
| Data missing[1] | 1,273,216 | 1,258,334 | — | — |
| Median housing value | | | | |
| Less than $40,000 | 1,657,301 | 1,822,145 | 453 | 498 |
| $40,000–<$55,000 | 3,633,761 | 3,914,286 | 464 | 500 |
| $55,000–<$85,000 | 7,285,478 | 7,506,048 | 504 | 520 |
| $85,000 or more | 9,498,672 | 8,711,105 | 548 | 503 |
| Data missing[1] | 1,273,216 | 1,258,334 | — | — |

—Not available.
[1]These districts were missing 1990 Census demographic data.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

Before cost adjustments, student and instructional staff support services expenditures per pupil showed weak but statistically significant positive relationships with two measures of district wealth—median household income (+0.20) and median housing value (+0.12) (table A-13). Before cost adjustments, districts with higher median household income had higher student and instructional staff support services expenditures. The same findings held true for the relationship between student and instructional staff support and median housing value.

After cost adjustments, this correlation became weak and changed direction in the case of housing value (-0.04) (table A-14). Districts with median household income at or above $35,000 had the highest average expenditures per pupil ($516), and expenditures per pupil in districts with median household

income less than $20,000 were lower ($509). Similar results were found for the relationship between median housing value and adjusted average expenditures per pupil. Districts with median housing value between $55,000 and $85,000 had the highest average expenditure per pupil at $520. Districts with the lowest and highest median housing values had similar adjusted expenditures per pupil—$498 and $503, respectively.

Student and instructional staff support services expenditures per pupil showed a moderate positive relationship with minority enrollment before cost adjustments (+0.12), and a weak positive relationship after adjustments (+0.08). Before adjustments, school districts with higher minority enrollments had higher student and instructional staff support services expenditures per pupil and districts with the lowest minority enrollments had the lowest expenditures per pupil, $533 and $454, respectively. After adjustments, districts with less than 5 percent minority enrollment still had the lowest student and instructional staff support services expenditures per pupil ($464) and districts with greater than 50 percent minority enrollment had expenditures per pupil averaging $509. The difference between the highest- and lowest-minority districts was reduced from $79 to $45.

Student and instructional staff support services expenditures per pupil had a weak negative correlation with district poverty rate before cost adjustments (-0.05) and no significant relationship after. Student and instructional staff support services expenditures per pupil were highest in the lowest-poverty districts before and after cost adjustments ($635 and $582, respectively). After cost adjustments, the difference between the lowest- and highest-poverty districts was reduced from $117 to $65.

## Variations in Student and Instructional Staff Support Services Expenditures Per Pupil

### *Restricted Range Ratio*

The restricted range ratio for unadjusted student and instructional staff support services expenditures per pupil across the United States was 3.91 (table 4-7). This means support services expenditures in the district at the 95th percentile were 3.91 times higher than support services expenditures in the district at the 5th percentile. Variation across the states ranged from 0.28 in Nevada to 10.42 in North Dakota.

When cost adjustments were applied, the restricted range ratio for student and instructional staff support services expenditures per pupil across the United States decreased to 3.12 (table 4-8). Six states exceeded the national variation after cost adjustments: Illinois, Maine, Michigan, Montana, New York, and North Dakota. Cost adjustments also reduced the range between the lowest-variation and the highest-variation states. After cost adjustments, the restricted range ratio ranged from 0.31 in Maryland to 9.76 in North Dakota.

### *Coefficient of Variation*

The coefficient of variation for unadjusted student and instructional staff support services expenditures per pupil across the United States was 0.47. This means approximately two-thirds of the districts nationally have support services expenditures per pupil between $271 and $753, a range that is from 47 percent below the mean to 47 percent above the mean. Variation in the states ranged from 0.11 in Maryland to 0.71 in California. Six states (California, Illinois, Michigan, Montana, New York, and North Dakota) had a coefficient of variation higher than the United States coefficient.

Table 4-7. Variation in student and instructional staff support services expenditures per pupil (unadjusted dollars), by state: 1997–98

| State | Restricted range ratio | | Coefficient of variation | | Gini coefficient | | Synthesized measure of variation | |
|---|---|---|---|---|---|---|---|---|
| | Value | Rank | Value | Rank | Value | Rank | Average rank | Average quartile |
| United States | 3.91 | † | 0.47 | † | 0.25 | † | † | † |
| Alabama | 1.17 | 19 | 0.22 | 11 | 0.13 | 16 | 15.33 | 2 |
| Alaska | 1.22 | 22 | 0.30 | 26 | 0.13 | 16 | 21.33 | 2 |
| Arizona | 1.27 | 23 | 0.24 | 17 | 0.12 | 12 | 17.33 | 2 |
| Arkansas | 1.55 | 30 | 0.31 | 27 | 0.16 | 26 | 27.67 | 3 |
| California | ([1]) | ([1]) | 0.71 | 49 | 0.39 | 49 | 49.00 | 4 |
| Colorado | 1.03 | 13 | 0.25 | 18 | 0.14 | 20 | 17.00 | 2 |
| Connecticut | 2.20 | 35 | 0.31 | 27 | 0.17 | 29 | 30.33 | 3 |
| Delaware | 0.91 | 7 | 0.20 | 7 | 0.10 | 5 | 6.33 | 1 |
| District of Columbia | ([2]) | ([2]) | ([2]) | ([2]) | ([2]) | ([2]) | ([2]) | ([2]) |
| Florida | 0.52 | 3 | 0.14 | 2 | 0.08 | 3 | 2.67 | 1 |
| Georgia | 0.78 | 5 | 0.21 | 8 | 0.11 | 8 | 7.00 | 1 |
| Hawaii | ([2]) | ([2]) | ([2]) | ([2]) | ([2]) | ([2]) | ([2]) | ([2]) |
| Idaho | 1.39 | 27 | 0.28 | 23 | 0.15 | 23 | 24.33 | 2 |
| Illinois | 5.56 | 47 | 0.58 | 47 | 0.28 | 45 | 46.33 | 4 |
| Indiana | 2.55 | 39 | 0.42 | 42 | 0.23 | 42 | 41.00 | 4 |
| Iowa | 1.68 | 31 | 0.29 | 24 | 0.16 | 26 | 27.00 | 3 |
| Kansas | 2.18 | 34 | 0.39 | 39 | 0.21 | 39 | 37.33 | 4 |
| Kentucky | 1.11 | 16 | 0.26 | 19 | 0.14 | 20 | 18.33 | 2 |
| Louisiana | 0.81 | 6 | 0.18 | 4 | 0.10 | 5 | 5.00 | 1 |
| Maine | 4.87 | 46 | 0.36 | 33 | 0.20 | 37 | 38.67 | 4 |
| Maryland | 0.40 | 2 | 0.11 | 1 | 0.06 | 1 | 1.33 | 1 |
| Massachusetts | 1.85 | 32 | 0.34 | 31 | 0.18 | 32 | 31.67 | 3 |
| Michigan | 4.26 | 44 | 0.50 | 45 | 0.28 | 45 | 44.67 | 4 |
| Minnesota | 2.33 | 38 | 0.36 | 33 | 0.19 | 35 | 35.33 | 3 |
| Mississippi | 1.17 | 19 | 0.27 | 21 | 0.15 | 23 | 21.00 | 2 |
| Missouri | 2.04 | 33 | 0.37 | 37 | 0.20 | 37 | 35.67 | 3 |
| Montana | 4.29 | 45 | 0.49 | 44 | 0.26 | 44 | 44.33 | 4 |
| Nebraska | 1.46 | 28 | 0.31 | 27 | 0.17 | 29 | 28.00 | 3 |
| Nevada | 0.28 | 1 | 0.18 | 4 | 0.06 | 1 | 2.00 | 1 |
| New Hampshire | 1.48 | 29 | 0.36 | 33 | 0.17 | 29 | 30.33 | 3 |
| New Jersey | 1.01 | 10 | 0.22 | 11 | 0.12 | 12 | 11.00 | 1 |
| New Mexico | 1.19 | 21 | 0.22 | 11 | 0.11 | 8 | 13.33 | 1 |
| New York | 3.66 | 43 | 0.56 | 46 | 0.31 | 48 | 45.67 | 4 |
| North Carolina | 0.58 | 4 | 0.15 | 3 | 0.08 | 3 | 3.33 | 1 |
| North Dakota | 10.42 | 48 | 0.58 | 47 | 0.29 | 47 | 47.33 | 4 |
| Ohio | 2.25 | 36 | 0.39 | 39 | 0.22 | 41 | 38.67 | 4 |
| Oklahoma | 2.26 | 37 | 0.34 | 31 | 0.19 | 35 | 34.33 | 3 |
| Oregon | 1.06 | 14 | 0.23 | 15 | 0.12 | 12 | 13.67 | 2 |
| Pennsylvania | 1.35 | 26 | 0.29 | 24 | 0.15 | 23 | 24.33 | 2 |
| Rhode Island | 1.01 | 10 | 0.23 | 15 | 0.13 | 16 | 13.67 | 2 |
| South Carolina | 0.99 | 9 | 0.21 | 8 | 0.11 | 8 | 8.33 | 1 |
| South Dakota | 2.91 | 41 | 0.43 | 43 | 0.24 | 43 | 42.33 | 4 |
| Tennessee | 1.01 | 10 | 0.27 | 21 | 0.14 | 20 | 17.00 | 2 |
| Texas | 1.29 | 24 | 0.26 | 19 | 0.13 | 16 | 19.67 | 2 |
| Utah | 1.15 | 18 | 0.36 | 33 | 0.16 | 26 | 25.67 | 3 |
| Vermont | 3.34 | 42 | 0.38 | 38 | 0.21 | 39 | 39.67 | 4 |
| Virginia | 1.31 | 25 | 0.39 | 39 | 0.18 | 32 | 32.00 | 3 |
| Washington | 1.14 | 17 | 0.22 | 11 | 0.12 | 12 | 13.33 | 1 |
| West Virginia | 2.83 | 40 | 0.32 | 30 | 0.18 | 32 | 34.00 | 3 |
| Wisconsin | 0.98 | 8 | 0.21 | 8 | 0.11 | 8 | 8.00 | 1 |
| Wyoming | 1.10 | 15 | 0.19 | 6 | 0.10 | 5 | 8.67 | 1 |

†Not applicable.

[1]The restricted range ratio could not be calculated for student and instructional staff support services expenditures in California because the fifth percentile—by which the difference is divided—was equal to zero.

[2]Variation is not measured in the District of Columbia or Hawaii where there is only one school district.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98."

Table 4-8. Variation in student and instructional staff support services expenditures per pupil (cost-adjusted dollars), by state: 1997–98

| State | Restricted range ratio | | Coefficient of variation | | Gini coefficient | | Synthesized measure of variation | |
|---|---|---|---|---|---|---|---|---|
| | Value | Rank | Value | Rank | Value | Rank | Average rank | Average quartile |
| United States | 3.12 | † | 0.43 | † | 0.23 | † | † | † |
| Alabama | 1.06 | 18 | 0.21 | 10 | 0.12 | 12 | 13.33 | 2 |
| Alaska | 1.01 | 16 | 0.32 | 29 | 0.13 | 16 | 20.33 | 2 |
| Arizona | 1.15 | 23 | 0.26 | 21 | 0.13 | 16 | 20.00 | 2 |
| Arkansas | 1.35 | 28 | 0.28 | 26 | 0.15 | 26 | 26.67 | 3 |
| California | ([1]) | ([1]) | 0.71 | 49 | 0.39 | 49 | 49.00 | 4 |
| Colorado | 1.03 | 17 | 0.25 | 17 | 0.14 | 21 | 18.33 | 2 |
| Connecticut | 2.17 | 37 | 0.31 | 28 | 0.17 | 32 | 32.33 | 3 |
| Delaware | 0.96 | 11 | 0.20 | 6 | 0.10 | 5 | 7.33 | 1 |
| District of Columbia | ([2]) | ([2]) | ([2]) | ([2]) | ([2]) | ([2]) | ([2]) | ([2]) |
| Florida | 0.54 | 3 | 0.14 | 2 | 0.08 | 3 | 2.67 | 1 |
| Georgia | 0.68 | 5 | 0.20 | 6 | 0.11 | 8 | 6.33 | 1 |
| Hawaii | ([2]) | ([2]) | ([2]) | ([2]) | ([2]) | ([2]) | ([2]) | ([2]) |
| Idaho | 1.38 | 29 | 0.27 | 25 | 0.15 | 26 | 26.67 | 3 |
| Illinois | 4.54 | 46 | 0.53 | 46 | 0.26 | 46 | 46.00 | 4 |
| Indiana | 2.35 | 39 | 0.40 | 42 | 0.22 | 42 | 41.00 | 4 |
| Iowa | 1.51 | 30 | 0.26 | 21 | 0.14 | 21 | 24.00 | 3 |
| Kansas | 2.52 | 40 | 0.38 | 40 | 0.20 | 39 | 39.67 | 4 |
| Kentucky | 1.12 | 20 | 0.25 | 17 | 0.14 | 21 | 19.33 | 2 |
| Louisiana | 0.87 | 6 | 0.19 | 5 | 0.10 | 5 | 5.33 | 1 |
| Maine | 4.19 | 45 | 0.35 | 36 | 0.19 | 38 | 39.67 | 4 |
| Maryland | 0.31 | 1 | 0.11 | 1 | 0.06 | 1 | 1.00 | 1 |
| Massachusetts | 1.78 | 34 | 0.34 | 35 | 0.18 | 36 | 35.00 | 3 |
| Michigan | 3.57 | 44 | 0.46 | 44 | 0.25 | 44 | 44.00 | 4 |
| Minnesota | 1.64 | 33 | 0.32 | 29 | 0.16 | 31 | 31.00 | 3 |
| Mississippi | 1.19 | 24 | 0.26 | 21 | 0.14 | 21 | 22.00 | 2 |
| Missouri | 1.54 | 31 | 0.32 | 29 | 0.17 | 32 | 30.67 | 3 |
| Montana | 4.56 | 47 | 0.49 | 45 | 0.25 | 44 | 45.33 | 4 |
| Nebraska | 1.22 | 25 | 0.30 | 27 | 0.15 | 26 | 26.00 | 3 |
| Nevada | 0.34 | 2 | 0.18 | 4 | 0.06 | 1 | 2.33 | 1 |
| New Hampshire | 1.62 | 32 | 0.36 | 38 | 0.17 | 32 | 34.00 | 3 |
| New Jersey | 0.96 | 11 | 0.22 | 13 | 0.12 | 12 | 12.00 | 1 |
| New Mexico | 1.13 | 22 | 0.23 | 15 | 0.11 | 8 | 15.00 | 2 |
| New York | 3.55 | 43 | 0.55 | 47 | 0.30 | 48 | 46.00 | 4 |
| North Carolina | 0.57 | 4 | 0.15 | 3 | 0.08 | 3 | 3.33 | 1 |
| North Dakota | 9.76 | 48 | 0.58 | 48 | 0.28 | 47 | 47.67 | 4 |
| Ohio | 2.02 | 35 | 0.36 | 38 | 0.20 | 39 | 37.33 | 4 |
| Oklahoma | 2.03 | 36 | 0.33 | 34 | 0.18 | 36 | 35.33 | 3 |
| Oregon | 0.97 | 14 | 0.22 | 13 | 0.12 | 12 | 13.00 | 2 |
| Pennsylvania | 1.27 | 27 | 0.25 | 17 | 0.14 | 21 | 21.67 | 2 |
| Rhode Island | 1.07 | 19 | 0.23 | 15 | 0.13 | 16 | 16.67 | 2 |
| South Carolina | 1.00 | 15 | 0.21 | 10 | 0.12 | 12 | 12.33 | 1 |
| South Dakota | 2.34 | 38 | 0.40 | 42 | 0.22 | 42 | 40.67 | 4 |
| Tennessee | 0.96 | 11 | 0.25 | 17 | 0.13 | 16 | 14.67 | 2 |
| Texas | 1.24 | 26 | 0.26 | 21 | 0.13 | 16 | 21.00 | 2 |
| Utah | 0.93 | 9 | 0.35 | 36 | 0.15 | 26 | 23.67 | 3 |
| Vermont | 3.10 | 42 | 0.39 | 41 | 0.20 | 39 | 40.67 | 4 |
| Virginia | 0.95 | 10 | 0.32 | 29 | 0.15 | 26 | 21.67 | 2 |
| Washington | 0.88 | 7 | 0.21 | 10 | 0.11 | 8 | 8.33 | 1 |
| West Virginia | 2.75 | 41 | 0.32 | 29 | 0.17 | 32 | 34.00 | 3 |
| Wisconsin | 0.90 | 8 | 0.20 | 6 | 0.10 | 5 | 6.33 | 1 |
| Wyoming | 1.12 | 20 | 0.20 | 6 | 0.11 | 8 | 11.33 | 1 |

†Not applicable.

[1]The restricted range ratio could not be calculated for student and instructional staff support services expenditures in California because the fifth percentile—by which the difference is divided—was equal to zero.

[2]Variation is not measured in the District of Columbia or Hawaii where there is only one school district.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98."

When student and instructional staff support services expenditures were adjusted for cost-of-education differences, the coefficient of variation for student and instructional staff support services expenditures per pupil across the United States decreased to 0.43. The same states exceeded the national variation after cost adjustments as before cost adjustments. Cost adjustments did not change the range between the lowest-variation and highest-variation states. After cost adjustments, the coefficient of variation ranged from 0.11 in Maryland to 0.71 in California.

### Gini Coefficient

The Gini coefficient for unadjusted student and instructional staff support services expenditures per pupil across the United States was 0.25. A Gini coefficient of 0 means expenditures are distributed equally; higher values such as 0.25 imply expenditures are more concentrated among a smaller share of students. Variation in the states ranged from 0.06 in Maryland and Nevada to 0.39 in California.

Cost of education adjustments reduced the Gini coefficient to 0.23. After cost adjustment, 6 states (California, Illinois, Michigan, Montana, New York, and North Dakota) exceeded the United States level of variation, and the range of variation remained unchanged. After adjustments, the Gini coefficient ranged from 0.01 in Maryland and Nevada to 0.39 in California.

### Overall Variation

In a synthesis of the three variation measures, the South and West had the highest percentage of states in the two low-variation quartiles for support services expenditures per pupil (table 4-9 and figure 4-6). After cost adjustments, 81 percent of states in the South and 67 percent of states in the West were in the two quartiles with lowest variation compared with states across the country. In contrast, nearly all Midwestern states (92 percent) were in the two quartiles with highest variation.

Table 4-9. Variation in student and instructional staff support services expenditures per pupil, by region: 1997–98

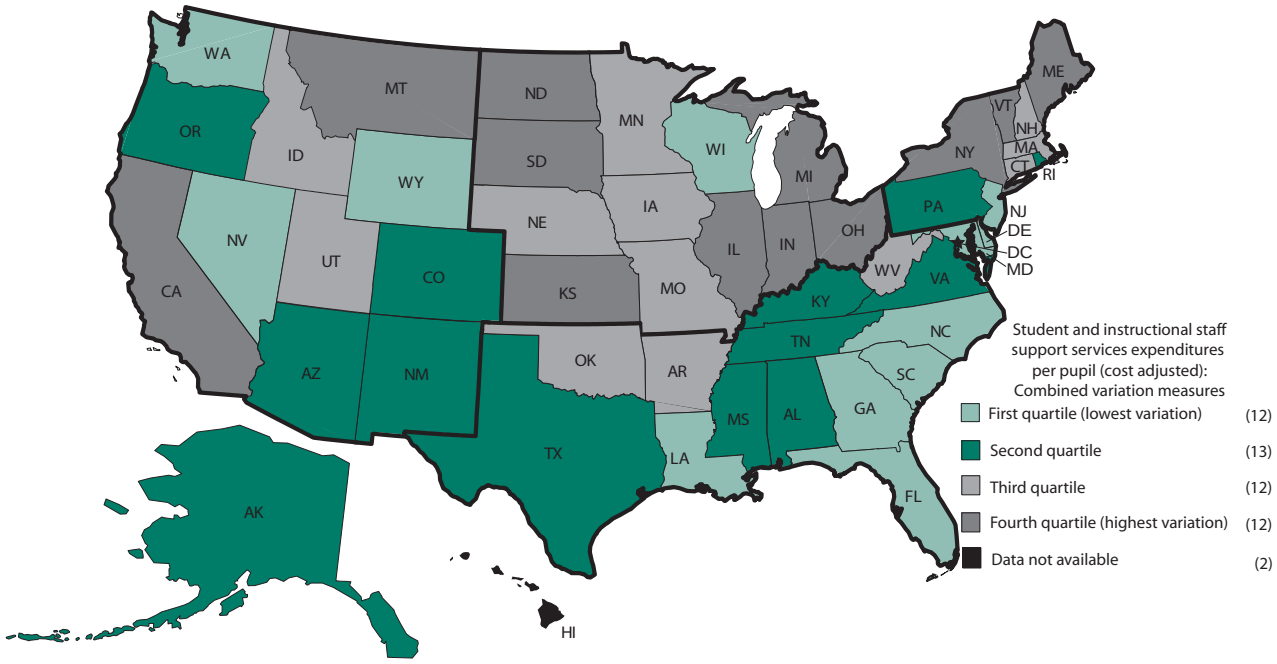
| Region | Percent of states in quartiles 1 and 2 (low variation) | Percent of states in quartiles 3 and 4 (high variation) |
|---|---|---|
| Unadjusted student and instructional staff support services expenditures per pupil | | |
| Northeast | 33 | 67 |
| Midwest | 8 | 92 |
| South | 75 | 25 |
| West | 75 | 25 |
| Cost-adjusted student and instructional staff support services expenditures per pupil | | |
| Northeast | 33 | 67 |
| Midwest | 8 | 92 |
| South | 81 | 19 |
| West | 67 | 33 |

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98."

## Relationship Between Student and Instructional Staff Support Services Expenditures Per Pupil and Selected District Fiscal and Demographic Characteristics

For the United States as a whole, student and instructional staff support services expenditures per pupil in unadjusted dollars showed a positive relationship with a school district's median household income (+0.20) and its median housing value (+0.12) (table A-13). Similarly, at the state level, median housing

Figure 4-6. Synthesis of variation measures of student and instructional staff support services expenditures per pupil (cost-adjusted dollars), by state: 1997–98




NOTE: Variation is not measured in the District of Columbia or Hawaii where there is only one school district. Regions are delineated in black; Alaska and Hawaii are part of the Western Region.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98."

value was positively related to student and instructional staff support services expenditures per pupil in 25 of the 40 states with sufficient data, and negatively to student and instructional staff support services expenditures per pupil in only 2 states (table 4-10). Only two states (Arizona and Indiana) showed a moderate negative relationship. Nineteen states showed no statistically significant relationship between household income and student and instructional staff support services expenditures per pupil, 14 states showed a positive relationship between income and expenditures, and 6 states showed a negative relationship.

After cost adjustments, the relationship between district wealth and student and instructional staff support services expenditures per pupil was weak for the United States as a whole (table A-14). After cost adjustments, more than half of the states with sufficient data (21) showed no relationship between student and instructional staff support services expenditures per pupil and median housing value (figure 4-7). No state showed a strong negative relationship. Three states (Maryland, Pennsylvania, and Virginia) showed a strong positive relationship. No state had a strong negative relationship between a district's median household income and adjusted student and instructional staff support services expenditures per pupil and nine states showed a moderate negative relationship between these variables. Seven states showed a moderate positive relationship and only one state (New York) showed a strong positive relationship (figure 4-8).

Student and instructional staff support services expenditures per pupil showed a moderate positive relationship with minority enrollment for the United States as a whole before cost adjustments (+0.12) and a weak positive relationship after adjustments (+0.08). Seven states (Indiana, Massachusetts, Minnesota, Missouri, Ohio, Rhode Island, and Utah) showed a strong positive relationship between minority enrollment and student and instructional staff support services expenditures per pupil before cost

Table 4-10. Correlations between student and instructional staff support services expenditures per pupil and selected fiscal and demographic characteristics, by state: 1997–98

| Characteristics | States (before cost adjustments) | States (after cost adjustments) |
|---|---|---|
| **Minority enrollment** | | |
| Strong positive relationship | Indiana, Massachusetts, Minnesota, Missouri, Ohio, Rhode Island, Utah | Massachusetts, Minnesota, Missouri, Ohio, Utah |
| Moderate positive relationship | Alabama, Arizona, California, Florida, Illinois, Iowa, Kansas, Maine, Montana, Nebraska, New Hampshire, North Dakota, Oregon, South Carolina, Tennessee, Texas, Vermont, Washington, Wisconsin, *US overall* | Alabama, Arizona, California, Illinois, Indiana,[1] Iowa, Kansas, Maine, Montana, Nebraska, New Hampshire, North Carolina,[1] North Dakota, Oregon, Rhode Island,[1] South Carolina, Tennessee, Texas, Washington, Wisconsin |
| Weak positive relationship | [none] | *US overall*[1] |
| Weak negative relationship | [none] | [none] |
| Moderate negative relationship | [none] | Pennsylvania[1] |
| Strong negative relationship | New York | New York |
| No significant relationship | Alaska, Connecticut, Delaware, Idaho, Louisiana, Maryland, Michigan, Nevada, North Carolina, Pennsylvania, Virginia, West Virginia, Wyoming | Alaska, Connecticut, Delaware, Florida,[1] Idaho, Louisiana, Maryland, Michigan, Nevada, Vermont,[1] Virginia, West Virginia, Wyoming |
| **District poverty rate** | | |
| Strong positive relationship | Utah | Utah |
| Moderate positive relationship | Arizona, California, Indiana, Massachusetts, Minnesota, Missouri, Montana, Nebraska, North Dakota, Ohio, Rhode Island, Tennessee, Texas, Wisconsin | Alabama,[1] Arizona, California, Indiana, Kansas,[1] Massachusetts, Minnesota, Missouri, Montana, Nebraska, North Dakota, Ohio, Tennessee, Texas, Washington,[1] Wisconsin |
| Weak positive relationship | [none] | [none] |
| Weak negative relationship | Illinois, Michigan, *US overall* | Illinois, Michigan |
| Moderate negative relationship | Louisiana, Pennsylvania, West Virginia | Pennsylvania, West Virginia |
| Strong negative relationship | New York | New York |
| No significant relationship | Alabama, Alaska, Connecticut, Delaware, Florida, Idaho, Iowa, Kansas, Maine, Maryland, Nevada, New Hampshire, North Carolina, Oregon, South Carolina, Vermont, Virginia, Washington, Wyoming | Alaska, Connecticut, Delaware, Florida, Idaho, Iowa, Louisiana,[1] Maine, Maryland, Nevada, New Hampshire, North Carolina, Oregon, Rhode Island,[1] South Carolina, Vermont, Virginia, Wyoming, *US overall*[1] |
| **Median household income** | | |
| Strong positive relationship | Maryland, New York, Pennsylvania | New York |
| Moderate positive relationship | Alaska, Connecticut, Idaho, Illinois, Iowa, Louisiana, Maine, Michigan, Oregon, Virginia, West Virginia, *US overall* | Alaska, Connecticut, Illinois, Louisiana, Michigan, Pennsylvania,[1] Virginia |
| Weak positive relationship | Wisconsin | *US overall*[1] |
| Weak negative relationship | [none] | [none] |
| Moderate negative relationship | Arizona, Indiana, Montana, Rhode Island, Texas, Utah | Arizona, Florida,[1] Indiana, Missouri,[1] Montana, Nebraska,[1] Texas, Utah, Washington[1] |
| Strong negative relationship | [none] | [none] |
| No significant relationship | Alabama, California, Delaware, Florida, Kansas, Massachusetts, Minnesota, Missouri, Nebraska, Nevada, New Hampshire, North Carolina, North Dakota, Ohio, South Carolina, Tennessee, Vermont, Washington, Wyoming | Alabama, California, Delaware, Idaho,[1] Iowa,[1] Kansas, Maine,[1] Maryland,[1] Massachusetts, Minnesota, Nevada, New Hampshire, North Carolina, North Dakota, Ohio, Oregon,[1] Rhode Island,[1] South Carolina, Tennessee, Vermont, West Virginia,[1] Wisconsin,[1] Wyoming |
| **Median housing value** | | |
| Strong positive relationship | Illinois, Maryland, Pennsylvania, Virginia | Maryland, Pennsylvania, Virginia |
| Moderate positive relationship | Alabama, California, Idaho, Iowa, Kansas, Louisiana, Maine, Massachusetts, Michigan, Minnesota, Missouri, Nebraska, Nevada, New Hampshire, North Carolina, North Dakota, Ohio, Vermont, Washington, West Virginia, Wisconsin, *US overall* | California, Idaho, Illinois,[1] Iowa, Maine, Massachusetts, Michigan, Minnesota, North Dakota, Ohio, West Virginia |
| Weak positive relationship | [none] | [none] |
| Weak negative relationship | Texas | New York,[1] *US overall*[1] |
| Moderate negative relationship | Arizona, Indiana | Arizona, Indiana, Texas,[1] Utah[1] |
| Strong negative relationship | [none] | [none] |
| No significant relationship | Alaska, Connecticut, Delaware, Florida, Montana, New York, Oregon, Rhode Island, South Carolina, Tennessee, Utah, Wyoming | Alabama,[1] Alaska, Connecticut, Delaware, Florida, Kansas,[1] Louisiana,[1] Missouri,[1] Montana, Nebraska,[1] Nevada,[1] New Hampshire,[1] North Carolina,[1] Oregon, Rhode Island, South Carolina, Tennessee, Vermont,[1] Washington,[1] Wisconsin,[1] Wyoming |

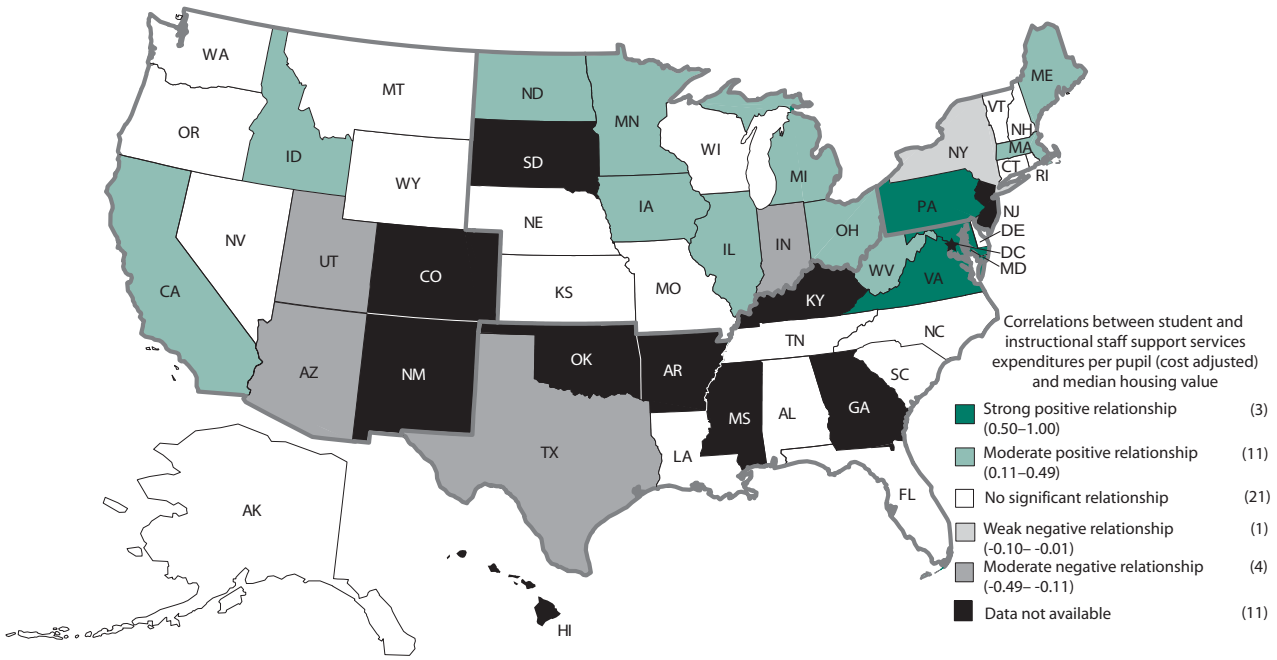
Table 4-10. Correlations between student and instructional staff support services expenditures per pupil and selected fiscal and demographic characteristics, by state: 1997–98—Continued

| Characteristics | States (before cost adjustments) | States (after cost adjustments) |
|---|---|---|
| **Student membership** | | |
| Strong positive relationship | [none] | [none] |
| Moderate positive relationship | Arkansas, California, Connecticut, Indiana, Iowa, Kansas, Maine, Massachusetts, Michigan, Minnesota, Missouri, Montana, Nebraska, North Dakota, Ohio, Oklahoma, Oregon, South Dakota, Texas, Vermont, Virginia, Washington, Wisconsin | Arkansas, California, Indiana, Iowa, Kansas, Maine, Michigan, Minnesota, Montana, Nebraska, Ohio, Oklahoma, Oregon, South Dakota, Vermont, Washington |
| Weak positive relationship | Illinois, New Jersey, *US overall* | Missouri,[1] *US overall* |
| Weak negative relationship | [none] | [none] |
| Moderate negative relationship | North Carolina | North Carolina, South Carolina[1] |
| Strong negative relationship | [none] | [none] |
| No significant relationship | Alabama, Alaska, Arizona, Colorado, Delaware, Florida, Georgia, Idaho, Kentucky, Louisiana, Maryland, Mississippi, Nevada, New Hampshire, New Mexico, New York, Pennsylvania, Rhode Island, South Carolina, Tennessee, Utah, West Virginia, Wyoming | Alabama, Alaska, Arizona, Colorado, Connecticut,[1] Delaware, Florida, Georgia, Idaho, Illinois,[1] Kentucky, Louisiana, Maryland, Massachusetts,[1] Mississippi, Nevada, New Hampshire, New Jersey,[1] New Mexico, New York, North Dakota,[1] Pennsylvania, Rhode Island, Tennessee, Texas,[1] Utah, Virginia,[1] West Virginia, Wisconsin,[1] Wyoming |

[1]State changed categories after cost adjustments.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

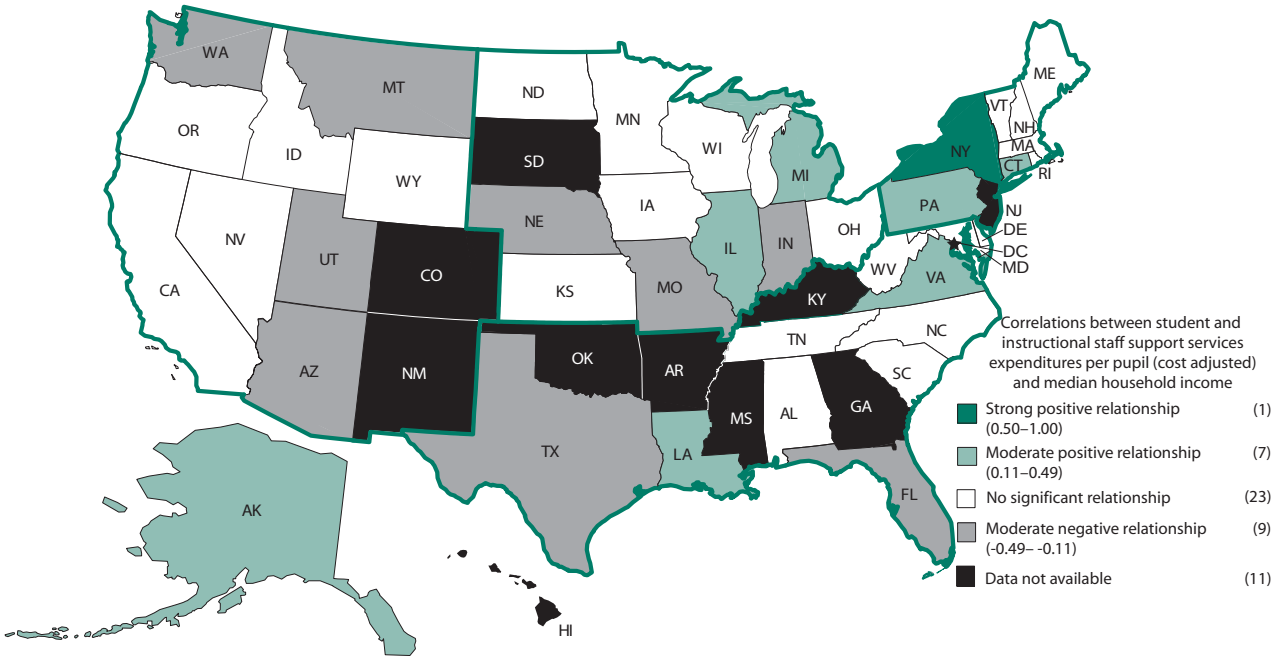
Figure 4-7. Correlations between student and instructional staff support services expenditures per pupil and median housing value (cost-adjusted dollars), by state: 1997–98




NOTE: No state-level correlation analysis was possible for the District of Columbia or Hawaii since they only have one district. Nine other states (Arkansas, Colorado, Georgia, Kentucky, Mississippi, New Jersey, New Mexico, Oklahoma, and South Dakota) were excluded from state-level correlation analysis because more than 50 percent of the school districts were missing Census data. Regions are delineated in gray; Alaska and Hawaii are part of the Western Region.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

Figure 4-8. Correlations between student and instructional staff support services expenditures per pupil and median household income (cost-adjusted dollars), by state: 1997–98




NOTE: No state-level correlation analysis was possible for the District of Columbia or Hawaii since they only have one district. Nine other states (Arkansas, Colorado, Georgia, Kentucky, Mississippi, New Jersey, New Mexico, Oklahoma, and South Dakota) were excluded from state-level correlation analysis because more than 50 percent of the school districts were missing Census data. Regions are delineated in green; Alaska and Hawaii are part of the Western Region.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

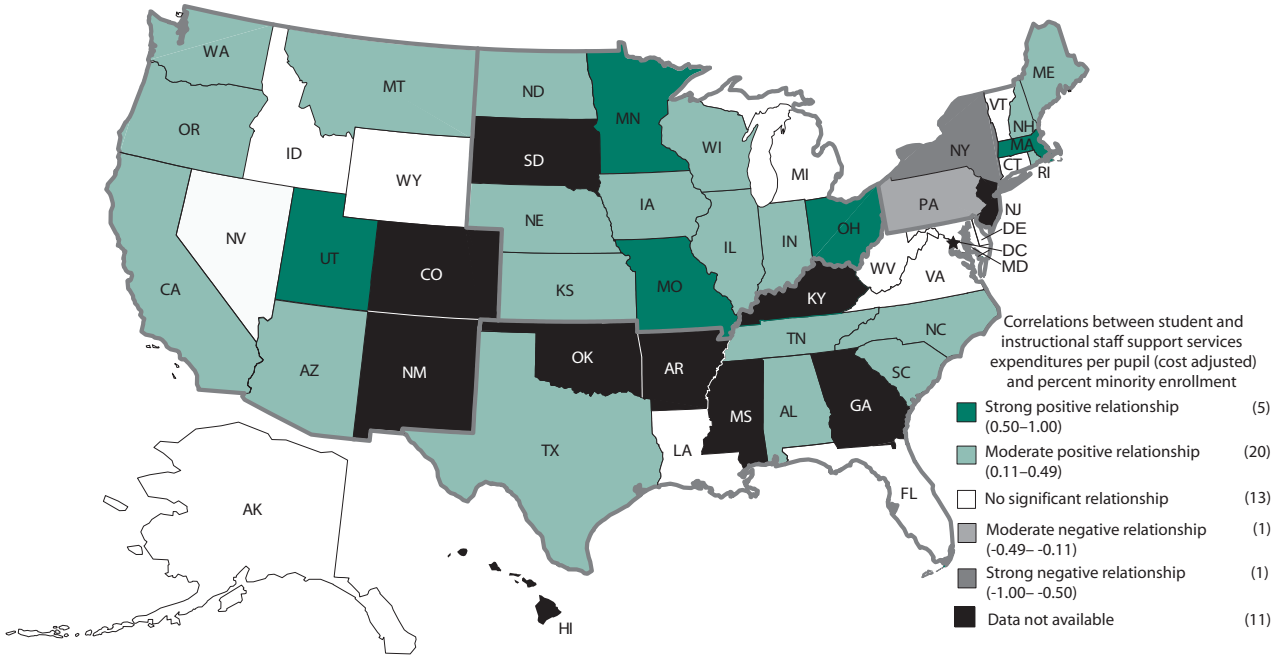
adjustments and only five states (Massachusetts, Minnesota, Missouri, Ohio, and Utah) showed this relationship after cost adjustments (figure 4-9). Only New York showed a strong negative relationship between minority enrollment and student and instructional staff support services expenditures per pupil, both before and after cost adjustments.

District poverty rate showed a weak negative relationship with student and instructional staff support services expenditures per pupil at the national level before cost adjustments (-0.05) and no significant relationship after. Only one state (Utah) showed a strong positive relationship between district poverty rate and student and instructional staff support services expenditures per pupil and only one state (New York) showed a strong negative relationship, both before and after cost adjustments (figure 4-10).

## Administration Expenditures

Administration expenditures include general (expenditures for the board of education and executive administration services) and school administration (expenditures for the office of the principal), as well as business support (fiscal services, purchasing, warehousing, supply distribution, printing, publishing, and duplicating services) and central support services (expenditure for planning, research and development, evaluation, information, and management services). Administration expenditures for public elementary and secondary education totaled $28.0 billion in 1997–98 (table 4-11). This was just under 9 percent of total school district expenditures ($326.8 billion) and just over 10 percent of current district expenditures ($274.9 billion) in 1997–98.

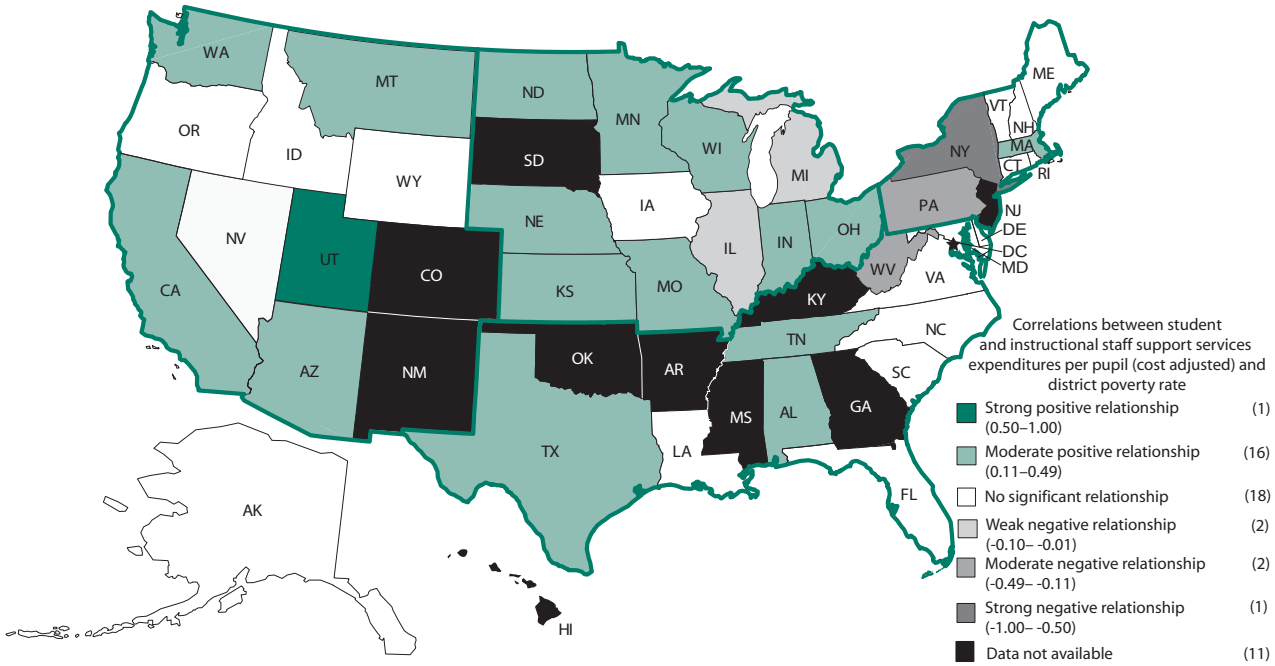
Figure 4-9. Correlations between student and instructional staff support services expenditures per pupil and percent minority enrollment (cost-adjusted dollars), by state: 1997–98




NOTE: No state-level correlation analysis was possible for the District of Columbia or Hawaii since they only have one district. Nine other states (Arkansas, Colorado, Georgia, Kentucky, Mississippi, New Jersey, New Mexico, Oklahoma, and South Dakota) were excluded from state-level correlation analysis because more than 50 percent of the school districts were missing Census data. Regions are delineated in gray; Alaska and Hawaii are part of the Western Region.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

Figure 4-10. Correlations between student and instructional staff support services expenditures per pupil and district poverty rate (cost-adjusted dollars), by state: 1997–98




NOTE: No state-level correlation analysis was possible for the District of Columbia or Hawaii since they only have one district. Nine other states (Arkansas, Colorado, Georgia, Kentucky, Mississippi, New Jersey, New Mexico, Oklahoma, and South Dakota) were excluded from state-level correlation analysis because more than 50 percent of the school districts were missing Census data. Regions are delineated in green; Alaska and Hawaii are part of the Western Region.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

Table 4-11. Administration expenditures, cost-adjusted administrative expenditures, administrative expenditures per pupil, and cost-adjusted administration expenditures per pupil in public school districts, by region, district enrollment, minority enrollment, district poverty rate, median household income, and median housing value: 1997–98

| School district characteristics | Administration expenditures (in thousands) | Cost-adjusted administration expenditures (in thousands) | Administration expenditures per pupil | Cost-adjusted administration expenditures per pupil |
|---|---|---|---|---|
| All districts | $27,993,329 | $27,941,623 | $613 | $614 |
| Region | | | | |
| Northeast | 5,766,671 | 5,190,694 | 727 | 656 |
| Midwest | 7,346,736 | 7,477,575 | 692 | 708 |
| South | 9,054,260 | 9,715,875 | 550 | 590 |
| West | 5,825,662 | 5,557,479 | 549 | 527 |
| District enrollment | | | | |
| 0–999 | 2,012,945 | 2,215,355 | 740 | 827 |
| 1,000–4,999 | 8,039,847 | 8,210,971 | 619 | 635 |
| 5,000–9,999 | 4,142,262 | 4,072,811 | 587 | 578 |
| 10,000 or more | 13,798,275 | 13,442,486 | 603 | 588 |
| Minority enrollment | | | | |
| Less than 5 percent | 6,838,102 | 7,088,456 | 605 | 628 |
| 5 percent–<20 percent | 7,411,892 | 7,384,816 | 618 | 615 |
| 20 percent–<50 percent | 7,589,646 | 7,578,391 | 591 | 590 |
| 50 percent or more | 4,589,266 | 4,344,375 | 644 | 609 |
| Data missing[1] | 1,564,423 | 1,545,586 | — | — |
| District poverty rate | | | | |
| Less than 5 percent | 3,673,196 | 3,387,779 | 710 | 656 |
| 5 percent–<15 percent | 9,383,273 | 9,357,150 | 606 | 604 |
| 15 percent–<25 percent | 6,824,060 | 7,107,797 | 576 | 600 |
| 25 percent or more | 6,548,377 | 6,543,311 | 609 | 608 |
| Data missing[1] | 1,564,423 | 1,545,586 | — | — |
| Median household income | | | | |
| Less than $20,000 | 2,124,597 | 2,335,517 | 614 | 675 |
| $20,000–<$25,000 | 4,972,366 | 5,313,136 | 592 | 633 |
| $25,000–<$30,000 | 6,570,949 | 6,658,570 | 586 | 594 |
| $30,000–<$35,000 | 4,493,804 | 4,434,058 | 594 | 586 |
| $35,000 or more | 8,267,190 | 7,654,756 | 654 | 606 |
| Data missing[1] | 1,564,423 | 1,545,586 | — | — |
| Median housing value | | | | |
| Less than $40,000 | 2,391,524 | 2,665,048 | 654 | 728 |
| $40,000–<$55,000 | 4,578,763 | 4,935,945 | 585 | 630 |
| $55,000–<$85,000 | 8,331,062 | 8,583,270 | 577 | 594 |
| $85,000 or more | 11,127,557 | 10,211,774 | 642 | 589 |
| Data missing[1] | 1,564,423 | 1,545,586 | — | — |

—Not available.
[1]These districts were missing 1990 Census demographic data.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

## Administration Expenditures Per Pupil

Administration expenditures per pupil in the United States averaged $613 in 1997–98 before cost adjustments (table 4-11). Administration expenditures per pupil were highest in the Northeast ($727) and lowest in the West ($549). The West was followed closely by the South ($550). Expenditures per pupil in the highest region were 1.3 times greater than those in the lowest region before and after cost adjustments. Further, the difference between these two regions increased from $178 to $181 after adjustments. Administration expenditures per pupil were highest in the Midwest after adjustments, followed by the Northeast, the South, and the West.

Smaller districts had higher administration expenditures per pupil, both before and after cost adjustments. Before cost adjustments, districts with fewer than 1,000 students had an average expenditure of $740, compared to $603 in districts with 10,000 or more students. After cost adjustments, larger districts continued to have lower average administration expenditures per pupil than smaller districts. In addition, the difference between the largest and the smallest school districts increased from $137 to $239 per pupil. Correlation analysis showed a weak negative relationship between district enrollment and administration expenditures per pupil, both before (-0.05) and after (-0.08) cost adjustments (tables A-1 and A-2).

Before cost adjustments, administration expenditures per pupil showed a small but statistically significant positive relationships with two measures of district wealth—median household income (+0.16) and median housing value (+0.09) (table A-15). School districts with median household income at or above $35,000 had the highest average administration expenditures per pupil ($654) and districts with median household income less than $20,000 had the second highest expenditures per pupil ($614). Districts with median housing values less than $40,000 had the highest average administration expenditures of $654 per pupil, while districts with median housing values of $85,000 and higher had the second-highest administration expenditures per pupil ($642).

After cost adjustments, administrative expenditures showed a weak negative correlation with median housing value (-0.11) and no significant correlation with median household income (table A-16). Districts with median household income less than $20,000 had the highest average expenditure per pupil at $675, compared to $586 in districts with median household income between $30,000 and $35,000. Districts with median housing value less than $40,000 had highest average expenditure per pupil at $728, compared to $589 in districts with median housing value of $85,000 or above.

Administration expenditures per pupil showed a weak relationship with percent minority enrollment, both before (+0.05) and after (-0.02) cost adjustments. Before adjustments, school districts with the highest minority enrollments had highest administration expenditures per pupil ($644) and districts with less than 5 percent minority enrollments had expenditures averaging $605 per pupil. After adjustments, districts with less than 5 percent minority enrollment had the highest administration expenditures per pupil ($628) and districts with greater than 50 percent minority enrollment had expenditures per pupil averaging $609.

Administration expenditures per pupil had a weak correlation with district poverty rates before cost adjustments (-0.05). Administration expenditures per pupil were highest in the lowest-poverty districts, both before and after cost adjustments ($710 and $656, respectively). After cost adjustments, the difference between the lowest- and highest-poverty districts was reduced from $101 to $48.

## Variations in Administration Expenditures Per Pupil

### *Restricted Range Ratio*

The restricted range ratio for unadjusted administration expenditures per pupil across the United States was 2.09 (table 4-12). This means administration expenditures in the district at the 95th percentile were 2.09 times higher than administration expenditures in the district at the 5th percentile. Variation across the states ranged from 0.24 in Nevada to 3.69 in Montana. (The restricted range ratio could not be calculated in California because expenditures per pupil at the 5th percentile were equal to zero.)

Table 4-12. Variation in administration expenditures per pupil (unadjusted dollars), by state: 1997–98

| State | Restricted range ratio | | Coefficient of variation | | Gini coefficient | | Synthesized measure of variation | |
|---|---|---|---|---|---|---|---|---|
| | Value | Rank | Value | Rank | Value | Rank | Average rank | Average quartile |
| United States | 2.09 | † | 0.40 | † | 0.19 | † | † | † |
| Alabama | 0.68 | 8 | 0.19 | 9 | 0.10 | 10 | 9.00 | 1 |
| Alaska | 2.03 | 45 | 0.60 | 48 | 0.24 | 48 | 47.00 | 4 |
| Arizona | 0.99 | 23 | 0.27 | 29 | 0.13 | 28 | 26.67 | 3 |
| Arkansas | 1.44 | 41 | 0.27 | 29 | 0.14 | 30 | 33.33 | 3 |
| California | ([1]) | ([1]) | 0.67 | 49 | 0.35 | 49 | 49.00 | 4 |
| Colorado | 2.46 | 47 | 0.43 | 44 | 0.22 | 46 | 45.67 | 4 |
| Connecticut | 1.10 | 31 | 0.22 | 16 | 0.12 | 18 | 21.67 | 2 |
| Delaware | 0.39 | 2 | 0.12 | 2 | 0.07 | 3 | 2.33 | 1 |
| District of Columbia | ([2]) | ([2]) | ([2]) | ([2]) | ([2]) | ([2]) | ([2]) | ([2]) |
| Florida | 0.47 | 3 | 0.11 | 1 | 0.06 | 2 | 2.00 | 1 |
| Georgia | 0.78 | 14 | 0.20 | 11 | 0.11 | 15 | 13.33 | 2 |
| Hawaii | ([2]) | ([2]) | ([2]) | ([2]) | ([2]) | ([2]) | ([2]) | ([2]) |
| Idaho | 1.13 | 33 | 0.28 | 32 | 0.14 | 30 | 31.67 | 3 |
| Illinois | 1.85 | 44 | 0.43 | 44 | 0.19 | 43 | 43.67 | 4 |
| Indiana | 0.96 | 21 | 0.21 | 14 | 0.12 | 18 | 17.67 | 2 |
| Iowa | 0.72 | 10 | 0.21 | 14 | 0.10 | 10 | 11.33 | 1 |
| Kansas | 0.90 | 17 | 0.25 | 25 | 0.13 | 28 | 23.33 | 2 |
| Kentucky | 1.40 | 39 | 0.29 | 33 | 0.16 | 38 | 36.67 | 4 |
| Louisiana | 1.03 | 25 | 0.23 | 20 | 0.12 | 18 | 21.00 | 2 |
| Maine | 1.07 | 28 | 0.31 | 35 | 0.14 | 30 | 31.00 | 3 |
| Maryland | 0.70 | 9 | 0.15 | 3 | 0.09 | 5 | 5.67 | 1 |
| Massachusetts | 0.95 | 19 | 0.23 | 20 | 0.12 | 18 | 19.00 | 2 |
| Michigan | 1.14 | 35 | 0.30 | 34 | 0.14 | 30 | 33.00 | 3 |
| Minnesota | 1.13 | 33 | 0.32 | 37 | 0.14 | 30 | 33.33 | 3 |
| Mississippi | 0.91 | 18 | 0.20 | 11 | 0.11 | 15 | 14.67 | 2 |
| Missouri | 1.37 | 38 | 0.31 | 35 | 0.16 | 38 | 37.00 | 4 |
| Montana | 3.69 | 48 | 0.53 | 47 | 0.23 | 47 | 47.33 | 4 |
| Nebraska | 1.02 | 24 | 0.32 | 37 | 0.14 | 30 | 30.33 | 3 |
| Nevada | 0.24 | 1 | 0.17 | 5 | 0.05 | 1 | 2.33 | 1 |
| New Hampshire | 1.55 | 42 | 0.35 | 41 | 0.17 | 40 | 41.00 | 4 |
| New Jersey | 1.08 | 29 | 0.22 | 16 | 0.12 | 18 | 21.00 | 2 |
| New Mexico | 1.19 | 36 | 0.34 | 39 | 0.14 | 30 | 35.00 | 3 |
| New York | 1.41 | 40 | 0.37 | 42 | 0.19 | 43 | 41.67 | 4 |
| North Carolina | 0.58 | 5 | 0.17 | 5 | 0.09 | 5 | 5.00 | 1 |
| North Dakota | 1.23 | 37 | 0.47 | 46 | 0.17 | 40 | 41.00 | 4 |
| Ohio | 1.09 | 30 | 0.24 | 22 | 0.12 | 18 | 23.33 | 2 |
| Oklahoma | 1.05 | 26 | 0.26 | 28 | 0.12 | 18 | 24.00 | 3 |
| Oregon | 0.66 | 7 | 0.22 | 16 | 0.10 | 10 | 11.00 | 1 |
| Pennsylvania | 1.10 | 31 | 0.25 | 25 | 0.12 | 18 | 24.67 | 3 |
| Rhode Island | 0.77 | 13 | 0.18 | 8 | 0.10 | 10 | 10.33 | 1 |
| South Carolina | 0.72 | 10 | 0.17 | 5 | 0.09 | 5 | 6.67 | 1 |
| South Dakota | 1.55 | 42 | 0.34 | 39 | 0.17 | 40 | 40.33 | 4 |
| Tennessee | 1.06 | 27 | 0.22 | 16 | 0.12 | 18 | 20.33 | 2 |
| Texas | 0.74 | 12 | 0.24 | 22 | 0.10 | 10 | 14.67 | 2 |
| Utah | 0.81 | 16 | 0.24 | 22 | 0.09 | 5 | 14.33 | 2 |
| Vermont | 2.10 | 46 | 0.37 | 42 | 0.19 | 43 | 43.67 | 4 |
| Virginia | 0.97 | 22 | 0.27 | 29 | 0.14 | 30 | 27.00 | 3 |
| Washington | 0.61 | 6 | 0.19 | 9 | 0.09 | 5 | 6.67 | 1 |
| West Virginia | 0.53 | 4 | 0.16 | 4 | 0.08 | 4 | 4.00 | 1 |
| Wisconsin | 0.79 | 15 | 0.20 | 11 | 0.11 | 15 | 13.67 | 2 |
| Wyoming | 0.95 | 19 | 0.25 | 25 | 0.12 | 18 | 20.67 | 2 |

†Not applicable.

[1]The restricted range ratio could not be calculated for administration expenditures in California because the fifth percentile—by which the difference is divided—was equal to zero.

[2]Variation is not measured in the District of Columbia or Hawaii where there is only one school district.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98."

When cost adjustments were applied, the restricted range ratio for administration expenditures per pupil across the United States decreased to 1.76 (table 4-13). Six states exceeded the national variation after cost adjustments: Alaska, Colorado, Illinois, Montana, New Hampshire, and South Dakota. Cost adjustments also increased the range between the lowest-variation and the highest-variation states. After cost adjustments, the restricted range ratio ranged from 0.28 in Nevada to 3.99 in Montana.

### *Coefficient of Variation*

The coefficient of variation for unadjusted administration expenditures per pupil across the United States was 0.40. This means approximately two-thirds of the districts nationally have administration expenditures per pupil between $368 and $858, a range that is from 40 percent below the mean to 40 percent above the mean. Variation in the states ranged from 0.11 in Florida to 0.67 in California. Six states (Alaska, California, Colorado, Illinois, Montana, and North Dakota) had a coefficient of variation higher than the United States coefficient.

When administration expenditures were adjusted for cost-of-education differences, the coefficient of variation for administration expenditures per pupil across the United States decreased to 0.38. Nine states (Alaska, California, Colorado, Illinois, Montana, Nebraska, New Hampshire, North Dakota, and South Dakota) exceeded the national variation after cost adjustments. Cost adjustments slightly decreased the range between the lowest-variation and highest-variation states. After cost adjustments, the coefficient of variation ranged from 0.11 in Delaware to 0.66 in California.

### *Gini Coefficient*

The Gini coefficient for unadjusted administration expenditures per pupil across the United States was 0.19. A Gini coefficient of 0 means expenditures are distributed equally; higher values such as 0.19 imply expenditures are more concentrated among a smaller share of students. Variation in the states ranged from 0.05 in Nevada to 0.35 in California.

Cost of education adjustments reduced the Gini coefficient to 0.18. After cost adjustments, eight states (Alaska, California, Colorado, Illinois, Montana, New York, North Dakota, and South Dakota) exceeded the United States level of variation, and the range of variation remained nearly unchanged. After adjustments, the Gini coefficient ranged from 0.06 in Delaware, Florida, and Nevada to 0.35 in California.

### *Overall Variation*

In a synthesis of the three variation measures, states in the South had the highest percentage of states in the two low-variation quartiles for administration expenditures per pupil. Both before and after cost adjustments, 75 percent of Southern states ranked among those states with the lowest variation (table 4-14 and figure 4-11). Similar patterns were not apparent in other regions.

## Relationship Between Administration Expenditures Per Pupil and Selected District Fiscal and Demographic Characteristics

For the United States as a whole, administration expenditures per pupil in unadjusted dollars showed a moderate positive relationship with a school district's median household income (+0.16) and a weak

Table 4-13. Variation in administration expenditures per pupil (cost-adjusted dollars), by state: 1997–98

| State | Restricted range ratio | | Coefficient of variation | | Gini coefficient | | Synthesized measure of variation | |
|---|---|---|---|---|---|---|---|---|
| | Value | Rank | Value | Rank | Value | Rank | Average rank | Average quartile |
| United States | 1.76 | † | 0.38 | † | 0.18 | † | † | † |
| Alabama | 0.68 | 8 | 0.19 | 8 | 0.10 | 8 | 8.00 | 1 |
| Alaska | 2.37 | 47 | 0.57 | 47 | 0.24 | 47 | 47.00 | 4 |
| Arizona | 1.08 | 31 | 0.31 | 35 | 0.15 | 33 | 33.00 | 3 |
| Arkansas | 1.25 | 34 | 0.28 | 30 | 0.14 | 29 | 31.00 | 3 |
| California | ([1]) | ([1]) | 0.66 | 49 | 0.35 | 49 | 49.00 | 4 |
| Colorado | 2.25 | 46 | 0.44 | 45 | 0.22 | 46 | 45.67 | 4 |
| Connecticut | 1.02 | 28 | 0.22 | 15 | 0.12 | 22 | 21.67 | 2 |
| Delaware | 0.37 | 2 | 0.11 | 1 | 0.06 | 1 | 1.33 | 1 |
| District of Columbia | ([2]) | ([2]) | ([2]) | ([2]) | ([2]) | ([2]) | ([2]) | ([2]) |
| Florida | 0.52 | 4 | 0.13 | 2 | 0.06 | 1 | 2.33 | 1 |
| Georgia | 0.70 | 9 | 0.20 | 9 | 0.11 | 12 | 10.00 | 1 |
| Hawaii | ([2]) | ([2]) | ([2]) | ([2]) | ([2]) | ([2]) | ([2]) | ([2]) |
| Idaho | 1.36 | 37 | 0.30 | 32 | 0.15 | 33 | 34.00 | 3 |
| Illinois | 1.81 | 43 | 0.42 | 44 | 0.19 | 42 | 43.00 | 4 |
| Indiana | 0.77 | 12 | 0.21 | 14 | 0.11 | 12 | 12.67 | 2 |
| Iowa | 0.82 | 15 | 0.24 | 22 | 0.11 | 12 | 16.33 | 2 |
| Kansas | 1.23 | 33 | 0.30 | 32 | 0.15 | 33 | 32.67 | 3 |
| Kentucky | 1.27 | 35 | 0.27 | 26 | 0.15 | 33 | 31.33 | 3 |
| Louisiana | 0.87 | 17 | 0.22 | 15 | 0.11 | 12 | 14.67 | 2 |
| Maine | 1.19 | 32 | 0.27 | 26 | 0.14 | 29 | 29.00 | 3 |
| Maryland | 0.63 | 6 | 0.14 | 3 | 0.08 | 4 | 4.33 | 1 |
| Massachusetts | 0.93 | 21 | 0.23 | 20 | 0.12 | 22 | 21.00 | 2 |
| Michigan | 0.96 | 24 | 0.24 | 22 | 0.12 | 22 | 22.67 | 3 |
| Minnesota | 0.93 | 21 | 0.33 | 37 | 0.14 | 29 | 29.00 | 3 |
| Mississippi | 0.95 | 23 | 0.20 | 9 | 0.11 | 12 | 14.67 | 2 |
| Missouri | 1.07 | 30 | 0.28 | 30 | 0.15 | 33 | 31.00 | 3 |
| Montana | 3.99 | 48 | 0.57 | 47 | 0.25 | 48 | 47.67 | 4 |
| Nebraska | 1.47 | 40 | 0.39 | 41 | 0.16 | 39 | 40.00 | 4 |
| Nevada | 0.28 | 1 | 0.18 | 5 | 0.06 | 1 | 2.33 | 1 |
| New Hampshire | 2.08 | 45 | 0.39 | 41 | 0.18 | 40 | 42.00 | 4 |
| New Jersey | 0.92 | 20 | 0.22 | 15 | 0.12 | 22 | 19.00 | 2 |
| New Mexico | 1.39 | 39 | 0.38 | 40 | 0.15 | 33 | 37.33 | 4 |
| New York | 1.38 | 38 | 0.36 | 38 | 0.19 | 42 | 39.33 | 4 |
| North Carolina | 0.63 | 6 | 0.18 | 5 | 0.09 | 6 | 5.67 | 1 |
| North Dakota | 1.61 | 41 | 0.54 | 46 | 0.19 | 42 | 43.00 | 4 |
| Ohio | 1.03 | 29 | 0.22 | 15 | 0.11 | 12 | 18.67 | 2 |
| Oklahoma | 1.28 | 36 | 0.31 | 35 | 0.14 | 29 | 33.33 | 3 |
| Oregon | 0.76 | 11 | 0.25 | 25 | 0.10 | 8 | 14.67 | 2 |
| Pennsylvania | 0.96 | 24 | 0.24 | 22 | 0.11 | 12 | 19.33 | 2 |
| Rhode Island | 0.88 | 18 | 0.20 | 9 | 0.11 | 12 | 13.00 | 2 |
| South Carolina | 0.71 | 10 | 0.18 | 5 | 0.10 | 8 | 7.67 | 1 |
| South Dakota | 1.87 | 44 | 0.40 | 43 | 0.20 | 45 | 44.00 | 4 |
| Tennessee | 0.79 | 14 | 0.20 | 9 | 0.11 | 12 | 11.67 | 1 |
| Texas | 0.99 | 26 | 0.30 | 32 | 0.12 | 22 | 26.67 | 3 |
| Utah | 0.88 | 18 | 0.27 | 26 | 0.10 | 8 | 17.33 | 2 |
| Vermont | 1.74 | 42 | 0.36 | 38 | 0.18 | 40 | 40.00 | 4 |
| Virginia | 0.82 | 15 | 0.22 | 15 | 0.12 | 22 | 17.33 | 2 |
| Washington | 0.60 | 5 | 0.23 | 20 | 0.09 | 6 | 10.33 | 1 |
| West Virginia | 0.49 | 3 | 0.16 | 4 | 0.08 | 4 | 3.67 | 1 |
| Wisconsin | 0.78 | 13 | 0.20 | 9 | 0.11 | 12 | 11.33 | 1 |
| Wyoming | 1.01 | 27 | 0.27 | 26 | 0.13 | 28 | 27.00 | 3 |

†Not applicable.

[1]The restricted range ratio could not be calculated for administration expenditures in California because the fifth percentile—by which the difference is divided—was equal to zero.

[2]Variation is not measured in the District of Columbia or Hawaii where there is only one school district.

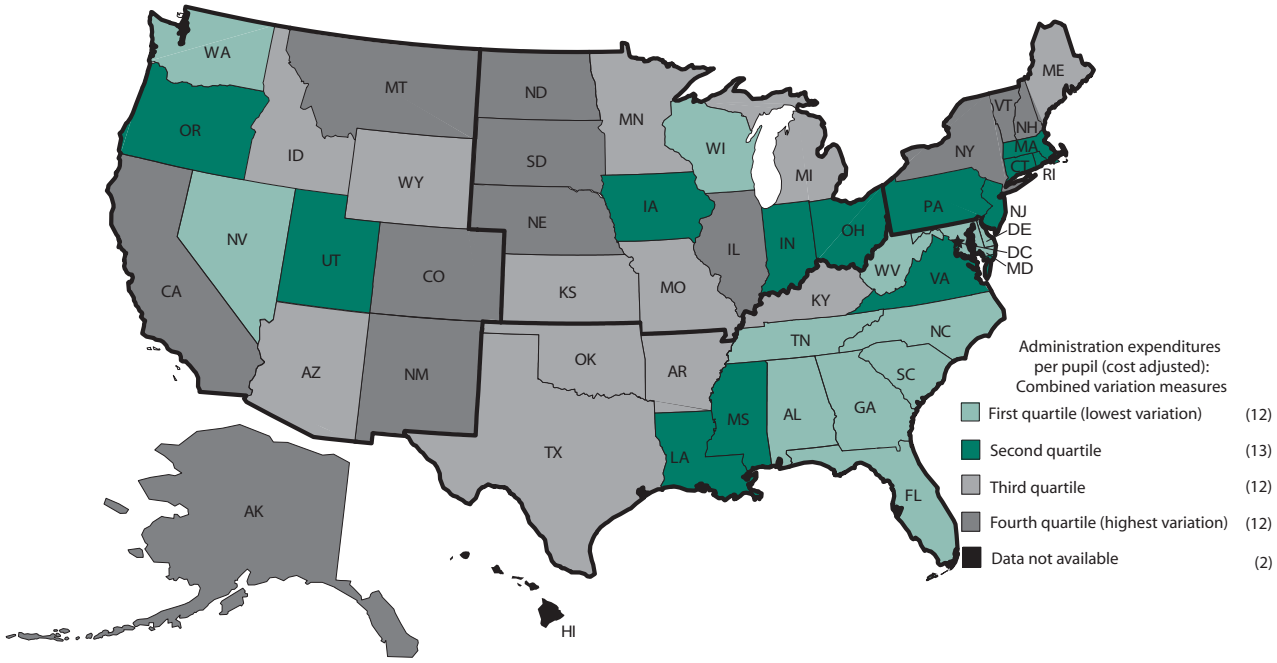
SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98."

Table 4-14. Variation in administration expenditures per pupil, by region: 1997–98

| Region | Percent of states in quartiles 1 and 2 (low variation) | Percent of states in quartiles 3 and 4 (high variation) |
|---|---|---|
| Unadjusted administration expenditures per pupil | | |
| Northeast | 44 | 56 |
| Midwest | 42 | 58 |
| South | 75 | 25 |
| West | 42 | 58 |
| Cost-adjusted administration expenditures per pupil | | |
| Northeast | 56 | 44 |
| Midwest | 33 | 67 |
| South | 75 | 25 |
| West | 33 | 67 |

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98."

Figure 4-11. Synthesis of variation measures of administration expenditures per pupil (cost-adjusted dollars), by state: 1997–98




NOTE: Variation is not measured in the District of Columbia or Hawaii where there is only one school district. Regions are delineated in black; Alaska and Hawaii are part of the Western Region.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98."

positive relationship with its median housing value (+0.09) (table A-15). Similarly, at the state level, median housing value was positively related to administration expenditures per pupil in 15 of the 40 states with sufficient data, and negatively to administration expenditures per pupil in 11 of the 40 states (table 4-15). Two states (Alaska and Nevada) showed a strong negative relationship. Seventeen states showed no statistically significant relationship between household income and administration expenditures per pupil, 8 states showed a positive relationship between income and expenditures, and 15 states showed a negative relationship.

After cost adjustments, the relationship between median housing value and administration expenditures per pupil was moderately negative for the United States as a whole (-0.11) and the relationship with household income was not statistically significant (table A-16). After cost adjustments, 14 states

Table 4-15. Correlations between administration expenditures per pupil and selected fiscal and demographic characteristics, by state: 1997–98

| Characteristics | States (before cost adjustments) | States (after cost adjustments) |
|---|---|---|
| **Minority enrollment** | | |
| Strong positive relationship | Alaska, Arizona, Indiana, Missouri, South Carolina | Alaska, Arizona, South Carolina |
| Moderate positive relationship | Alabama, California, Connecticut, Idaho, Maine, Massachusetts, Michigan, Minnesota, Montana, North Dakota, Ohio, Pennsylvania, Vermont, Virginia, Washington, Wisconsin, Wyoming | Alabama, California, Idaho, Indiana,[1] Massachusetts, Michigan, Minnesota, Missouri,[1] Montana, North Carolina,[1] North Dakota, Ohio, Pennsylvania, Vermont, Wisconsin, Wyoming |
| Weak positive relationship | *US overall* | [none] |
| Weak negative relationship | [none] | Nebraska,[1] Texas,[1] *US overall*[1] |
| Moderate negative relationship | Illinois, New York | Illinois, Iowa,[1] New Hampshire[1] |
| Strong negative relationship | [none] | New York[1] |
| No significant relationship | Delaware, Florida, Iowa, Kansas, Louisiana, Maryland, Nebraska, Nevada, New Hampshire, North Carolina, Oregon, Rhode Island, Tennessee, Texas, Utah, West Virginia | Connecticut,[1] Delaware, Florida, Kansas, Louisiana, Maine,[1] Maryland, Nevada, Oregon, Rhode Island, Tennessee, Utah, Virginia,[1] Washington,[1] West Virginia |
| **District poverty rate** | | |
| Strong positive relationship | Alaska, Arizona, Indiana | Alaska, Arizona, Indiana |
| Moderate positive relationship | Connecticut, Florida, Kansas, Maine, Massachusetts, Michigan, Minnesota, Missouri, Montana, Nebraska, North Dakota, Ohio, South Carolina, Texas, Utah, Vermont, Wisconsin, Wyoming | Alabama,[1] California,[1] Florida, Idaho,[1] Kansas, Maine, Massachusetts, Michigan, Minnesota, Missouri, Montana, Nebraska, North Carolina,[1] North Dakota, Ohio, Oregon,[1] Pennsylvania,[1] South Carolina, Texas, Utah, Vermont, Washington,[1] Wisconsin, Wyoming |
| Weak positive relationship | California | [none] |
| Weak negative relationship | *US overall* | [none] |
| Moderate negative relationship | Illinois | Illinois |
| Strong negative relationship | New York | New York |
| No significant relationship | Alabama, Delaware, Idaho, Iowa, Louisiana, Maryland, Nevada, New Hampshire, North Carolina, Oregon, Pennsylvania, Rhode Island, Tennessee, Virginia, Washington, West Virginia | Connecticut,[1] Delaware, Iowa, Louisiana, Maryland, Nevada, New Hampshire, Rhode Island, Tennessee, Virginia, West Virginia, *US overall*[1] |
| **Median household income** | | |
| Strong positive relationship | Delaware, Maryland, New York | Maryland |
| Moderate positive relationship | Illinois, Louisiana, Pennsylvania, Tennessee, Virginia, *US overall* | Illinois, Louisiana, New York,[1] Virginia |
| Weak positive relationship | [none] | [none] |
| Weak negative relationship | [none] | [none] |
| Moderate negative relationship | Alaska, Arizona, Idaho, Indiana, Iowa, Kansas, Maine, Montana, Nebraska, New Hampshire, North Dakota, Oregon, South Carolina, Texas, Utah | Alaska, Florida,[1] Idaho, Indiana, Iowa, Kansas, Maine, Michigan,[1] Minnesota,[1] Missouri,[1] Montana, Nebraska, New Hampshire, North Dakota, Oregon, South Carolina, Texas, Utah, Washington,[1] Wisconsin[1] |
| Strong negative relationship | [none] | Arizona[1] |
| No significant relationship | Alabama, California, Connecticut, Florida, Massachusetts, Michigan, Minnesota, Missouri, Nevada, North Carolina, Ohio, Rhode Island, Vermont, Washington, West Virginia, Wisconsin, Wyoming | Alabama, California, Connecticut, Delaware,[1] Massachusetts, Nevada, North Carolina, Ohio, Pennsylvania,[1] Rhode Island, Tennessee,[1] Vermont, West Virginia, Wyoming, *US overall*[1] |
| **Median housing value** | | |
| Strong positive relationship | Delaware, Maryland, Virginia | Maryland, Virginia |
| Moderate positive relationship | California, Illinois, Louisiana, Massachusetts, Missouri, New York, North Carolina, Ohio, Pennsylvania, Tennessee, Vermont, Wisconsin | California, Illinois, Louisiana, Massachusetts, Rhode Island,[1] Tennessee, Vermont |
| Weak positive relationship | *US overall* | Ohio[1] |
| Weak negative relationship | [none] | [none] |
| Moderate negative relationship | Arizona, Idaho, Indiana, Iowa, Kansas, Montana, Nebraska, North Dakota, Texas | Arizona, Idaho, Indiana, Iowa, Kansas, Michigan,[1] Minnesota,[1] Missouri,[1] Montana, Nebraska, North Dakota, Oregon,[1] Texas, Washington,[1] *US overall*[1] |
| Strong negative relationship | Alaska, Nevada | Alaska, Nevada |
| No significant relationship | Alabama, Connecticut, Florida, Maine, Michigan, Minnesota, New Hampshire, Oregon, Rhode Island, South Carolina, Utah, Washington, West Virginia, Wyoming | Alabama, Connecticut, Delaware,[1] Florida, Maine, New Hampshire, New York,[1] North Carolina,[1] Pennsylvania,[1] South Carolina, Utah, West Virginia, Wisconsin,[1] Wyoming |

Table 4-15. Correlations between administration expenditures per pupil and selected fiscal and demographic characteristics, by state: 1997–98—Continued

| Characteristics | States (before cost adjustments) | States (after cost adjustments) |
|---|---|---|
| **Student membership** | | |
| Strong positive relationship | [none] | [none] |
| Moderate positive relationship | California, Maryland | California |
| Weak positive relationship | [none] | [none] |
| Weak negative relationship | Michigan, Wisconsin, *US overall* | *US overall* |
| Moderate negative relationship | Alabama, Arizona, Arkansas, Idaho, Iowa, Kansas, Maine, Mississippi, Montana, New Hampshire, New Jersey, New Mexico, North Carolina, North Dakota, Oklahoma, Oregon, South Dakota, Texas, Utah, Washington, Wyoming | Alabama, Arizona, Arkansas, Connecticut,[1] Florida,[1] Georgia,[1] Idaho, Indiana,[1] Iowa, Kansas, Maine, Massachusetts,[1] Michigan,[1] Minnesota,[1] Mississippi, Missouri,[1] Montana, New Hampshire, New Jersey, New Mexico, North Carolina, North Dakota, Oklahoma, Oregon, South Carolina,[1] South Dakota, Texas, Utah, Washington, Wisconsin,[1] Wyoming |
| Strong negative relationship | [none] | [none] |
| No significant relationship | Alaska, Colorado, Connecticut, Delaware, Florida, Georgia, Illinois, Indiana, Kentucky, Louisiana, Massachusetts, Minnesota, Missouri, Nebraska, Nevada, New York, Ohio, Pennsylvania, Rhode Island, South Carolina, Tennessee, Vermont, Virginia, West Virginia | Alaska, Colorado, Delaware, Illinois, Kentucky, Louisiana, Maryland,[1] Nebraska, Nevada, New York, Ohio, Pennsylvania, Rhode Island, Tennessee, Vermont, Virginia, West Virginia |

[1]State changed categories after cost adjustments.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

with sufficient data showed no relationship between administration expenditures per pupil and median housing value (figure 4-12). Two states (Alaska and Nevada) continued to show a strong negative relationship and two states (Maryland and Virginia) showed a strong positive relationship. One state (Maryland) had a strong positive relationship and one state (Arizona) had a strong negative relationship between median household income and adjusted administration expenditures per pupil. Twenty states showed a moderate negative relationship between these variables. Four states showed a moderate positive relationship (figure 4-13).

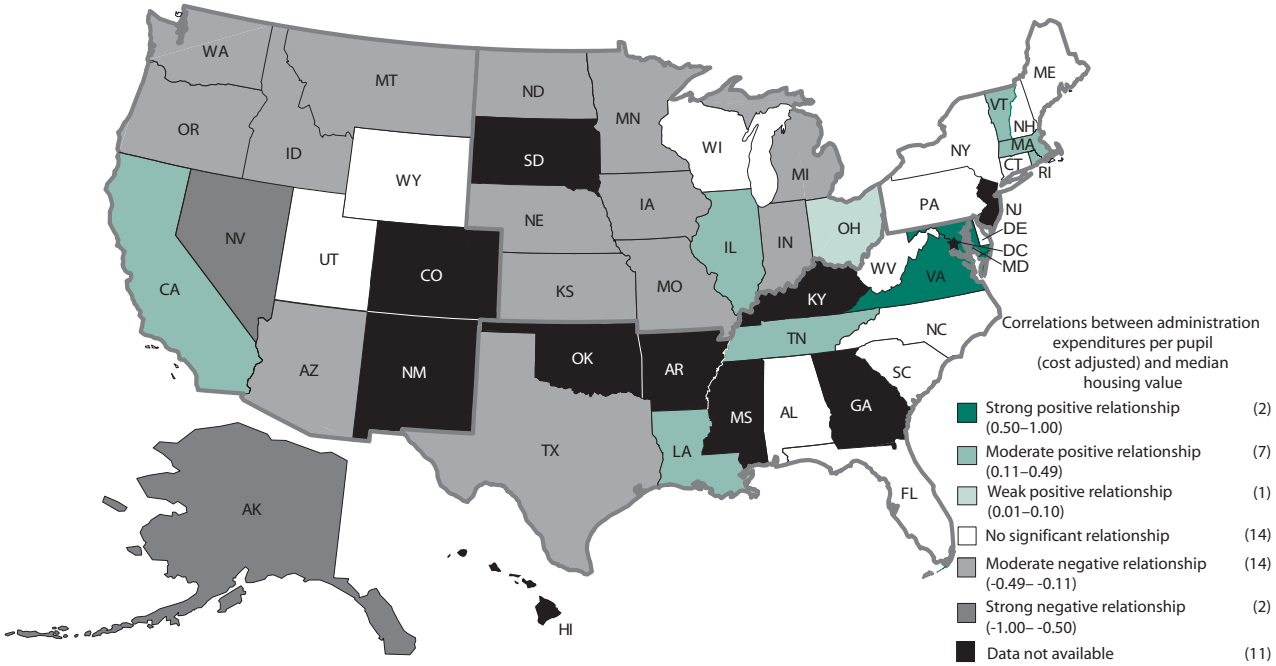
Administration expenditures per pupil showed a weak relationship with minority enrollment for the United States as a whole, both before (+0.05) and after (-0.02) cost adjustments. Five states (Alaska, Arizona, Indiana, Missouri, and South Carolina) showed a strong positive relationship between minority enrollment and administration expenditures per pupil before cost adjustments and only three states (Alaska, Arizona, and South Carolina) showed this relationship after cost adjustments (figure 4-14). No state showed a strong negative relationship before cost adjustments and only one state (New York) showed a strong negative relationship after cost adjustments.

District poverty rate showed a weak negative relationship with administration expenditures per pupil at the national level before cost adjustments (-0.05) and no significant relationship after. Three states (Alaska, Arizona, and Indiana) showed a strong positive relationship between district poverty rate and administration expenditures per pupil, both before and after cost adjustments. Only one state (New York) showed a strong negative relationship, both before and after cost adjustments (figure 4-15).

## School Operations and Maintenance Expenditures

School operations and maintenance services includes building services (heating, electricity, air conditioning, and property insurance), care and upkeep of grounds and equipment, all transportation vehicle

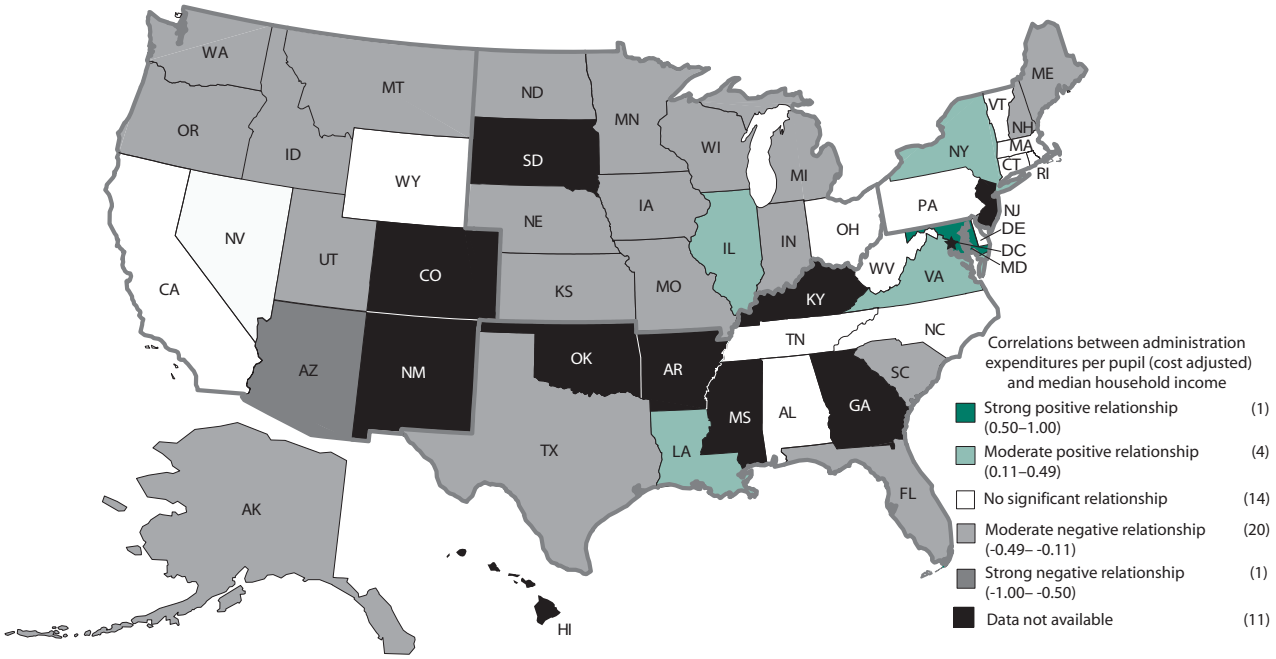
Figure 4-12. Correlations between administration expenditures per pupil and median housing value (cost-adjusted dollars), by state: 1997–98




NOTE: No state-level correlation analysis was possible for the District of Columbia or Hawaii since they only have one district. Nine other states (Arkansas, Colorado, Georgia, Kentucky, Mississippi, New Jersey, New Mexico, Oklahoma, and South Dakota) were excluded from state-level correlation analysis because more than 50 percent of the school districts were missing Census data. Regions are delineated in gray; Alaska and Hawaii are part of the Western Region.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

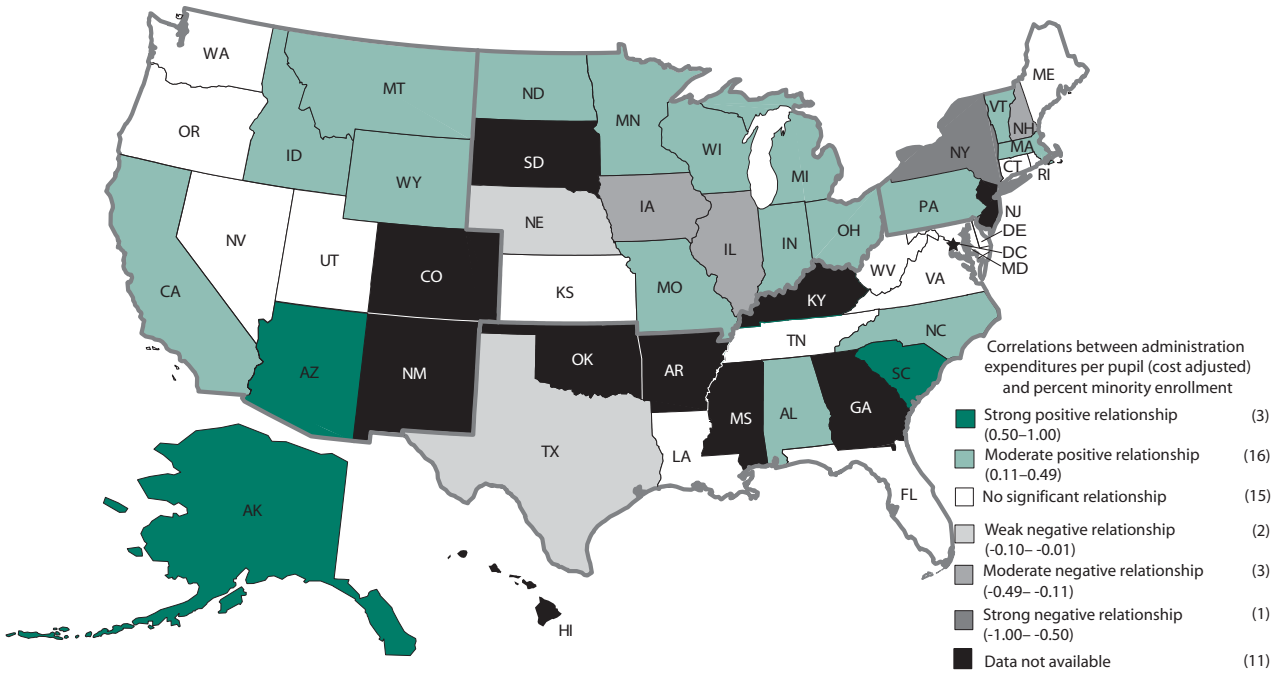
Figure 4-13. Correlations between administration expenditures per pupil and median household income (cost-adjusted dollars), by state: 1997–98




NOTE: No state-level correlation analysis was possible for the District of Columbia or Hawaii since they only have one district. Nine other states (Arkansas, Colorado, Georgia, Kentucky, Mississippi, New Jersey, New Mexico, Oklahoma, and South Dakota) were excluded from state-level correlation analysis because more than 50 percent of the school districts were missing Census data. Regions are delineated in gray; Alaska and Hawaii are part of the Western Region.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

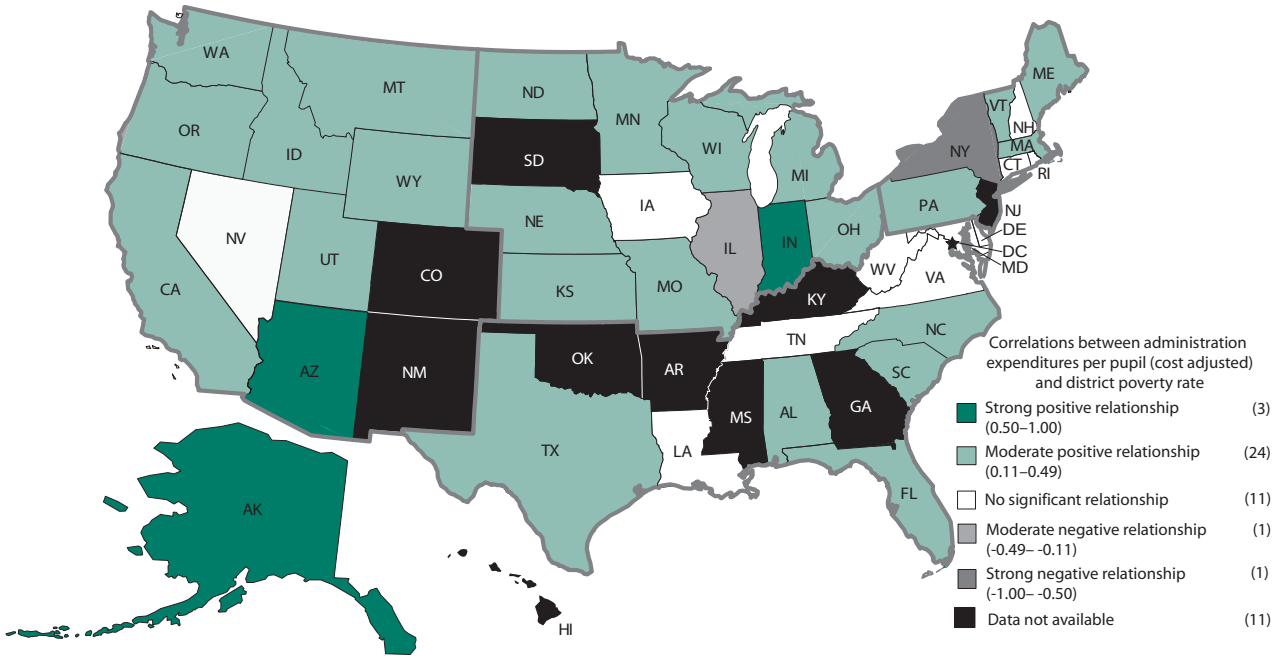
Figure 4-14. Correlations between administration expenditures per pupil and percent minority enrollment (cost-adjusted dollars), by state: 1997–98




NOTE: No state-level correlation analysis was possible for the District of Columbia or Hawaii since they only have one district. Nine other states (Arkansas, Colorado, Georgia, Kentucky, Mississippi, New Jersey, New Mexico, Oklahoma, and South Dakota) were excluded from state-level correlation analysis because more than 50 percent of the school districts were missing Census data. Regions are delineated in gray; Alaska and Hawaii are part of the Western Region.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

Figure 4-15. Correlations between administration expenditures per pupil and district poverty rate (cost-adjusted dollars), by state: 1997–98




NOTE: No state-level correlation analysis was possible for the District of Columbia or Hawaii since they only have one district. Nine other states (Arkansas, Colorado, Georgia, Kentucky, Mississippi, New Jersey, New Mexico, Oklahoma, and South Dakota) were excluded from state-level correlation analysis because more than 50 percent of the school districts were missing Census data. Regions are delineated in gray; Alaska and Hawaii are part of the Western Region.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

operations and maintenance, and security services. These operations and services are for schools and all other school district facilities. Operations expenditures for public elementary and secondary education totaled $40.4 billion in 1997–98 (table 4-16). This was just over 12 percent of total school district expenditures ($326.8 billion) and just under 15 percent of current district expenditures ($274.9 billion) in 1997–98.

Smaller districts had higher operations expenditures per pupil, both before and after cost adjustments. Before cost adjustments, districts with less than 1,000 students had average expenditures per pupil of $975, compared to $832 in districts with 10,000 or more students. After cost adjustments, smaller districts continued to have higher average operations expenditures per pupil than larger districts. In

Table 4-16. School operations expenditures, cost-adjusted school operations expenditures, school operations expenditures per pupil, and cost-adjusted school operations expenditures per pupil in public school districts, by region, district enrollment, minority enrollment, district poverty rate, median household income, and median housing value: 1997–98

| School district characteristics | School operations expenditures (in thousands) | Cost-adjusted school operations expenditures (in thousands) | School operations expenditures per pupil | Cost-adjusted school operations expenditures per pupil |
|---|---|---|---|---|
| All districts | $40,360,717 | $39,927,119 | $884 | $878 |
| Region | | | | |
| Northeast | 9,429,324 | 8,480,885 | 1,189 | 1,073 |
| Midwest | 9,504,316 | 9,688,072 | 895 | 917 |
| South | 12,300,169 | 13,146,989 | 747 | 798 |
| West | 9,126,908 | 8,611,173 | 860 | 816 |
| District enrollment | | | | |
| 0–999 | 2,651,437 | 2,897,500 | 975 | 1,081 |
| 1,000–4,999 | 12,151,557 | 12,230,681 | 936 | 946 |
| 5,000–9,999 | 6,517,551 | 6,333,602 | 924 | 900 |
| 10,000 or more | 19,040,172 | 18,465,336 | 832 | 808 |
| Minority enrollment | | | | |
| Less than 5 percent | 10,164,957 | 10,455,900 | 900 | 926 |
| 5 percent–<20 percent | 10,405,574 | 10,273,594 | 867 | 856 |
| 20 percent–<50 percent | 10,974,148 | 10,882,623 | 855 | 848 |
| 50 percent or more | 6,687,454 | 6,278,414 | 938 | 881 |
| Data missing[1] | 2,128,584 | 2,036,588 | — | — |
| District poverty rate | | | | |
| Less than 5 percent | 5,461,302 | 5,017,847 | 1,056 | 971 |
| 5 percent–<15 percent | 13,106,849 | 12,989,983 | 846 | 839 |
| 15 percent–<25 percent | 9,827,106 | 10,167,760 | 829 | 858 |
| 25 percent or more | 9,836,876 | 9,714,941 | 915 | 903 |
| Data missing[1] | 2,128,584 | 2,036,588 | — | — |
| Median household income | | | | |
| Less than $20,000 | 2,960,901 | 3,227,844 | 856 | 933 |
| $20,000–<$25,000 | 6,966,514 | 7,404,786 | 830 | 882 |
| $25,000–<$30,000 | 9,854,833 | 9,850,894 | 879 | 879 |
| $30,000–<$35,000 | 6,287,155 | 6,194,116 | 831 | 819 |
| $35,000 or more | 12,162,730 | 11,212,890 | 963 | 888 |
| Data missing[1] | 2,128,584 | 2,036,588 | — | — |
| Median housing value | | | | |
| Less than $40,000 | 3,231,803 | 3,565,081 | 883 | 974 |
| $40,000–<$55,000 | 6,389,642 | 6,865,551 | 816 | 877 |
| $55,000–<$85,000 | 11,632,083 | 11,947,844 | 805 | 827 |
| $85,000 or more | 16,978,605 | 15,512,054 | 980 | 895 |
| Data missing[1] | 2,128,584 | 2,036,588 | — | — |

—Not available.
[1]These districts were missing 1990 Census demographic data.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

addition, the difference between the groups with the highest and lowest expenditures increased from $143 to $273 per pupil. Correlation analysis showed a weak negative relationship between district enrollment and operations expenditures per pupil, both before (-0.04) and after (-0.07) cost adjustments (tables A-1 and A-2).

Before cost adjustments, operations expenditures per pupil showed small but statistically significant positive relationships with two measures of district wealth—median household income (+0.22) and median housing value (+0.23) (table A-17). School districts with median household income at or above $35,000 had the highest average operations expenditures per pupil ($963) and districts with median household income less than $20,000 had lower expenditures per pupil ($856). Districts with median housing values at $85,000 or more had the highest average operations expenditures of $980 per pupil, while districts with median housing values between $55,000 and $85,000 had the lowest operations expenditures per pupil ($805).

After cost adjustments, there were weak positive correlations between operations expenditures per pupil and household income (+0.07) and housing value (+0.03) (table A-18). Districts with median household income less than $20,000 had the highest average expenditure per pupil ($933), and districts with median household income $35,000 or more had the second-highest expenditures per pupil ($888). Similarly, districts with median housing value less than $40,000 had highest average expenditure per pupil at $974, while districts with median housing value $85,000 or greater had the second highest ($895).

Operations expenditures per pupil showed a weak relationship with minority enrollment, both before (+0.06) and after (-0.02) cost adjustments. Before adjustments, school districts with the highest minority enrollments had highest operations expenditures per pupil and districts with the lowest minority enrollments had the second-highest expenditures per pupil, $938 and $900, respectively. After adjustments, districts with less than 5 percent minority enrollment had the highest operations expenditures per pupil ($926) and districts with 50 percent of higher minority enrollment had the second-highest expenditures per pupil ($881).

Operations expenditures per pupil showed a weak negative relationship with district poverty rate before cost adjustments (-0.04). Operations expenditures per pupil were highest in the lowest-poverty districts before and after cost adjustments ($1,056 and $971, respectively). After cost adjustments, the difference between the lowest- and highest-poverty districts was reduced from $141 to $68.

## Variations in Operations Expenditures Per Pupil

### *Restricted Range Ratio*

The restricted range ratio for unadjusted operations expenditures per pupil across the United States was 2.03 (table 4-17). This means operations expenditures in the district at the 95th percentile were 2.03 times higher than operations expenditures in the district at the 5th percentile. Variation across the states ranged from 0.35 in Maryland to 2.88 in California.

When cost adjustments were applied, the restricted range ratio for operations expenditures per pupil across the United States decreased to 1.80 (table 4-18). Five states exceeded the national variation after cost adjustments: Alaska, California, Montana, North Dakota, and Oregon. Cost adjustments also in-

Table 4-17. Variation in school operations expenditures per pupil (unadjusted dollars), by state: 1997–98

| State | Restricted range ratio | | Coefficient of variation | | Gini coefficient | | Synthesized measure of variation | |
|---|---|---|---|---|---|---|---|---|
| | Value | Rank | Value | Rank | Value | Rank | Average rank | Average quartile |
| United States | 2.03 | † | 0.39 | † | 0.20 | † | † | † |
| Alabama | 0.77 | 18 | 0.17 | 12 | 0.09 | 7 | 12.33 | 2 |
| Alaska | 2.01 | 45 | 0.50 | 48 | 0.22 | 48 | 47.00 | 4 |
| Arizona | 1.11 | 37 | 0.34 | 42 | 0.13 | 33 | 37.33 | 4 |
| Arkansas | 0.89 | 23 | 0.20 | 20 | 0.11 | 23 | 22.00 | 2 |
| California | 2.88 | 49 | 0.57 | 49 | 0.28 | 49 | 49.00 | 4 |
| Colorado | 0.56 | 5 | 0.19 | 15 | 0.09 | 7 | 9.00 | 1 |
| Connecticut | 0.73 | 16 | 0.16 | 6 | 0.09 | 7 | 9.67 | 2 |
| Delaware | 0.66 | 12 | 0.15 | 4 | 0.08 | 5 | 7.00 | 1 |
| District of Columbia | (1) | (1) | (1) | (1) | (1) | (1) | (1) | (1) |
| Florida | 0.42 | 3 | 0.10 | 1 | 0.05 | 1 | 1.67 | 1 |
| Georgia | 1.02 | 32 | 0.22 | 25 | 0.11 | 23 | 26.67 | 3 |
| Hawaii | (1) | (1) | (1) | (1) | (1) | (1) | (1) | (1) |
| Idaho | 0.94 | 27 | 0.35 | 43 | 0.13 | 33 | 34.33 | 3 |
| Illinois | 1.48 | 43 | 0.30 | 40 | 0.14 | 39 | 40.67 | 4 |
| Indiana | 0.92 | 25 | 0.19 | 15 | 0.10 | 18 | 19.33 | 2 |
| Iowa | 0.62 | 9 | 0.16 | 6 | 0.09 | 7 | 7.33 | 1 |
| Kansas | 1.03 | 33 | 0.24 | 29 | 0.12 | 27 | 29.67 | 3 |
| Kentucky | 0.70 | 15 | 0.16 | 6 | 0.09 | 7 | 9.33 | 1 |
| Louisiana | 0.60 | 7 | 0.16 | 6 | 0.09 | 7 | 6.67 | 1 |
| Maine | 0.84 | 20 | 0.20 | 20 | 0.10 | 18 | 19.33 | 2 |
| Maryland | 0.35 | 1 | 0.10 | 1 | 0.05 | 1 | 1.00 | 1 |
| Massachusetts | 1.16 | 39 | 0.23 | 27 | 0.12 | 27 | 31.00 | 3 |
| Michigan | 0.94 | 27 | 0.24 | 29 | 0.13 | 33 | 29.67 | 3 |
| Minnesota | 0.78 | 19 | 0.19 | 15 | 0.10 | 18 | 17.33 | 2 |
| Mississippi | 0.67 | 13 | 0.18 | 13 | 0.10 | 18 | 14.67 | 2 |
| Missouri | 1.84 | 44 | 0.39 | 44 | 0.18 | 44 | 44.00 | 4 |
| Montana | 2.08 | 46 | 0.46 | 46 | 0.21 | 47 | 46.33 | 4 |
| Nebraska | 1.16 | 39 | 0.29 | 38 | 0.15 | 42 | 39.67 | 4 |
| Nevada | 0.53 | 4 | 0.19 | 15 | 0.06 | 3 | 7.33 | 1 |
| New Hampshire | 1.08 | 35 | 0.23 | 27 | 0.12 | 27 | 29.67 | 3 |
| New Jersey | 1.09 | 36 | 0.24 | 29 | 0.13 | 33 | 32.67 | 3 |
| New Mexico | 0.87 | 21 | 0.29 | 38 | 0.13 | 33 | 30.67 | 3 |
| New York | 1.04 | 34 | 0.24 | 29 | 0.11 | 23 | 28.67 | 3 |
| North Carolina | 0.63 | 11 | 0.16 | 6 | 0.09 | 7 | 8.00 | 1 |
| North Dakota | 2.27 | 48 | 0.49 | 47 | 0.20 | 46 | 47.00 | 4 |
| Ohio | 1.18 | 41 | 0.28 | 37 | 0.14 | 39 | 39.00 | 4 |
| Oklahoma | 0.96 | 30 | 0.27 | 36 | 0.13 | 33 | 33.00 | 3 |
| Oregon | 2.10 | 47 | 0.44 | 45 | 0.19 | 45 | 45.67 | 4 |
| Pennsylvania | 1.01 | 31 | 0.22 | 25 | 0.12 | 27 | 27.67 | 3 |
| Rhode Island | 0.68 | 14 | 0.16 | 6 | 0.09 | 7 | 9.00 | 1 |
| South Carolina | 0.56 | 5 | 0.15 | 4 | 0.08 | 5 | 4.67 | 1 |
| South Dakota | 0.89 | 23 | 0.25 | 33 | 0.12 | 27 | 27.67 | 3 |
| Tennessee | 0.88 | 22 | 0.21 | 23 | 0.12 | 27 | 24.00 | 2 |
| Texas | 0.61 | 8 | 0.18 | 13 | 0.09 | 7 | 9.33 | 1 |
| Utah | 0.62 | 9 | 0.26 | 34 | 0.09 | 7 | 16.67 | 2 |
| Vermont | 1.13 | 38 | 0.26 | 34 | 0.14 | 39 | 37.00 | 4 |
| Virginia | 0.95 | 29 | 0.21 | 23 | 0.11 | 23 | 25.00 | 2 |
| Washington | 0.92 | 25 | 0.20 | 20 | 0.09 | 7 | 17.33 | 2 |
| West Virginia | 0.40 | 2 | 0.12 | 3 | 0.06 | 3 | 2.67 | 1 |
| Wisconsin | 0.75 | 17 | 0.19 | 15 | 0.10 | 18 | 16.67 | 2 |
| Wyoming | 1.32 | 42 | 0.32 | 41 | 0.16 | 43 | 42.00 | 4 |

†Not applicable.
[1]Variation is not measured in the District of Columbia or Hawaii where there is only one school district.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98."

Table 4-18. Variation in school operations expenditures per pupil (cost-adjusted dollars), by state: 1997–98

| State | Restricted range ratio | | Coefficient of variation | | Gini coefficient | | Synthesized measure of variation | |
|---|---|---|---|---|---|---|---|---|
| | Value | Rank | Value | Rank | Value | Rank | Average rank | Average quartile |
| United States | 1.80 | † | 0.35 | † | 0.18 | † | † | † |
| Alabama | 0.77 | 20 | 0.17 | 8 | 0.09 | 8 | 12.00 | 1 |
| Alaska | 2.17 | 46 | 0.46 | 46 | 0.21 | 46 | 46.00 | 4 |
| Arizona | 1.28 | 39 | 0.38 | 44 | 0.15 | 40 | 41.00 | 4 |
| Arkansas | 0.76 | 19 | 0.19 | 19 | 0.10 | 15 | 17.67 | 2 |
| California | 3.37 | 49 | 0.60 | 49 | 0.29 | 49 | 49.00 | 4 |
| Colorado | 0.65 | 7 | 0.23 | 26 | 0.11 | 25 | 19.33 | 2 |
| Connecticut | 0.78 | 22 | 0.17 | 8 | 0.09 | 8 | 12.67 | 2 |
| Delaware | 0.82 | 26 | 0.15 | 5 | 0.08 | 5 | 12.00 | 1 |
| District of Columbia | ([1]) | ([1]) | ([1]) | ([1]) | ([1]) | ([1]) | ([1]) | ([1]) |
| Florida | 0.38 | 2 | 0.09 | 1 | 0.05 | 1 | 1.33 | 1 |
| Georgia | 0.93 | 28 | 0.18 | 12 | 0.09 | 8 | 16.00 | 2 |
| Hawaii | ([1]) | ([1]) | ([1]) | ([1]) | ([1]) | ([1]) | ([1]) | ([1]) |
| Idaho | 1.12 | 34 | 0.37 | 43 | 0.14 | 34 | 37.00 | 4 |
| Illinois | 1.39 | 42 | 0.28 | 33 | 0.14 | 34 | 36.33 | 4 |
| Indiana | 0.75 | 18 | 0.17 | 8 | 0.09 | 8 | 11.33 | 1 |
| Iowa | 0.73 | 13 | 0.18 | 12 | 0.09 | 8 | 11.00 | 1 |
| Kansas | 1.16 | 36 | 0.28 | 33 | 0.15 | 40 | 36.33 | 4 |
| Kentucky | 0.73 | 13 | 0.16 | 7 | 0.09 | 8 | 9.33 | 1 |
| Louisiana | 0.66 | 8 | 0.18 | 12 | 0.10 | 15 | 11.67 | 1 |
| Maine | 1.00 | 30 | 0.23 | 26 | 0.11 | 25 | 27.00 | 3 |
| Maryland | 0.27 | 1 | 0.09 | 1 | 0.05 | 1 | 1.00 | 1 |
| Massachusetts | 1.17 | 37 | 0.24 | 29 | 0.13 | 31 | 32.33 | 3 |
| Michigan | 0.77 | 20 | 0.20 | 20 | 0.11 | 25 | 21.67 | 3 |
| Minnesota | 0.81 | 25 | 0.21 | 23 | 0.10 | 15 | 21.00 | 2 |
| Mississippi | 0.66 | 8 | 0.17 | 8 | 0.09 | 8 | 8.00 | 1 |
| Missouri | 1.45 | 43 | 0.34 | 42 | 0.16 | 43 | 42.67 | 4 |
| Montana | 2.25 | 47 | 0.51 | 47 | 0.22 | 47 | 47.00 | 4 |
| Nebraska | 1.37 | 41 | 0.33 | 39 | 0.15 | 40 | 40.00 | 4 |
| Nevada | 0.53 | 4 | 0.20 | 20 | 0.06 | 3 | 9.00 | 1 |
| New Hampshire | 1.31 | 40 | 0.26 | 32 | 0.14 | 34 | 35.33 | 3 |
| New Jersey | 0.98 | 29 | 0.24 | 29 | 0.13 | 31 | 29.67 | 3 |
| New Mexico | 1.06 | 31 | 0.33 | 39 | 0.14 | 34 | 34.67 | 3 |
| New York | 0.74 | 15 | 0.21 | 23 | 0.10 | 15 | 17.67 | 2 |
| North Carolina | 0.64 | 6 | 0.15 | 5 | 0.08 | 5 | 5.33 | 1 |
| North Dakota | 2.67 | 48 | 0.56 | 48 | 0.22 | 47 | 47.67 | 4 |
| Ohio | 1.06 | 31 | 0.25 | 31 | 0.12 | 30 | 30.67 | 3 |
| Oklahoma | 1.17 | 37 | 0.29 | 36 | 0.13 | 31 | 34.67 | 3 |
| Oregon | 2.09 | 45 | 0.44 | 45 | 0.19 | 45 | 45.00 | 4 |
| Pennsylvania | 0.92 | 27 | 0.20 | 20 | 0.11 | 25 | 24.00 | 3 |
| Rhode Island | 0.79 | 24 | 0.18 | 12 | 0.10 | 15 | 17.00 | 2 |
| South Carolina | 0.60 | 5 | 0.14 | 4 | 0.08 | 5 | 4.67 | 1 |
| South Dakota | 1.09 | 33 | 0.29 | 36 | 0.14 | 34 | 34.33 | 3 |
| Tennessee | 0.70 | 11 | 0.18 | 12 | 0.10 | 15 | 12.67 | 2 |
| Texas | 0.69 | 10 | 0.22 | 25 | 0.10 | 15 | 16.67 | 2 |
| Utah | 0.78 | 22 | 0.30 | 38 | 0.11 | 25 | 28.33 | 3 |
| Vermont | 1.14 | 35 | 0.28 | 33 | 0.14 | 34 | 34.00 | 3 |
| Virginia | 0.74 | 15 | 0.18 | 12 | 0.10 | 15 | 14.00 | 2 |
| Washington | 0.74 | 15 | 0.23 | 26 | 0.10 | 15 | 18.67 | 2 |
| West Virginia | 0.45 | 3 | 0.13 | 3 | 0.07 | 4 | 3.33 | 1 |
| Wisconsin | 0.70 | 11 | 0.18 | 12 | 0.10 | 15 | 12.67 | 2 |
| Wyoming | 1.45 | 43 | 0.33 | 39 | 0.17 | 44 | 42.00 | 4 |

†Not applicable.
[1]Variation is not measured in the District of Columbia or Hawaii where there is only one school district.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98."

creased the range between the lowest-variation and the highest-variation states. After cost adjustments, the restricted range ratio ranged from 0.27 in Maryland to 3.37 in California.

### Coefficient of Variation

The coefficient of variation for unadjusted operations expenditures per pupil across the United States was 0.39. This means approximately two-thirds of the districts nationally have operations expenditures between $539 and $1,229, a range that is from 39 percent below the mean to 39 percent above the mean. Variation in the states ranged from 0.10 in Florida and Maryland to 0.57 in California. Six states (Alaska, California, Montana, North Dakota, and Oregon) had a coefficient of variation higher than the United States coefficient.

When operations expenditures were adjusted for cost-of-education differences, the coefficient of variation for operations expenditures per pupil across the United States decreased to 0.35. Seven states (Alaska, Arizona, California, Idaho, Montana, North Dakota, and Oregon) exceeded the national variation after cost adjustments. Cost adjustments increased the range between the lowest-variation and highest-variation states. After cost adjustments, the coefficient of variation ranged from 0.09 in Florida and Maryland to 0.60 in California.

### Gini Coefficient

The Gini coefficient for unadjusted operations expenditures per pupil across the United States was 0.20. A Gini coefficient of 0 means expenditures are distributed equally; higher values such as 0.20 imply expenditures are more concentrated among a smaller share of students. Variation in the states ranged from 0.05 in Florida and Maryland to 0.28 in California.

Cost-of-education adjustments reduced the Gini coefficient to 0.18. After cost adjustments, Alaska, California, Montana, North Dakota, and Oregon exceeded the United States level of variation, and the range of variation remained nearly unchanged. After adjustments, the Gini coefficient ranged from 0.05 in Florida and Maryland to 0.29 in California.

### Overall Variation

In a synthesis of the three variation measures, states in the South had the highest percentage of states in the two low-variation quartiles for operations expenditures per pupil (table 4-19 and figure 4-16). Nearly all Southern states (94 percent) showed low variation in operations expenditures per pupil after cost adjustments.

## Relationship Between Operations Expenditures Per Pupil and Selected District Fiscal and Demographic Characteristics

For the United States as a whole, operations expenditures per pupil in unadjusted dollars showed a positive relationship with a school district's median household income (+0.22) and its median housing value (+0.23) (table A-17). Similarly, at the state level, median housing value was positively related to operations expenditures per pupil in 14 of the 40 states with sufficient data, and negatively to operations expenditures per pupil in 10 of the 40 states (table 4-20). Three states (Maryland, North Carolina, and Virginia) showed a strong positive relationship and one state (Alaska) showed a strong negative

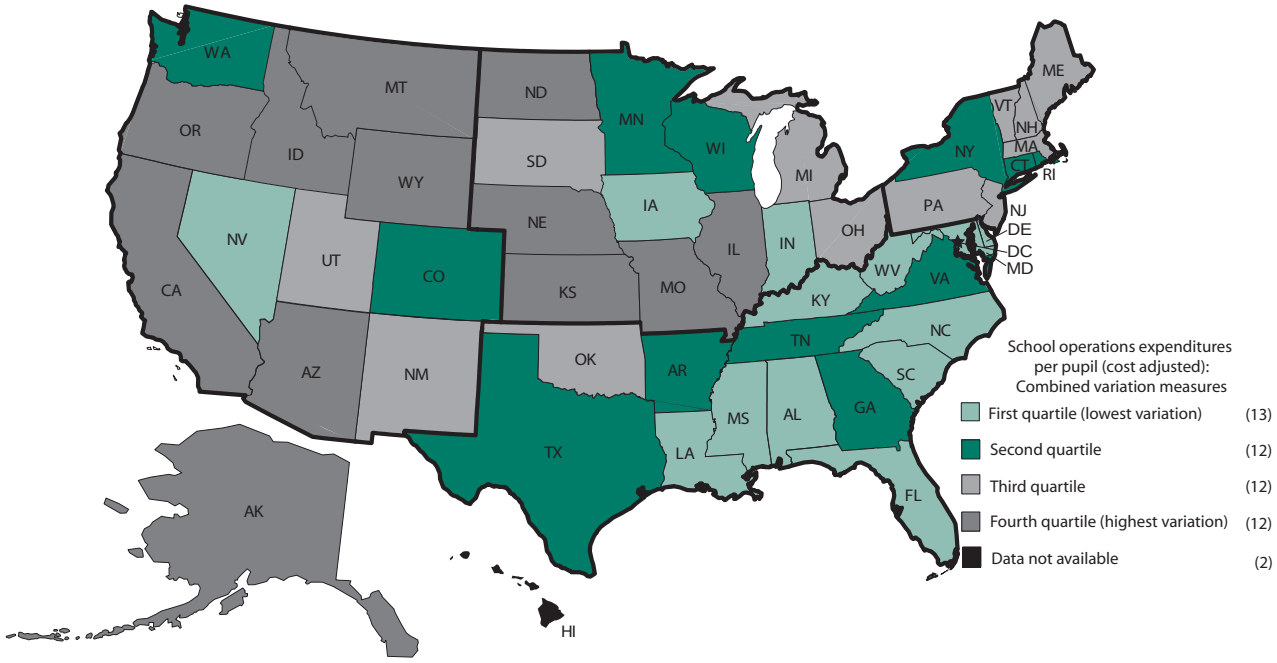
Table 4-19. Variation in school operations expenditures per pupil, by region: 1997–98

| Region | Percent of states in quartiles 1 and 2 (low variation) | Percent of states in quartiles 3 and 4 (high variation) |
|---|---|---|
| Unadjusted operations expenditures per pupil | | |
| Northeast | 33 | 67 |
| Midwest | 33 | 67 |
| South | 88 | 13 |
| West | 33 | 67 |
| Cost-adjusted operations expenditures per pupil | | |
| Northeast | 33 | 67 |
| Midwest | 33 | 67 |
| South | 94 | 6 |
| West | 25 | 75 |

NOTE: Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98."

Figure 4-16. Synthesis of variation measures of school operations expenditures per pupil (cost-adjusted dollars), by state: 1997–98




NOTE: Variation is not measured in the District of Columbia or Hawaii where there is only one school district. Regions are delineated in black; Alaska and Hawaii are part of the Western Region.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98."

relationship. Seventeen states showed no statistically significant relationship between household income and operations expenditures per pupil, 10 states showed a positive relationship between income and expenditures, and 13 states showed a negative relationship.

After cost adjustments, the relationship between district wealth and operations expenditures per pupil became weak positive for the United States as a whole (+0.07 with household income and +0.03 with housing value) (table A-18). After cost adjustments, 15 states with sufficient data showed no relationship between operations expenditures per pupil and median housing value (figure 4-17). No state showed a strong positive relationship. Two states (Alaska and West Virginia) showed a strong negative relation-

Table 4-20. Correlations between school operations expenditures per pupil and selected fiscal and demographic characteristics, by state: 1997–98

| Characteristics | States (before cost adjustments) | States (after cost adjustments) |
|---|---|---|
| **Minority enrollment** | | |
| Strong positive relationship | Alaska, Indiana, Massachusetts, Minnesota, Missouri, Oregon, Tennessee | Alaska, Massachusetts, Missouri, Oregon |
| Moderate positive relationship | Arizona, Connecticut, Florida, Michigan, Montana, Nebraska, Ohio, South Carolina, Texas, Virginia, Washington, Wisconsin | Arizona, Indiana,[1] Michigan, Minnesota,[1] Montana, Nebraska, Ohio, South Carolina, Tennessee,[1] Virginia, Washington, Wisconsin |
| Weak positive relationship | *US overall* | [none] |
| Weak negative relationship | [none] | Pennsylvania, *US overall*[1] |
| Moderate negative relationship | California, New Hampshire, New York | California, Illinois,[1] Iowa,[1] New Hampshire, New York, Rhode Island[1] |
| Strong negative relationship | Nevada | [none] |
| No significant relationship | Alabama, Delaware, Idaho, Illinois, Iowa, Kansas, Louisiana, Maine, Maryland, North Carolina, North Dakota, Pennsylvania, Rhode Island, Utah, Vermont, West Virginia, Wyoming | Alabama, Connecticut,[1] Delaware, Florida,[1] Idaho, Kansas, Louisiana, Maine, Maryland, Nevada,[1] North Carolina, North Dakota, Texas,[1] Utah, Vermont, West Virginia, Wyoming |
| **District poverty rate** | | |
| Strong positive relationship | Alaska | Alaska, Missouri[1] |
| Moderate positive relationship | Arizona, Connecticut, Indiana, Kansas, Massachusetts, Michigan, Minnesota, Missouri, Montana, Nebraska, North Dakota, Oregon, Tennessee, Utah, Washington, West Virginia, Wisconsin | Arizona, Florida,[1] Indiana, Iowa,[1] Kansas, Massachusetts, Michigan, Minnesota, Montana, Nebraska, North Dakota, Oregon, South Carolina,[1] Tennessee, Texas,[1] Utah, Washington, West Virginia, Wisconsin |
| Weak positive relationship | Texas | [none] |
| Weak negative relationship | *US overall* | [none] |
| Moderate negative relationship | Illinois, Maryland, New Hampshire, New York, Pennsylvania, Rhode Island | Illinois, Maryland, New York, Rhode Island |
| Strong negative relationship | [none] | [none] |
| No significant relationship | Alabama, California, Delaware, Florida, Idaho, Iowa, Louisiana, Maine, Nevada, North Carolina, Ohio, South Carolina, Vermont, Virginia, Wyoming | Alabama, California, Connecticut,[1] Delaware, Idaho, Louisiana, Maine, Nevada, New Hampshire,[1] North Carolina, Ohio, Pennsylvania,[1] Vermont, Virginia, Wyoming, *US overall*[1] |
| **Median household income** | | |
| Strong positive relationship | Maryland, New York | [none] |
| Moderate positive relationship | Illinois, Louisiana, North Carolina, Ohio, Pennsylvania, Rhode Island, Virginia, *US overall* | Illinois, Maryland,[1] New York,[1] Ohio, Pennsylvania, Rhode Island |
| Weak positive relationship | Michigan | *US overall*[1] |
| Weak negative relationship | California, Missouri | [none] |
| Moderate negative relationship | Alaska, Arizona, Kansas, Massachusetts, Minnesota, Montana, Nebraska, North Dakota, Oregon, Washington, West Virginia | Arizona, California,[1] Florida,[1] Indiana,[1] Iowa,[1] Kansas, Maine,[1] Massachusetts, Missouri,[1] Montana, Nebraska, North Dakota, Oregon, Texas,[1] Utah,[1] Vermont,[1] Washington, West Virginia |
| Strong negative relationship | [none] | Alaska,[1] Minnesota[1] |
| No significant relationship | Alabama, Connecticut, Delaware, Florida, Idaho, Indiana, Iowa, Maine, Nevada, New Hampshire, South Carolina, Tennessee, Texas, Utah, Vermont, Wisconsin, Wyoming | Alabama, Connecticut, Delaware, Idaho, Louisiana,[1] Michigan,[1] Nevada, New Hampshire, North Carolina,[1] South Carolina, Tennessee, Virginia,[1] Wisconsin, Wyoming |
| **Median housing value** | | |
| Strong positive relationship | Maryland, North Carolina, Virginia | [none] |
| Moderate positive relationship | Connecticut, Florida, Illinois, Michigan, New Hampshire, New York, Ohio, Pennsylvania, South Carolina, Tennessee, Wisconsin, *US overall* | Illinois, Maryland,[1] New York, North Carolina,[1] Ohio, Pennsylvania, Rhode Island,[1] Virginia[1] |
| Weak positive relationship | [none] | *US overall*[1] |
| Weak negative relationship | [none] | [none] |
| Moderate negative relationship | Arizona, California, Kansas, Montana, Nebraska, North Dakota, Oregon, Texas, West Virginia | Arizona, California, Indiana,[1] Iowa,[1] Kansas, Maine,[1] Minnesota,[1] Missouri,[1] Montana, Nebraska, North Dakota, Oregon, Texas, Utah,[1] Washington[1] |
| Strong negative relationship | Alaska | Alaska, West Virginia[1] |
| No significant relationship | Alabama, Delaware, Idaho, Indiana, Iowa, Louisiana, Maine, Massachusetts, Minnesota, Missouri, Nevada, Rhode Island, Utah, Vermont, Washington, Wyoming | Alabama, Connecticut,[1] Delaware, Florida,[1] Idaho, Louisiana, Massachusetts, Michigan,[1] Nevada, New Hampshire,[1] South Carolina,[1] Tennessee,[1] Vermont, Wisconsin,[1] Wyoming |

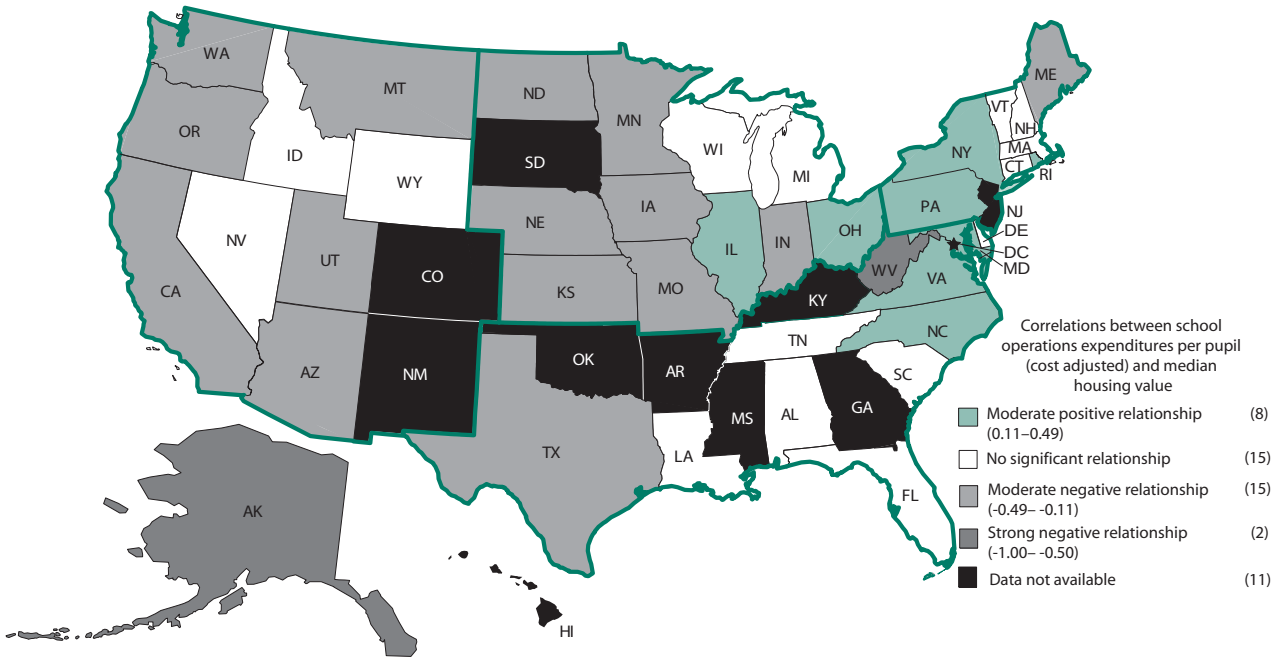
Table 4-20. Correlations between school operations expenditures per pupil and selected fiscal and demographic characteristics, by state: 1997–98—Continued

| Characteristics | States (before cost adjustments) | States (after cost adjustments) |
|---|---|---|
| **Student membership** | | |
| Strong positive relationship | [none] | [none] |
| Moderate positive relationship | Georgia, Indiana, Kentucky, Missouri | Tennessee[1] |
| Weak positive relationship | Michigan, Ohio | [none] |
| Weak negative relationship | Texas, *US overall* | Wisconsin,[1] *US overall* |
| Moderate negative relationship | Arizona, California, Colorado, Idaho, Iowa, Kansas, Maine, Montana, New Hampshire, New Mexico, Oregon, South Dakota, Utah, Vermont, Washington, Wyoming | Alaska,[1] Arizona, Arkansas,[1] California, Colorado, Connecticut,[1] Florida,[1] Idaho, Iowa, Kansas, Louisiana,[1] Maine, Minnesota,[1] Montana, New Hampshire, New Mexico, North Carolina,[1] Oklahoma,[1] Oregon, South Dakota, Texas,[1] Utah, Vermont, Washington, West Virginia,[1] Wyoming |
| Strong negative relationship | [none] | [none] |
| No significant relationship | Alabama, Alaska, Arkansas, Connecticut, Delaware, Florida, Illinois, Louisiana, Maryland, Massachusetts, Minnesota, Mississippi, Nebraska, Nevada, New Jersey, New York, North Carolina, North Dakota, Oklahoma, Pennsylvania, Rhode Island, South Carolina, Tennessee, Virginia, West Virginia, Wisconsin | Alabama, Delaware, Georgia,[1] Illinois, Indiana,[1] Kentucky,[1] Maryland, Massachusetts, Michigan,[1] Mississippi, Missouri,[1] Nebraska, Nevada, New Jersey, New York, North Dakota, Ohio,[1] Pennsylvania, Rhode Island, South Carolina, Virginia |

[1]State changed categories after cost adjustments.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

Figure 4-17. Correlations between school operations expenditures per pupil and median housing value (cost-adjusted dollars), by state: 1997–98

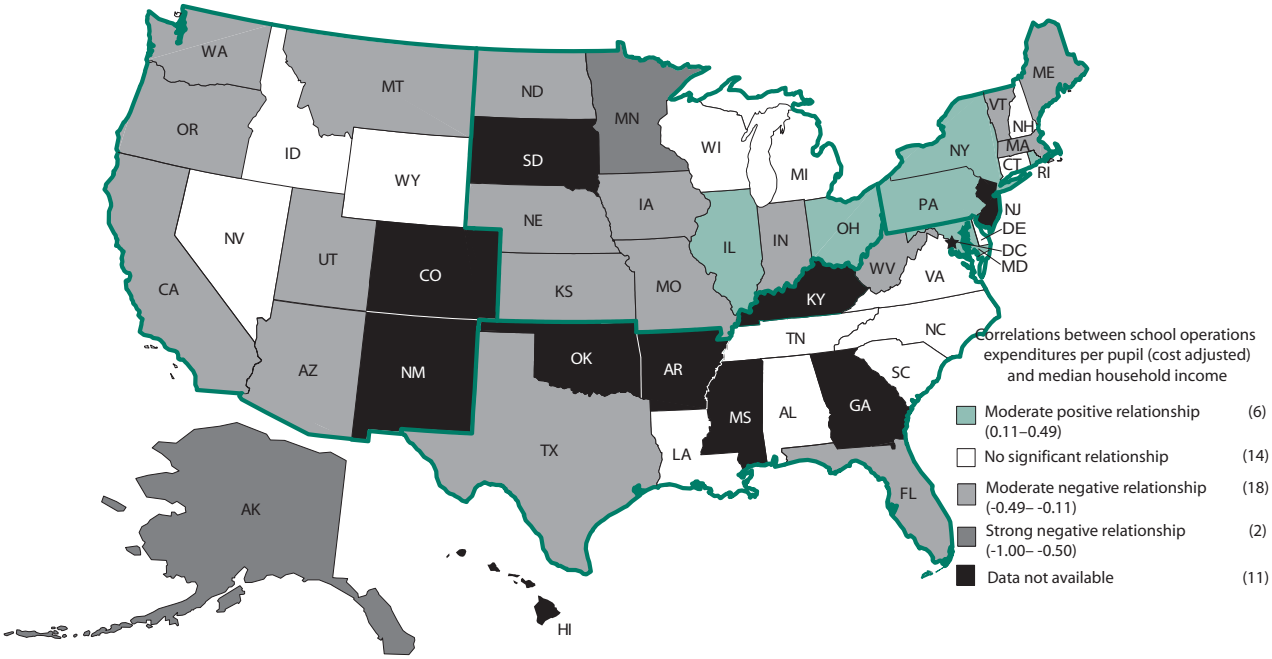



NOTE: No state-level correlation analysis was possible for the District of Columbia or Hawaii since they only have one district. Nine other states (Arkansas, Colorado, Georgia, Kentucky, Mississippi, New Jersey, New Mexico, Oklahoma, and South Dakota) were excluded from state-level correlation analysis because more than 50 percent of the school districts were missing Census data. Regions are delineated in green; Alaska and Hawaii are part of the Western Region.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

ship. No state showed a strong positive relationship between a district's median household income and adjusted operations expenditures per pupil. Two states (Alaska and Minnesota) showed a strong negative relationship. Eighteen states showed a moderate negative relationship between these variables, and six states showed a moderate positive relationship (figure 4-18).

Figure 4-18. Correlations between school operations expenditures per pupil and median household income (cost-adjusted dollars), by state: 1997–98



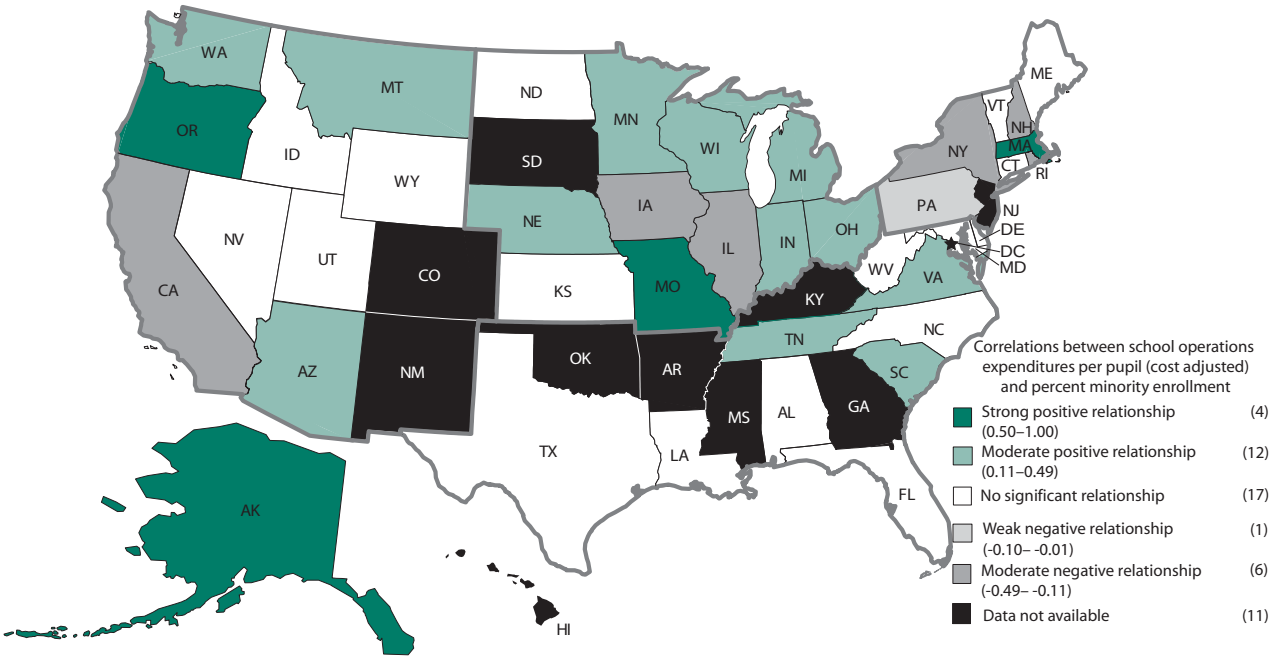

NOTE: No state-level correlation analysis was possible for the District of Columbia or Hawaii since they only have one district. Nine other states (Arkansas, Colorado, Georgia, Kentucky, Mississippi, New Jersey, New Mexico, Oklahoma, and South Dakota) were excluded from state-level correlation analysis because more than 50 percent of the school districts were missing Census data. Regions are delineated in green; Alaska and Hawaii are part of the Western Region.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

Operations expenditures per pupil showed a weak relationship with minority enrollment for the United States as a whole, both before (+0.06) and after (-0.02) cost adjustments. Seven states (Alaska, Indiana, Massachusetts, Minnesota, Missouri, Oregon, and Tennessee) showed a strong positive relationship between minority enrollment and operations expenditures per pupil before cost adjustments and only four states (Alaska, Massachusetts, Missouri, and Oregon) showed this relationship after cost adjustments (figure 4-19). Nevada showed a strong negative relationship before cost adjustments and no state showed a strong negative relationship after cost adjustments.

District poverty rate showed a weak negative relationship with operations expenditures per pupil at the national level before cost adjustments (-0.04). One state (Alaska) showed a strong positive relationship between district poverty rate and operations expenditures per pupil before cost adjustment and two states (Alaska and Missouri) showed this relationship after adjustments. No state showed a strong negative relationship between district poverty rate and operations expenditures per pupil, either before or after cost adjustments (figure 4-20).

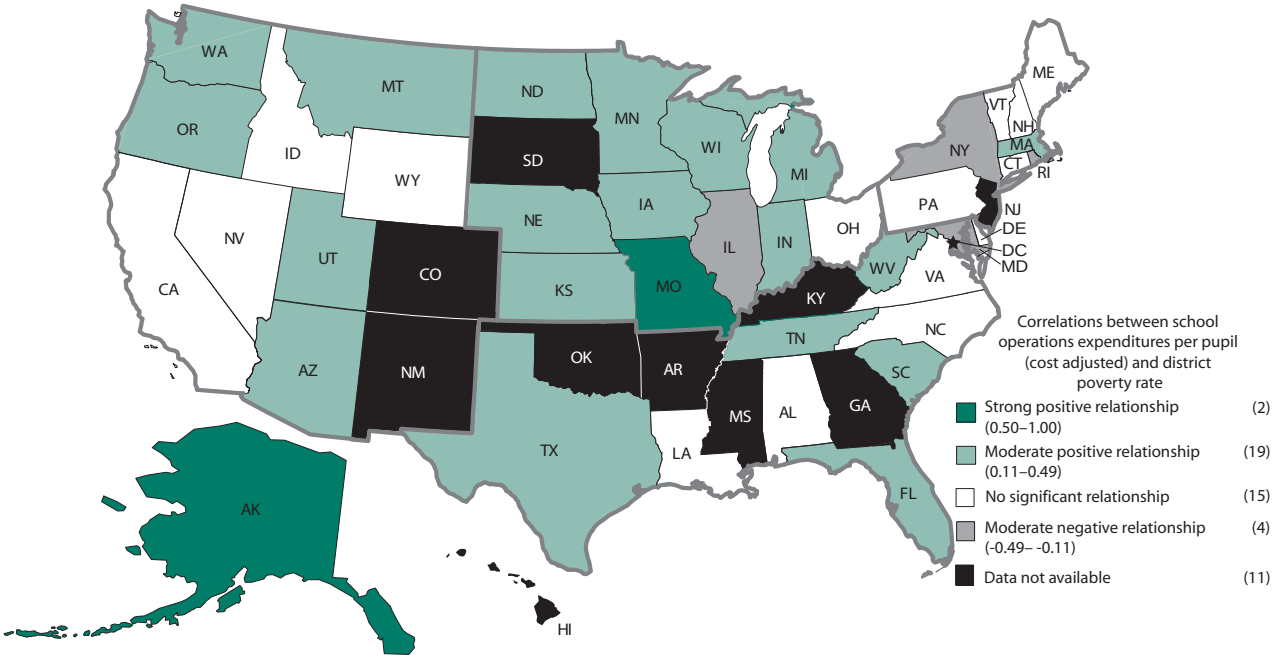
Figure 4-19. Correlations between school operations expenditures per pupil and percent minority enrollment (cost-adjusted dollars), by state: 1997–98




NOTE: No state-level correlation analysis was possible for the District of Columbia or Hawaii since they only have one district. Nine other states (Arkansas, Colorado, Georgia, Kentucky, Mississippi, New Jersey, New Mexico, Oklahoma, and South Dakota) were excluded from state-level correlation analysis because more than 50 percent of the school districts were missing Census data. Regions are delineated in gray; Alaska and Hawaii are part of the Western Region.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

Figure 4-20. Correlations between school operations expenditures per pupil and district poverty rate (cost-adjusted dollars), by state: 1997–98




NOTE: No state-level correlation analysis was possible for the District of Columbia or Hawaii since they only have one district. Nine other states (Arkansas, Colorado, Georgia, Kentucky, Mississippi, New Jersey, New Mexico, Oklahoma, and South Dakota) were excluded from state-level correlation analysis because more than 50 percent of the school districts were missing Census data. Regions are delineated in gray; Alaska and Hawaii are part of the Western Region.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

# Chapter 5: Summary Of Findings

This report examined school district expenditures for elementary and secondary education during the 1997–98 school year. Separate chapters were devoted to total education expenditures, current expenditures, and the major functions within current expenditures. This chapter synthesizes the material presented previously and highlights the key findings of the report.

## National Findings on Education Expenditures

School district expenditures for elementary and secondary education totaled $326.8 billion in 1997–98 (table 2-1). The largest share of total school expenditures went to current expenses—$274.9 billion, or 84.1 percent of the total (table 3-1). Capital expenditures made up 10.8 percent of total district expenditures—$35.4 billion. The remaining $16.5 billion were used for nonelementary or nonsecondary programs and expenditures by local education agencies (NCES 1998).

## Regional Differences in School District Expenditures Per Pupil

Unadjusted expenditures per pupil for education were consistently highest in the Northeast (table 5-1). Cost-adjusted expenditures were highest in the Northeast for all expenditure measures except for administration, which was higher in the Midwest. With the exception of expenditures for plant maintenance and operation, which were lowest in the South, expenditures per pupil for all other education functions were consistently lowest in the West. In unadjusted dollars, however, the differences in expenditures per pupil between the West and the South were generally small. Unadjusted instructional expenditures per pupil, for example, averaged $3,302 in the West and $3,310 in the South (table 4-1). In cost-adjusted dollars, the differences between the two regions were larger.

## Differences in Expenditures Per Pupil in Districts of Different Size

Expenditures per pupil for most school functions were generally highest in small school districts and lowest in large districts (table 5-2). In unadjusted dollars, expenditures per pupil were highest in districts with fewer than 1,000 students for most functions. In cost-adjusted dollars, these smallest districts had the highest expenditures per pupil for all functions except student and instructional staff support services. This was the one function for which expenditures per pupil were highest in the largest districts (10,000 or more students) and lowest in the smallest districts (fewer than 1,000 students).

It should be noted, however, that unadjusted expenditures per pupil for salaries and fringe benefits differed from the general pattern. In contrast with expenditures for educational functions, expenditures per pupil for salaries and fringe benefits combined were highest in larger school districts (between 5,000 and 9,999 students) and lowest in the smallest districts (fewer than 1,000 students). A possible explanation for this finding might be that average teacher salaries, which tend to be higher in larger school districts than smaller school districts (Henke et al. 1996), would more than offset the effect of

Table 5-1. Regional differences in school district expenditures per pupil: 1997–98

| Characteristics | Instructional expenditures per pupil | Student and instructional staff support services per pupil | Admin-istration per pupil | School operations per pupil | Salaries expenditures per pupil | Salaries and benefits expenditures per pupil | Current expenditures per pupil | Total expenditures per pupil |
|---|---|---|---|---|---|---|---|---|
| | | | | Unadjusted dollars | | | | |
| Highest region | Northeast | Northeast | Northeast | Northeast | Northeast | Northeast | Northeast | Northeast |
| Lowest region | West | West | West | South | West | West | West | West |
| | | | | Cost-adjusted dollars | | | | |
| Highest region | Northeast | Northeast | Midwest | Northeast | Northeast | Northeast | Northeast | Northeast |
| Lowest region | West | West | West | South | West | West | West | West |

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data. "School District Financial Survey (F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

Table 5-2. School district expenditures, by district size: 1997–98

| Characteristics | Instructional expenditures per pupil | Student and instructional staff support services per pupil | Admin-istration per pupil | School operations per pupil | Salaries expenditures per pupil | Salaries and benefits expenditures per pupil | Current expenditures per pupil | Total expenditures per pupil |
|---|---|---|---|---|---|---|---|---|
| | | | | Unadjusted dollars | | | | |
| Highest group | 0–999 | 10,000 & over | 0–999 | 0–999 | 5,000–9,999 | 5,000–9,999 | 0–999 | 0–999 |
| Lowest group | 10,000 & over | 0–999 | 5,000–9,999 | 10,000 & over | 10,000 & over | 0–999 | 10,000 & over | 10,000 & over |
| | | | | Cost-adjusted dollars | | | | |
| Highest group | 0–999 | 10,000 & over | 0–999 | 0–999 | 0–999 | 0–999 | 0–999 | 0–999 |
| Lowest group | 10,000 & over | 0–999 | 5,000–9,999 | 10,000 & over | 10,000 & over | 10,000 & over | 10,000 & over | 10,000 & over |

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data. "School District Financial Survey (F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

smaller average pupil/staff ratios in smaller school districts on per-pupil expenditures. It should also be noted though that, with cost adjustments to expenditures, expenditures per pupil for salaries and benefits combined revert to the general pattern: expenditures per pupil are highest in the smallest districts and lowest in the largest districts.

## Variation in Expenditures Per Pupil Across School Districts

Three different statistics were used to measure the extent of variation in expenditures per pupil in school districts across the nation: the restricted range ratio, the coefficient of variation, and the Gini coefficient. Table 5-3 summarizes variation in current expenditures, expenditures for different education functions, and total expenditures per pupil in both unadjusted and cost-adjusted dollars.

The variation in current expenditures per pupil was smallest on all three measures used in this analysis—1.04 on the restricted range ratio, 0.25 on the coefficient of variation, and 0.13 on the Gini coefficient (table 5-3). Variation in expenditures per pupil was also relatively small on four other measures of spending: instructional expenditures per pupil, salaries expenditures per pupil, salaries and benefits expenditures per pupil, and total expenditures per pupil. In contrast, variation in expenditures per pupil was largest in the area of student and instructional staff support services. The other two functions with relatively large variation in expenditures per pupil were administration and plant maintenance and operations.

Table 5-3. Variation in school district expenditures per pupil: 1997–98

| Variation measure | Instructional expenditures per pupil | Student and instructional staff support services per pupil | Admin-istration per pupil | School operations per pupil | Salaries expenditures per pupil | Salaries and benefits expenditures per pupil | Current expenditures per pupil | Total expenditures per pupil |
|---|---|---|---|---|---|---|---|---|
| | | | | Unadjusted dollars | | | | |
| Restricted range ratio | 1.19 | 3.91 | 2.09 | 2.03 | 1.08 | 1.10 | 1.04 | 1.16 |
| Coefficient of variation | 0.27 | 0.47 | 0.40 | 0.39 | 0.26 | 0.26 | 0.25 | 0.27 |
| Gini coefficient | 0.14 | 0.25 | 0.19 | 0.20 | 0.13 | 0.13 | 0.13 | 0.14 |
| | | | | Cost-adjusted dollars | | | | |
| Restricted range ratio | 0.97 | 3.12 | 1.76 | 1.80 | 0.90 | 0.91 | 0.91 | 1.00 |
| Coefficient of variation | 0.22 | 0.43 | 0.38 | 0.35 | 0.21 | 0.21 | 0.21 | 0.24 |
| Gini coefficient | 0.12 | 0.23 | 0.18 | 0.18 | 0.11 | 0.11 | 0.11 | 0.12 |

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data. "School District Financial Survey (F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

Cost adjustments to expenditures generally reduced the variation in per-pupil spending, but the patterns were similar to those described above for unadjusted expenditures. The variation in expenditures per pupil was smallest on three measures of spending—salaries expenditures, salaries and benefits expenditures, and current expenditures—and relatively small on instructional expenditures and total expenditures per pupil. Variation was largest on student and instructional staff support services, followed by administration, and plant maintenance operations expenditures per pupil.

## Relationship Between School District Fiscal and Demographic Characteristics and Expenditures Per Pupil

### *School District Wealth*

In unadjusted dollars, the two measures of district wealth used in the analysis—median household income and median housing value—consistently showed weak to moderate positive relationships with all expenditure measures used in this analysis (table 5-4). For median household income, the correlations ranged from +0.16 for administration expenditures per pupil to +0.31 for salaries and benefits expenditures per pupil. For median housing value, the correlations ranged from +0.09 for administration expenditures per pupil to +0.35 for instructional expenditures per pupil. With cost-adjustments to expenditures, however, the positive relationship between district wealth and all measures of expenditure was reduced substantially or became statistically insignificant. Nationally, there were weak or statistically insignificant relationships between school district wealth and all measures of expenditures per pupil except for median housing value and administration expenditures per pupil, which had a moderate negative relationship (-0.11).

### *School District Minority Enrollment and Poverty Rate*

In unadjusted dollars, minority enrollment showed moderate positive relationships with three measures of education spending (student and instructional staff support services, salaries, and current expenditures per pupil) and a weak relationship with five other measures (instruction, administration, plant maintenance and operations, salaries and employee benefits, and total expenditures per pupil) (table 5-4). With cost adjustments, there were weak negative relationships between minority enrollment and five measures of expenditure per pupil for the nation as a whole.

Table 5-4. Correlation between school district expenditures per pupil and selected school district fiscal and demographic characteristics: 1997–98

| School district characteristics | Instructional expenditures per pupil | Student and instructional staff support services per pupil | Admin-istration per pupil | School operations per pupil | Salaries expenditures per pupil | Salaries and benefits expenditures per pupil | Current expenditures per pupil | Total expenditures per pupil |
|---|---|---|---|---|---|---|---|---|
| | | | | Unadjusted dollars | | | | |
| Median household income | +0.28* | +0.20* | +0.16* | +0.22* | +0.33* | +0.31* | +0.28* | +0.29* |
| Median housing value | +0.35* | +0.12* | +0.09* | +0.23* | +0.33* | +0.34* | +0.31* | +0.28* |
| Minority enrollment | +0.09* | +0.12* | +0.05* | +0.06* | +0.11* | +0.10* | +0.12* | +0.05* |
| District poverty rate | -0.05* | -0.05* | -0.05* | -0.04* | -0.07* | -0.07* | -0.03* | -0.10* |
| | | | | Cost-adjusted dollars | | | | |
| Median household income | +0.06* | +0.07* | -0.01 | +0.07* | +0.09* | +0.08* | +0.03* | +0.07* |
| Median housing value | +0.06* | -0.04* | -0.11* | +0.03* | +0.02* | +0.03* | -0.01 | -0.01 |
| Minority enrollment | -0.02* | +0.08* | -0.02* | -0.02* | # | # | +0.01 | -0.06* |
| District poverty rate | +0.02* | +0.01 | +0.00 | +0.02 | +0.02* | +0.01 | +0.06* | -0.04* |

#Rounds to zero.
*Figure is statistically significant at the 0.05 level or better.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data. "School District Financial Survey (F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

District poverty rate showed a weak relationship with all measures of unadjusted expenditure per pupil. In cost-adjusted dollars, the correlations were either weak or statistically insignificant.

## State Findings on Education Expenditures

In the analyses of variation in per-pupil expenditures presented in chapters 2 to 4 of the report, the three individual measures of variation of expenditure per pupil were integrated into an overall measure of variation based on an average of state rankings on the three individual measures. Each state's average on the three variation measures was then ranked, with states divided into four quartiles from lowest to highest variation. The first part of discussion below highlights differences in state variation on the different measures of expenditure per pupil. The second part of the discussion reviews key findings about the relationship between selected district fiscal and demographic characteristics and expenditures per pupil from different sources.

### Interdistrict Variation in Expenditures Per Pupil Within the States

Table 5-5 shows the 12 states that had the greatest interdistrict variation in unadjusted current expenditures per pupil based on the integrated measure of variation. These 12 states included Alaska, Illinois, Massachusetts, Minnesota, Missouri, Montana, New Hampshire, New York, North Dakota, Ohio, Pennsylvania, and Vermont. Three states (Illinois, Montana, and Vermont) showed the greatest interdistrict variation on all eight expenditure measures. Two states (Alaska and Ohio) showed the greatest interdistrict variation on five components of current expenditure, as well as total expenditures per pupil.

When expenditures per pupil were adjusted to reflect cost-of-education differences across school districts, seven states (Alaska, Illinois, Massachusetts, Missouri, Montana, New Hampshire, and North Dakota) remained in the quartile with the greatest overall variation in current expenditures per pupil (table 5-5). Two states (Illinois and North Dakota) showed the greatest interdistrict variation on all

Table 5-5. States with the largest overall variation in expenditures per pupil: 1997–98

| Type of expenditure per pupil | States (unadjusted dollars) | States (cost-adjusted dollars) |
|---|---|---|
| Instructional expenditures | Alaska, Illinois, Kansas, Maine, Massachusetts, Minnesota, Montana, New Hampshire, North Dakota, Ohio, Pennsylvania, Vermont | Alaska, Illinois, Kansas, Maine, Massachusetts, Montana, Nebraska, New Hampshire, North Dakota, Oklahoma, Texas |
| Student and instructional staff support services | California, Illinois, Indiana, Kansas, Maine, Michigan, Montana, New York, North Dakota, Ohio, South Dakota, Vermont | California, Illinois, Indiana, Kansas, Maine, Michigan, Montana, New York, North Dakota, Ohio, South Dakota, Vermont |
| Administration | Alaska, California, Colorado, Illinois, Kentucky, Missouri, Montana, New Hampshire, New York, North Dakota, South Dakota, Vermont | Alaska, California, Colorado, Illinois, Montana, Nebraska, New Hampshire, New Mexico, New York, North Dakota, South Dakota, Vermont |
| School operations | Alaska, Arizona, California, Illinois, Missouri, Montana, Nebraska, North Dakota, Ohio, Oregon, Vermont, Wyoming | Alaska, Arizona, California, Idaho, Illinois, Kansas, Missouri, Montana, Nebraska, North Dakota, Oregon, Wyoming |
| Salaries | Alaska, Illinois, Michigan, Minnesota, Missouri, Montana, New Hampshire, New Jersey, New York, Ohio, Pennsylvania, Vermont | Alaska, Illinois, Kansas, Massachusetts, Montana, Nebraska, New Hampshire, New York, North Dakota, Ohio, Oklahoma, Vermont |
| Salaries and benefits | Alaska, Illinois, Michigan, Minnesota, Missouri, Montana, New Hampshire, New York, Ohio, Pennsylvania, Vermont, Virginia | Alaska, Illinois, Kansas, Massachusetts, Minnesota, Montana, Nebraska, New Hampshire, New York, North Dakota, Ohio, Vermont |
| Current expenditures | Alaska, Illinois, Massachusetts, Minnesota, Missouri, Montana, New Hampshire, New York, North Dakota, Ohio, Pennsylvania, Vermont | Alaska, Idaho, Illinois, Kansas, Massachusetts, Missouri, Montana, Nebraska, New Hampshire, North Dakota, South Dakota, Wyoming |
| Total expenditures | Alaska, Illinois, Michigan, Minnesota, Missouri, Montana, New Hampshire, Ohio, Pennsylvania, South Dakota, Vermont, Wyoming | Alaska, Illinois, Maine, Michigan, Minnesota, Montana, New Hampshire, North Dakota, South Dakota, Vermont, Wisconsin, Wyoming |

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data. "School District Financial Survey (F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

expenditure measures, while one state (Alaska) showed the greatest variation on five components of current expenditure and on total expenditures per pupil.

At the other end of the spectrum were 12 states with the smallest interdistrict variation in unadjusted current expenditures per pupil. As shown in table 5-6, these states included Alabama, California, Delaware, Florida, Iowa, Kentucky, Louisiana, Nevada, North Carolina, Rhode Island, Washington, and West Virginia. Four states (Delaware, Florida, Nevada, and North Carolina) showed the smallest interdistrict variation on each of the eight expenditure measures, and two states (Louisiana and West Virginia) showed the smallest interdistrict variation on five components of current expenditure and on total expenditures per pupil.

With cost adjustments to expenditures, nine states (Alabama, Delaware, Florida, Iowa, Kentucky, Louisiana, Nevada, North Carolina, and West Virginia) remained in the quartile with the smallest overall variation in current expenditures per pupil (table 5-6). Four states (Delaware, Florida, Nevada, and North Carolina) showed the smallest interdistrict variation on each of the eight expenditure measures, and three other states (Alabama, Louisiana, and West Virginia) showed the smallest interdistrict variation on five components of current expenditures and on total expenditures per pupil.

Table 5-6. States with the smallest overall variation in expenditures per pupil: 1997–98

| Type of expenditure per pupil | States (unadjusted dollars) | States (cost-adjusted dollars) |
|---|---|---|
| Instructional expenditures | California, Delaware, Florida, Kentucky, Louisiana, Nevada, North Carolina, Oregon, Rhode Island, South Carolina, Washington, West Virginia | Alabama, Arkansas, Delaware, Florida, Kentucky, Louisiana, Mississippi, Nevada, North Carolina, South Carolina, West Virginia |
| Student and instructional staff support services | Delaware, Florida, Georgia, Louisiana, Maryland, Nevada, New Jersey, New Mexico, North Carolina, South Carolina, Washington, Wisconsin, Wyoming | Delaware, Florida, Georgia, Louisiana, Maryland, Nevada, New Jersey, North Carolina, South Carolina, Washington, Wisconsin, Wyoming |
| Administration | Alabama, Delaware, Florida, Iowa, Maryland, Nevada, North Carolina, Oregon, Rhode Island, South Carolina, Washington, West Virginia | Alabama, Delaware, Florida, Maryland, Nevada, North Carolina, South Carolina, Tennessee, Washington, West Virginia, Wisconsin |
| School operations | Colorado, Delaware, Florida, Iowa, Kentucky, Louisiana, Maryland, Nevada, North Carolina, Rhode Island, South Carolina, Texas, West Virginia | Alabama, Delaware, Florida, Indiana, Iowa, Kentucky, Louisiana, Maryland, Mississippi, Nevada, North Carolina, South Carolina, West Virginia |
| Salaries | Colorado, Delaware, Florida, Iowa, Kentucky, Louisiana, Nevada, North Carolina, Oregon, Rhode Island, Utah, Washington, West Virginia | Alabama, Colorado, Delaware, Florida, Georgia, Iowa, Kentucky, Louisiana, Nevada, North Carolina, Utah, West Virginia |
| Salaries and benefits | California, Colorado, Delaware, Florida, Kentucky, Louisiana, Nevada, North Carolina, Oregon, Utah, Washington, West Virginia | Alabama, Colorado, Delaware, Florida, Georgia, Iowa, Kentucky, Louisiana, Nevada, North Carolina, Utah, West Virginia |
| Current expenditures | Alabama, California, Delaware, Florida, Iowa, Kentucky, Louisiana, Nevada, North Carolina, Rhode Island, Washington, West Virginia | Alabama, Delaware, Florida, Iowa, Kentucky, Louisiana, Maryland, Nevada, North Carolina, South Carolina, West Virginia, Wisconsin |
| Total expenditures | Alabama, California, Delaware, Florida, Kentucky, Louisiana, Maryland, Nevada, North Carolina, Rhode Island, Utah, West Virginia | Alabama, Arkansas, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Nevada, North Carolina, Rhode Island, West Virginia |

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data. "School District Financial Survey (F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

## Relationship Between Selected District Fiscal and Demographic Characteristics and Expenditures Per Pupil

### *Median Household Income*

For the 40 states with adequate data for correlation analysis, the relationship between median household income and the expenditure measures was quite mixed. In 17 of the 40 states, there was no relationship or a weak relationship between median household income and unadjusted current expenditures per pupil. (Table 5-7 lists states with moderate or strong relationships.) However, in eight states there was a positive correlation between median household income and current expenditures per pupil and in four states (Louisiana, New York, Pennsylvania, and Virginia), there was a strong correlation. On the other hand, median household income showed a negative relationship with current expenditures per pupil in 15 states, although the relationship was moderate in all but 1 state (Utah).

In unadjusted dollars, 26 states showed a positive relationship between median household income and at least one measure of expenditure (table 5-8). However, household income was related to all eight expenditure measures in only five states (Illinois, Louisiana, New York, Pennsylvania, and Virginia) and to six of the eight expenditure measures in only two other states (Maryland and Michigan) (table 5-7). In contrast, there was a negative relationship between median household income and at least 1 expenditure measure in 21 states. However, only two states (Arizona and Montana) showed a negative

Table 5-7. States with strong and moderate correlations between median household income and expenditures per pupil (unadjusted dollars): 1997–98

| Type of expenditure per pupil and relationship | States |
|---|---|
| **Instructional expenditures** | |
| Strong positive | Delaware, Louisiana, New York, Pennsylvania, Virginia |
| Moderate positive | Alabama, Illinois, Michigan, Missouri, Ohio |
| Moderate negative | Arizona, Indiana, Iowa, Kansas, Massachusetts, Minnesota, Montana, Nebraska, North Dakota, Oregon, Texas, Washington, West Virginia |
| Strong negative | Alaska, Utah |
| **Student and instructional staff support services** | |
| Strong positive | Maryland, New York, Pennsylvania |
| Moderate positive | Alaska, Connecticut, Idaho, Illinois, Iowa, Louisiana, Maine, Michigan, Oregon, Virginia, West Virginia |
| Moderate negative | Arizona, Indiana, Montana, Rhode Island, Texas, Utah |
| Strong negative | [none] |
| **Administration** | |
| Strong positive | Delaware, Maryland, New York |
| Moderate positive | Illinois, Louisiana, Pennsylvania, Tennessee, Virginia |
| Moderate negative | Alaska, Arizona, Idaho, Indiana, Iowa, Kansas, Maine, Montana, Nebraska, New Hampshire, North Dakota, Oregon, South Carolina, Texas, Utah |
| Strong negative | [none] |
| **School operations** | |
| Strong positive | Maryland, New York |
| Moderate positive | Illinois, Louisiana, North Carolina, Ohio, Pennsylvania, Rhode Island, Virginia |
| Moderate negative | Alaska, Arizona, Kansas, Massachusetts, Minnesota, Montana, Nebraska, North Dakota, Oregon, Washington, West Virginia |
| Strong negative | [none] |
| **Salaries** | |
| Strong positive | Louisiana, Maryland, New York, Pennsylvania, Virginia |
| Moderate positive | Illinois, Michigan, Missouri, North Carolina, Wisconsin |
| Moderate negative | Alaska, Arizona, California, Indiana, Kansas, Montana, North Dakota, Texas, Washington |
| Strong negative | Utah |
| **Salaries and benefits** | |
| Strong positive | Louisiana, Maryland, New York, Pennsylvania, Virginia |
| Moderate positive | Illinois, Michigan, Missouri, Wisconsin |
| Moderate negative | Alaska, Arizona, California, Indiana, Kansas, Montana, Nebraska, North Dakota, Oregon, Texas, Washington |
| Strong negative | Utah |
| **Current expenditures** | |
| Strong positive | Louisiana, New York, Pennsylvania, Virginia |
| Moderate positive | Alabama, Illinois, Michigan, Ohio |
| Moderate negative | Alaska, Arizona, California, Indiana, Iowa, Kansas, Massachusetts, Minnesota, Montana, Nebraska, North Dakota, Oregon, Texas, Washington |
| Strong negative | Utah |
| **Total expenditures** | |
| Strong positive | Louisiana, Maryland, New York, Virginia |
| Moderate positive | Alabama, Florida, Illinois, Michigan, North Carolina, Ohio, Pennsylvania, South Carolina, Texas, Washington |
| Moderate negative | Alaska, Arizona, Massachusetts, Montana, North Dakota |
| Strong negative | [none] |

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data. "School District Financial Survey (F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

relationship between household income and all eight measures of expenditure. In another six states (Alaska, Indiana, Kansas, North Dakota, Texas, and Utah), there was a negative relationship between household income and at least six expenditure measures.

Cost adjustments shifted the balance among the states, with fewer states showing a positive relationship between household income and expenditures and more states showing a negative relationship between these variables (table 5-9). Of the 40 states with adequate data, 5 states (Illinois, Louisiana, New York, Pennsylvania, and Virginia) had a moderate positive correlation between median household

Table 5-8. Summary of strong and moderate correlations between median household income and measures of expenditure per pupil: 1997–98

| Unadjusted dollars | | | | Cost-adjusted dollars | | | |
|---|---|---|---|---|---|---|---|
| Positive relationship with expenditures per pupil | | Negative relationship with expenditures per pupil | | Positive relationship with expenditures per pupil | | Negative relationship with expenditures per pupil | |
| State | Number of expenditure measures | State | Number of expenditure measures | State | Number of expenditure measures | State | Number of expenditure measures |
| Alabama | 3 | Alaska | 7 | Alaska | 1 | Alaska | 7 |
| Alaska | 1 | Arizona | 8 | Connecticut | 1 | Arizona | 8 |
| Connecticut | 1 | California | 3 | Illinois | 7 | California | 6 |
| Delaware | 2 | Idaho | 1 | Louisiana | 7 | Florida | 6 |
| Florida | 1 | Indiana | 6 | Maryland | 5 | Idaho | 2 |
| Idaho | 1 | Iowa | 3 | Michigan | 4 | Indiana | 8 |
| Illinois | 8 | Kansas | 6 | New York | 8 | Iowa | 7 |
| Iowa | 1 | Maine | 1 | Ohio | 3 | Kansas | 7 |
| Louisiana | 8 | Massachusetts | 4 | Pennsylvania | 7 | Maine | 7 |
| Maine | 1 | Minnesota | 3 | Rhode Island | 1 | Massachusetts | 4 |
| Maryland | 6 | Montana | 8 | Virginia | 7 | Michigan | 1 |
| Michigan | 6 | Nebraska | 5 | | | Minnesota | 7 |
| Missouri | 3 | New Hampshire | 1 | | | Missouri | 8 |
| New York | 8 | North Dakota | 7 | | | Montana | 8 |
| North Carolina | 3 | Oregon | 5 | | | Nebraska | 8 |
| Ohio | 4 | Rhode Island | 1 | | | New Hampshire | 3 |
| Oregon | 1 | South Carolina | 1 | | | North Carolina | 4 |
| Pennsylvania | 8 | Texas | 6 | | | North Dakota | 7 |
| Rhode Island | 1 | Utah | 6 | | | Oregon | 7 |
| South Carolina | 1 | Washington | 5 | | | South Carolina | 4 |
| Tennessee | 1 | West Virginia | 2 | | | Texas | 7 |
| Texas | 1 | | | | | Utah | 7 |
| Virginia | 8 | | | | | Vermont | 2 |
| Washington | 1 | | | | | Washington | 7 |
| West Virginia | 1 | | | | | West Virginia | 6 |
| Wisconsin | 2 | | | | | Wisconsin | 5 |
| | | | | | | Wyoming | 1 |

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data. "School District Financial Survey (F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

income and current expenditures per pupil and no state had a strong correlation. On the other hand, median household income was negatively related to current expenditures per pupil in 24 states, with 5 states (Alaska, Arizona, Iowa, Utah, and Washington) having a strong negative correlation between these variables.

In cost-adjusted dollars, only 11 states showed a positive relationship between median household income and at least one measure of expenditure (table 5-8). Household income was related to all eight expenditure measures in only one state (New York) and to at least six of the eight expenditure measures in only four other states (Illinois, Louisiana, Pennsylvania, and Virginia) (table 5-9). In contrast, there was a negative relationship between median household income and at least 1 expenditure measure in 27 states. Five states (Arizona, Indiana, Missouri, Montana, and Nebraska) showed a negative relationship between household income and all eight measures of expenditure. Another 13 states (Alaska, California, Florida, Iowa, Kansas, Maine, Minnesota, North Dakota, Oregon, Texas, Utah, Washington, and West Virginia) showed a negative relationship between household income and at least 6 expenditure measures.

## Median Housing Value

District property values, as measured by median housing value, were positively related to current expenditures per pupil in more states than median household income (table 5-10). In unadjusted dollars,

Table 5-9. States with strong and moderate correlations between median household income and expenditures per pupil (cost-adjusted dollars): 1997–98

| Type of expenditure per pupil and relationship | States |
|---|---|
| **Instructional expenditures** | |
| Strong positive | [none] |
| Moderate positive | Louisiana, New York, Ohio, Pennsylvania, Virginia |
| Moderate negative | Arizona, California, Indiana, Kansas, Maine, Massachusetts, Minnesota, Missouri, Montana, Nebraska, North Carolina, North Dakota, Oregon, Texas, Wisconsin, Wyoming |
| Strong negative | Alaska, Iowa, Utah, Washington, West Virginia |
| **Student and instructional staff support services** | |
| Strong positive | New York |
| Moderate positive | Alaska, Connecticut, Illinois, Louisiana, Michigan, Pennsylvania, Virginia |
| Moderate negative | Arizona, Florida, Indiana, Missouri, Montana, Nebraska, Texas, Utah, Washington |
| Strong negative | [none] |
| **Administration** | |
| Strong positive | Maryland |
| Moderate positive | Illinois, Louisiana, New York, Virginia |
| Moderate negative | Alaska, Florida, Idaho, Indiana, Iowa, Kansas, Maine, Michigan, Minnesota, Missouri, Montana, Nebraska, New Hampshire, North Dakota, Oregon, South Carolina, Texas, Utah, Washington, Wisconsin |
| Strong negative | Arizona |
| **School operations** | |
| Strong positive | [none] |
| Moderate positive | Illinois, Maryland, New York, Ohio, Pennsylvania, Rhode Island |
| Moderate negative | Arizona, California, Florida, Indiana, Iowa, Kansas, Maine, Massachusetts, Missouri, Montana, Nebraska, North Dakota, Oregon, Texas, Utah, Vermont, Washington, West Virginia |
| Strong negative | Alaska, Minnesota |
| **Salaries** | |
| Strong positive | Maryland, New York |
| Moderate positive | Illinois, Louisiana, Michigan, Pennsylvania, Virginia |
| Moderate negative | Alaska, Arizona, California, Florida, Indiana, Iowa, Kansas, Maine, Minnesota, Missouri, Montana, Nebraska, New Hampshire, North Carolina, North Dakota, Oregon, South Carolina, Texas, Washington, West Virginia |
| Strong negative | Utah |
| **Salaries and benefits** | |
| Strong positive | Maryland, New York |
| Moderate positive | Illinois, Louisiana, Michigan, Pennsylvania, Virginia |
| Moderate negative | Alaska, Arizona, California, Florida, Indiana, Iowa, Kansas, Maine, Minnesota, Missouri, Montana, Nebraska, New Hampshire, North Carolina, North Dakota, Oregon, South Carolina, Texas, West Virginia, Wisconsin |
| Strong negative | Utah, Washington |
| **Current expenditures** | |
| Strong positive | [none] |
| Moderate positive | Illinois, Louisiana, New York, Pennsylvania, Virginia |
| Moderate negative | California, Florida, Idaho, Indiana, Kansas, Maine, Massachusetts, Minnesota, Missouri, Montana, Nebraska, North Carolina, North Dakota, Oregon, South Carolina, Texas, Vermont, West Virginia, Wisconsin |
| Strong negative | Alaska, Arizona, Iowa, Utah, Washington |
| **Total expenditures** | |
| Strong positive | [none] |
| Moderate positive | Illinois, Louisiana, Maryland, Michigan, New York, Ohio, Pennsylvania, Virginia |
| Moderate negative | Arizona, California, Indiana, Iowa, Kansas, Maine, Massachusetts, Minnesota, Missouri, Montana, Nebraska, North Dakota, Oregon, West Virginia, Wisconsin |
| Strong negative | Alaska |

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data. "School District Financial Survey (F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

current expenditures per pupil were positively related to property value in 19 of the 40 states with available data, compared to only 8 states with median household income. On the other hand, current expenditures per pupil were negatively related to median housing value in only 11 states, compared to 15 states with median household income.

In unadjusted dollars, 33 of the 40 states with available data showed a positive relationship between median housing value and at least 1 measure of expenditure (table 5-11). Household income was posi-

Table 5-10. States with strong and moderate correlations between median housing value and expenditures per pupil (unadjusted dollars): 1997–98

| Type of expenditure per pupil and relationship | States |
|---|---|
| **Instructional expenditures** | |
| Strong positive | Delaware, Louisiana, New York, Pennsylvania, Virginia |
| Moderate positive | Alabama, Illinois, Michigan, Missouri, Ohio |
| Moderate negative | Arizona, Indiana, Iowa, Kansas, Massachusetts, Minnesota, Montana, Nebraska, North Dakota, Oregon, Texas, Washington, West Virginia |
| Strong negative | Alaska, Utah |
| **Student and instructional staff support services** | |
| Strong positive | Illinois, Maryland, Pennsylvania, Virginia |
| Moderate positive | Alabama, California, Idaho, Iowa, Kansas, Louisiana, Maine, Massachusetts, Michigan, Minnesota, Missouri, Nebraska, Nevada, New Hampshire, North Carolina, North Dakota, Ohio, Vermont, Washington, West Virginia, Wisconsin |
| Moderate negative | Arizona, Indiana |
| Strong negative | [none] |
| **Administration** | |
| Strong positive | Delaware, Maryland, Virginia |
| Moderate positive | California, Illinois, Louisiana, Massachusetts, Missouri, New York, North Carolina, Ohio, Pennsylvania, Tennessee, Vermont, Wisconsin |
| Moderate negative | Arizona. Idaho, Indiana, Iowa, Kansas, Montana, Nebraska, North Dakota, Texas |
| Strong negative | Alaska, Nevada |
| **School operations** | |
| Strong positive | Maryland, North Carolina, Virginia |
| Moderate positive | Connecticut, Florida, Illinois, Michigan, New Hampshire, New York, Ohio, Pennsylvania, South Carolina, Tennessee, Wisconsin |
| Moderate negative | Arizona, California, Kansas, Montana, Nebraska, North Dakota, Oregon, Texas, West Virginia |
| Strong negative | Alaska |
| **Salaries** | |
| Strong positive | Florida, Illinois, Maryland, Pennsylvania, Virginia |
| Moderate positive | Alabama, California, Louisiana, Maine, Massachusetts, Michigan, Minnesota, Missouri, New Hampshire, New York, North Carolina, Ohio, Tennessee, Vermont, Wisconsin |
| Moderate negative | Arizona, Indiana, Kansas, Montana, Texas, Utah |
| Strong negative | Alaska |
| **Salaries and benefits** | |
| Strong positive | Delaware, Florida, Maryland, Pennsylvania, Virginia |
| Moderate positive | Alabama, California, Illinois, Louisiana, Maine, Massachusetts, Michigan, Minnesota, Missouri, New Hampshire, New York, North Carolina, Ohio, Tennessee, Vermont, Wisconsin |
| Moderate negative | Arizona, Indiana, Kansas, Montana, Oregon, Texas, Utah, West Virginia |
| Strong negative | Alaska |
| **Current expenditures** | |
| Strong positive | Delaware, Maryland, Pennsylvania, Virginia |
| Moderate positive | Alabama, California, Florida, Illinois, Louisiana, Massachusetts, Michigan, Missouri, New Hampshire, New York, North Carolina, Ohio, Tennessee, Vermont, Wisconsin |
| Moderate negative | Arizona, Indiana, Kansas, Montana, Nebraska, North Dakota, Oregon, Texas, Utah, West Virginia |
| Strong negative | Alaska |
| **Total expenditures** | |
| Strong positive | Florida, Illinois, Maryland, Pennsylvania, Virginia |
| Moderate positive | Alabama, Indiana, Louisiana, Massachusetts, Michigan, Missouri, New Hampshire, New York, North Carolina, Ohio, South Carolina, Tennessee, Texas, Vermont, Washington |
| Moderate negative | Montana, Nebraska, North Dakota |
| Strong negative | Alaska, Nevada |

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data. "School District Financial Survey (F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

tively related to all eight expenditure measures in four states (Illinois, Ohio, Pennsylvania, and Virginia) and to at least 6 of the 8 expenditure measures in another 12 states (Alabama, Louisiana, Maryland, Massachusetts, Michigan, Missouri, New Hampshire, New York, North Carolina, Tennessee, Vermont, and Wisconsin) (table 5-10). In contrast, there was a negative relationship between median housing value and at least 1 expenditure measure in only 18 states. While no state showed a negative

Table 5-11. Summary of strong and moderate correlations between median housing value and measures of expenditure per pupil: 1997–98

| Unadjusted dollars | | | | Cost-adjusted dollars | | | |
|---|---|---|---|---|---|---|---|
| Positive relationship with expenditures per pupil | | Negative relationship with expenditures per pupil | | Positive relationship with expenditures per pupil | | Negative relationship with expenditures per pupil | |
| State | Number of expenditure measures | State | Number of expenditure measures | State | Number of expenditure measures | State | Number of expenditure measures |
| Alabama | 6 | Alaska | 7 | Alabama | 1 | Alaska | 7 |
| California | 5 | Arizona | 7 | California | 2 | Arizona | 8 |
| Connecticut | 1 | California | 1 | Florida | 1 | California | 6 |
| Delaware | 4 | Idaho | 1 | Idaho | 1 | Idaho | 1 |
| Florida | 5 | Indiana | 6 | Illinois | 7 | Indiana | 7 |
| Idaho | 1 | Iowa | 2 | Iowa | 1 | Iowa | 7 |
| Illinois | 8 | Kansas | 6 | Louisiana | 2 | Kansas | 7 |
| Indiana | 1 | Massachusetts | 1 | Maine | 1 | Maine | 4 |
| Iowa | 1 | Minnesota | 1 | Maryland | 6 | Massachusetts | 1 |
| Kansas | 1 | Montana | 7 | Massachusetts | 5 | Michigan | 1 |
| Louisiana | 7 | Nebraska | 5 | Michigan | 4 | Minnesota | 7 |
| Maine | 3 | Nevada | 2 | Minnesota | 1 | Missouri | 6 |
| Maryland | 7 | North Dakota | 5 | New York | 2 | Montana | 7 |
| Massachusetts | 6 | Oregon | 4 | North Carolina | 1 | Nebraska | 7 |
| Michigan | 7 | Texas | 6 | North Dakota | 1 | Nevada | 2 |
| Minnesota | 3 | Utah | 4 | Ohio | 7 | North Carolina | 1 |
| Missouri | 7 | Washington | 1 | Pennsylvania | 7 | North Dakota | 7 |
| Nebraska | 1 | West Virginia | 4 | Rhode Island | 2 | Ohio | 1 |
| Nevada | 1 | | | South Carolina | 1 | Oregon | 5 |
| New Hampshire | 6 | | | Tennessee | 1 | Texas | 7 |
| New York | 7 | | | Vermont | 4 | Utah | 6 |
| North Carolina | 7 | | | Virginia | 8 | Washington | 6 |
| North Dakota | 1 | | | West Virginia | 1 | West Virginia | 5 |
| Ohio | 8 | | | | | Wisconsin | 2 |
| Pennsylvania | 8 | | | | | Wyoming | 1 |
| South Carolina | 2 | | | | | | |
| Tennessee | 6 | | | | | | |
| Texas | 1 | | | | | | |
| Vermont | 6 | | | | | | |
| Virginia | 8 | | | | | | |
| Washington | 2 | | | | | | |
| West Virginia | 1 | | | | | | |
| Wisconsin | 6 | | | | | | |

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data. "School District Financial Survey (F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

relationship between household income and all eight measures of expenditure, 6 states (Alaska, Arizona, Indiana, Kansas, Montana, and Texas) did show a negative relationship between household income and at least 6 expenditure measures.

As with household income, cost adjustments also resulted in a decrease in the number of states with positive relationships between housing value and expenditures per pupil and an increase in the number of states with negative relationships between these variables (table 5-11). For the 40 states with adequate data, only 6 states (Illinois, Massachusetts, Ohio, Pennsylvania, Vermont, and Virginia) had a positive correlation between median housing value and current expenditures per pupil and only 1 state (Virginia) had a strong correlation (table 5-12). On the other hand, median housing value was negatively related to current expenditures per pupil in 17 states, with 5 states (Alaska, Iowa, Montana, Nebraska, and West Virginia) having a strong negative correlation between these variables.

Finally, in cost-adjusted dollars, only 23 states showed a positive relationship between median housing value and at least one measure of expenditure (table 5-11). Median housing value was positively related to all eight expenditure measures in only one state (Virginia) and to at least six of the eight expenditure

Table 5-12. States with strong and moderate correlations between median housing value and expenditures per pupil (cost-adjusted dollars): 1997–98

| Type of expenditure per pupil and relationship | States |
|---|---|
| **Instructional expenditures** | |
| Strong positive | [none] |
| Moderate positive | Louisiana, New York, Ohio, Pennsylvania, Virginia |
| Moderate negative | Arizona, California, Indiana, Kansas, Maine, Massachusetts, Minnesota, Missouri, Montana, Nebraska, North Carolina, North Dakota, Ohio, Texas, Wisconsin, Wyoming |
| Strong negative | Alaska, Iowa, Utah, Washington, West Virginia |
| **Student and instructional staff support services** | |
| Strong positive | Maryland, Pennsylvania, Virginia |
| Moderate positive | California, Idaho, Illinois, Iowa, Maine, Massachusetts, Michigan, Minnesota, North Dakota, Ohio, West Virginia |
| Moderate negative | Arizona, Indiana, Texas, Utah |
| Strong negative | [none] |
| **Administration** | |
| Strong positive | Maryland, Virginia |
| Moderate positive | California, Illinois, Louisiana, Massachusetts, Rhode Island, Tennessee, Vermont |
| Moderate negative | Arizona, Idaho, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Montana, Nebraska, North Dakota, Oregon, Texas, Washington |
| Strong negative | Alaska, Nevada |
| **School operations** | |
| Strong positive | [none] |
| Moderate positive | Illinois, Maryland, New York, North Carolina, Ohio, Pennsylvania, Rhode Island, Virginia |
| Moderate negative | Arizona, California, Indiana, Iowa, Kansas, Maine, Minnesota, Missouri, Montana, Nebraska, North Dakota, Oregon, Texas, Utah, Washington |
| Strong negative | Alaska, West Virginia |
| **Salaries** | |
| Strong positive | Maryland, Virginia |
| Moderate positive | Illinois, Massachusetts, Michigan, Ohio, Pennsylvania, Vermont |
| Moderate negative | Arizona, California, Indiana, Iowa, Kansas, Minnesota, Missouri, Montana, Nebraska, North Dakota, Oregon, Texas, Utah, Washington, West Virginia |
| Strong negative | Alaska |
| **Salaries and benefits** | |
| Strong positive | Maryland, Virginia |
| Moderate positive | Illinois, Massachusetts, Michigan, Ohio, Pennsylvania, Vermont |
| Moderate negative | Arizona, California, Indiana, Iowa, Kansas, Minnesota, Nebraska, North Dakota, Oregon, Texas, Utah, Washington |
| Strong negative | Alaska, Montana, West Virginia |
| **Current expenditures** | |
| Strong positive | Virginia |
| Moderate positive | Illinois, Massachusetts, Ohio, Pennsylvania, Vermont |
| Moderate negative | Arizona, California, Indiana, Kansas, Maine, Minnesota, Missouri, North Dakota, Oregon, Texas, Utah, Washington |
| Strong negative | Alaska, Iowa, Montana, Nebraska, West Virginia |
| **Total expenditures** | |
| Strong positive | Maryland |
| Moderate positive | Alabama, Florida, Illinois, Michigan, Ohio, Pennsylvania, South Carolina, Virginia |
| Moderate negative | Arizona, California, Iowa, Kansas, Maine, Minnesota, Missouri, Montana, Nebraska, North Dakota, Wisconsin |
| Strong negative | Alaska, Nevada |

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data. "School District Financial Survey (F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

measures in four other states (Illinois, Maryland, Ohio, and Pennsylvania) (table 5-12). In contrast, there was a negative relationship between median household income and at least 1 expenditure measure in 25 states. One state (Arizona) showed a negative relationship between median housing value and all eight measures of expenditure. Another 13 states (Alaska, California, Indiana, Iowa, Kansas, Minnesota, Missouri, Montana, Nebraska, North Dakota, Texas, Utah, and Washington) showed a negative relationship between household income and at least 6 expenditure measures.

## Minority Enrollment

At the national level, minority enrollment showed a moderate positive relationship with current expenditures per pupil in unadjusted dollars and no relationship with current expenditures per pupil in cost-adjusted dollars (table 5-4).

These national patterns were partially reflected in the states. Minority enrollment showed no relationship or a weak relationship with unadjusted current expenditures per pupil in 16 states of the 40 states with available data (table 5-13). However, minority enrollment was positively related to current expenditures per pupil in 23 states, and strongly related in 11 of those states (Alaska, Arizona, Indiana, Iowa, Massachusetts, Minnesota, Missouri, Ohio, Oregon, Utah, and Wisconsin). On the other hand, minority enrollment was negatively related to current expenditures per pupil in only one state (New York), and this was a moderate negative relationship.

In unadjusted dollars, 34 states showed a positive relationship between minority enrollment and at least one measure of expenditure (table 5-14). However, minority enrollment was positively related to all 8 expenditure measures in 8 states (Arizona, Indiana, Massachusetts, Minnesota, Missouri, Montana, Ohio, and Washington) and to 6 or more of the 8 expenditure measures in 12 other states (Alaska, California, Connecticut, Florida, Illinois, Michigan, North Dakota, Oregon, South Carolina, Tennessee, Utah, and Wisconsin). In contrast, there was a negative relationship between minority enrollment and all eight expenditure measures in no state and a negative relationship with six of the eight expenditure measures in only one state (New York).

Cost-of-education adjustments reduced the number of states showing a positive relationship between minority enrollment and current expenditures per pupil and increased the number of states showing a negative relationship between these variables. For the 40 states with adequate data, 19 states had a positive correlation between minority enrollment and cost-adjusted current expenditures per pupil, compared to 23 states with unadjusted expenditures (table 5-15). Five states had a strong negative correlation between minority enrollment and cost-adjusted expenditures, compared with one state with unadjusted expenditures. However, minority enrollment was still positively related to cost-adjusted expenditures per pupil in just under half the states with available data.

In cost-adjusted dollars, 35 states showed a positive relationship between minority enrollment and at least one measure of expenditure (table 5-14). Minority enrollment continued to be positively related to all eight measures of expenditure in seven states (Arizona, Indiana, Massachusetts, Minnesota, Missouri, Montana, and Ohio) and to at least six of the eight expenditure measures in another six states (Alaska, Michigan, North Dakota, Oregon, South Carolina, and Wisconsin) (table 5-15). However, the number of states with a negative relationship between minority enrollment and at least one measure of expenditure increased from 8 states before expenditure adjustments to 11 states after cost adjustments. In addition, one state (New York) now showed a negative relationship between minority enrollment and all eight measures of expenditure.

## District Poverty Rate

District poverty rate showed similar relationships with expenditures per pupil in the states. District poverty rate showed no relationship or a weak relationship with unadjusted current expenditures per pupil in 13 of the 40 states with available data. It was positively related to current expenditures per pupil in 24 states, and strongly related in three of those states (Alaska, Indiana, and Utah) (table 5-16).

Table 5-13. States with strong and moderate correlations between percent minority enrollment and expenditures per pupil (unadjusted dollars): 1997–98

| Type of expenditure per pupil and relationship | States |
|---|---|
| **Instructional expenditures** | |
| Strong positive | Alaska, Connecticut, Indiana, Iowa, Massachusetts, Wisconsin, Wyoming |
| Moderate positive | Arizona, California, Florida, Illinois, Michigan, Minnesota, Missouri, Montana, North Dakota, Ohio, Oregon, South Carolina, Tennessee, Utah, Washington |
| Moderate negative | Nebraska, Pennsylvania |
| Strong negative | Nevada |
| **Student and instructional staff support services** | |
| Strong positive | Indiana, Massachusetts, Minnesota, Missouri, Ohio, Rhode Island, Utah |
| Moderate positive | Alabama, Arizona, California, Florida, Illinois, Iowa, Kansas, Maine, Montana, Nebraska, New Hampshire, North Dakota, Oregon, South Carolina, Tennessee, Texas, Vermont, Washington, Wisconsin |
| Moderate negative | [none] |
| Strong negative | New York |
| **Administration** | |
| Strong positive | Alaska, Arizona, Indiana, Missouri, South Carolina |
| Moderate positive | Alabama, California, Connecticut, Idaho, Maine, Massachusetts, Michigan, Minnesota, Montana, North Dakota, Ohio, Pennsylvania, Vermont, Virginia, Washington, Wisconsin, Wyoming |
| Moderate negative | Illinois, New York |
| Strong negative | [none] |
| **School operations** | |
| Strong positive | Alaska, Indiana, Massachusetts, Minnesota, Missouri, Oregon, Tennessee |
| Moderate positive | Arizona, Connecticut, Florida, Michigan, Montana, Nebraska, Ohio, South Carolina, Texas, Virginia, Washington, Wisconsin |
| Moderate negative | California, New Hampshire, New York |
| Strong negative | Nevada |
| **Salaries** | |
| Strong positive | Alaska, Indiana, Iowa, Minnesota, Missouri, Ohio, Oregon, Utah |
| Moderate positive | Arizona, California, Connecticut, Florida, Illinois, Maine, Massachusetts, Michigan, Montana, New Hampshire, North Dakota, South Carolina, Tennessee, Texas, Vermont, Washington, West Virginia, Wisconsin, Wyoming |
| Moderate negative | New York |
| Strong negative | [none] |
| **Salaries and benefits** | |
| Strong positive | Alaska, Indiana, Iowa, Massachusetts, Minnesota, Missouri, Ohio, Oregon, Utah |
| Moderate positive | Arizona, California, Connecticut, Florida, Illinois, Maine, Michigan, Montana, North Dakota, South Carolina, Tennessee, Texas, Vermont, Washington, Wisconsin, Wyoming |
| Moderate negative | New York |
| Strong negative | [none] |
| **Current expenditures** | |
| Strong positive | Alaska, Arizona, Indiana, Iowa, Massachusetts, Minnesota, Missouri, Ohio, Oregon, Utah, Wisconsin |
| Moderate positive | California, Connecticut, Florida, Illinois, Michigan, Montana, North Dakota, South Carolina, Tennessee, Vermont, Washington, Wyoming |
| Moderate negative | New York |
| Strong negative | [none] |
| **Total expenditures** | |
| Strong positive | Alaska, Massachusetts, Missouri |
| Moderate positive | Arizona, California, Connecticut, Illinois, Indiana, Minnesota, Montana, North Dakota, Ohio, Oregon, Tennessee, Utah, Washington |
| Moderate negative | New Hampshire, Texas |
| Strong negative | [none] |

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data. "School District Financial Survey (F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

District poverty rate had a moderate negative relationship with current expenditures per pupil in three states (Louisiana, New York, and Pennsylvania).

In unadjusted dollars, 28 states showed a positive relationship between district poverty rate and at least one measure of expenditure (table 5-17). However, district poverty rate was positively related to all eight expenditure measures in only eight states (Arizona, Indiana, Massachusetts, Minnesota, Mis-

Table 5-14. Summary of strong and moderate correlations between percent minority enrollment and measures of expenditure per pupil: 1997–98

| Unadjusted dollars | | | | Cost-adjusted dollars | | | |
|---|---|---|---|---|---|---|---|
| Positive relationship with expenditures per pupil | | Negative relationship with expenditures per pupil | | Positive relationship with expenditures per pupil | | Negative relationship with expenditures per pupil | |
| State | Number of expenditure measures | State | Number of expenditure measures | State | Number of expenditure measures | State | Number of expenditure measures |
| Alabama | 2 | California | 1 | Alabama | 2 | California | 1 |
| Alaska | 7 | Illinois | 1 | Alaska | 7 | Illinois | 2 |
| Arizona | 8 | Nebraska | 1 | Arizona | 8 | Iowa | 3 |
| California | 7 | Nevada | 2 | California | 5 | Kansas | 5 |
| Connecticut | 7 | New Hampshire | 2 | Connecticut | 4 | Louisiana | 4 |
| Florida | 6 | New York | 6 | Delaware | 1 | Nebraska | 5 |
| Idaho | 1 | Pennsylvania | 1 | Florida | 1 | New Hampshire | 5 |
| Illinois | 6 | Texas | 1 | Idaho | 1 | New York | 8 |
| Indiana | 8 | | | Illinois | 2 | Pennsylvania | 5 |
| Iowa | 5 | | | Indiana | 8 | Rhode Island | 1 |
| Kansas | 1 | | | Iowa | 4 | Texas | 2 |
| Maine | 4 | | | Kansas | 1 | | |
| Massachusetts | 8 | | | Maine | 2 | | |
| Michigan | 6 | | | Massachusetts | 8 | | |
| Minnesota | 8 | | | Michigan | 6 | | |
| Missouri | 8 | | | Minnesota | 8 | | |
| Montana | 8 | | | Missouri | 8 | | |
| Nebraska | 2 | | | Montana | 8 | | |
| New Hampshire | 2 | | | Nebraska | 2 | | |
| North Dakota | 7 | | | New Hampshire | 1 | | |
| Ohio | 8 | | | North Carolina | 2 | | |
| Oregon | 7 | | | North Dakota | 7 | | |
| Pennsylvania | 1 | | | Ohio | 8 | | |
| Rhode Island | 1 | | | Oregon | 7 | | |
| South Carolina | 7 | | | Pennsylvania | 1 | | |
| Tennessee | 7 | | | Rhode Island | 1 | | |
| Texas | 4 | | | South Carolina | 7 | | |
| Utah | 6 | | | Tennessee | 5 | | |
| Vermont | 5 | | | Texas | 1 | | |
| Virginia | 2 | | | Utah | 5 | | |
| Washington | 8 | | | Vermont | | | |
| West Virginia | 1 | | | Virginia | 1 | | |
| Wisconsin | 7 | | | Washington | 5 | | |
| Wyoming | 5 | | | Wisconsin | 6 | | |
| | | | | Wyoming | 5 | | |

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data. "School District Financial Survey (F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

souri, Montana, North Dakota, and Utah) and to at least six of the eight expenditure measures in seven other states (Alaska, California, Connecticut, Kansas, Oregon, Texas, and Wisconsin) (table 5-16). In contrast, there was a negative relationship between district poverty rate and all eight expenditure measures in only one state (New York) and a negative relationship with at least six of the eight expenditure measures in only two states (Louisiana and Pennsylvania).

Cost-of-education adjustments increased the number of states showing a positive relationship between district poverty rate and current expenditures per pupil and decreased by four the number of states showing a negative relationship between these variables (table 5-17). For the 40 states with adequate data, 27 states had a positive correlation between district poverty rate and cost-adjusted current expenditures per pupil, compared to 24 with unadjusted expenditures (table 5-18). Three states had a negative correlation between district poverty rate, both before and after cost adjustments to expenditures.

In cost-adjusted dollars, 33 states showed a positive relationship between district poverty rate and at least one measure of expenditure. District poverty rate was now positively related to all 8 expenditure measures in 10 states (Arizona, Indiana, Kansas, Massachusetts, Minnesota, Missouri, Montana, North

Table 5-15. States with strong and moderate correlations between percent minority enrollment and expenditures per pupil (cost-adjusted dollars): 1997–98

| Type of expenditure per pupil and relationship | States |
|---|---|
| **Instructional expenditures** | |
| Strong positive | Alaska, Delaware, Massachusetts, Wyoming |
| Moderate positive | Arizona, Connecticut, Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Montana, North Dakota, Ohio, Oregon, South Carolina, Utah, Wisconsin |
| Moderate negative | Kansas, Louisiana, Nebraska, New Hampshire, New York, Pennsylvania, Texas |
| Strong negative | [none] |
| **Student and instructional staff support services** | |
| Strong positive | Massachusetts, Minnesota, Missouri, Ohio, Utah |
| Moderate positive | Alabama, Arizona, California, Illinois, Indiana, Iowa, Kansas, Maine, Montana, Nebraska, New Hampshire, North Carolina, North Dakota, Oregon, Rhode Island, South Carolina, Tennessee, Texas, Washington, Wisconsin |
| Moderate negative | Pennsylvania |
| Strong negative | New York |
| **Administration** | |
| Strong positive | Alaska, Arizona, South Carolina |
| Moderate positive | Alabama, California, Idaho, Indiana, Massachusetts, Michigan, Minnesota, Missouri, Montana, North Carolina, North Dakota, Ohio, Pennsylvania, Vermont, Wisconsin, Wyoming |
| Moderate negative | Illinois, Iowa, New Hampshire |
| Strong negative | New York |
| **School operations** | |
| Strong positive | Alaska, Massachusetts, Missouri, Oregon |
| Moderate positive | Arizona, Indiana, Michigan, Minnesota, Montana, Nebraska, Ohio, South Carolina, Tennessee, Virginia, Washington, Wisconsin |
| Moderate negative | California, Illinois, Iowa, New Hampshire, New York, Rhode Island |
| Strong negative | [none] |
| **Salaries** | |
| Strong positive | Alaska, Ohio |
| Moderate positive | Arizona, California, Connecticut, Indiana, Iowa, Maine, Massachusetts, Michigan, Minnesota, Missouri, Montana, North Dakota, Oregon, South Carolina, Tennessee, Utah, Washington, Wyoming |
| Moderate negative | Kansas, Louisiana, Nebraska, Pennsylvania |
| Strong negative | New York |
| **Salaries and benefits** | |
| Strong positive | Alaska, Ohio |
| Moderate positive | Arizona, California, Connecticut, Florida, Indiana, Iowa, Massachusetts, Michigan, Minnesota, Missouri, Montana, North Dakota, Oregon, South Carolina, Tennessee, Utah, Washington, Wisconsin, Wyoming |
| Moderate negative | Kansas, Louisiana, Nebraska |
| Strong negative | New York |
| **Current expenditures** | |
| Strong positive | Alaska, Arizona, Massachusetts, South Carolina |
| Moderate positive | California, Connecticut, Indiana, Michigan, Minnesota, Missouri, Montana, North Dakota, Ohio, Oregon, Tennessee, Utah, Washington, Wisconsin, Wyoming |
| Moderate negative | Kansas, Nebraska, New Hampshire, New York, Pennsylvania |
| Strong negative | [none] |
| **Total expenditures** | |
| Strong positive | Alaska, Massachusetts |
| Moderate positive | Arizona, Indiana, Minnesota, Missouri, Montana, North Dakota, Ohio, Oregon |
| Moderate negative | Iowa, Kansas, Louisiana, Nebraska, New Hampshire, New York, Pennsylvania, Texas |
| Strong negative | [none] |

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data. "School District Financial Survey (F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

Dakota, Utah, and Washington) and to at least 6 of the 8 expenditure measures in another 11 states (table 5-18). The number of states with a negative relationship between district poverty rate and at least 1 measure of expenditure decreased from 12 states before cost adjustments to 8 states after adjustments. Again, only one state (New York) showed a negative relationship between district poverty rate and all eight measures of expenditure.

Table 5-16. States with strong and moderate correlations between district poverty rate and expenditures per pupil (unadjusted dollars): 1997–98

| Type of expenditure per pupil and relationship | States |
|---|---|
| **Instructional expenditures** | |
| Strong positive | Alaska, Utah, Wyoming |
| Moderate positive | Arizona, California, Connecticut, Indiana, Iowa, Kansas, Massachusetts, Michigan, Minnesota, Missouri, Montana, North Dakota, Oregon, Texas, Washington, West Virginia, Wisconsin |
| Moderate negative | Alabama, Louisiana, New York, Pennsylvania, Virginia |
| Strong negative | [none] |
| **Student and instructional staff support services** | |
| Strong positive | Utah |
| Moderate positive | Arizona, California, Indiana, Massachusetts, Minnesota, Missouri, Montana, Nebraska, North Dakota, Ohio, Rhode Island, Tennessee, Texas, Wisconsin |
| Moderate negative | Louisiana, Pennsylvania, West Virginia |
| Strong negative | New York |
| **Administration** | |
| Strong positive | Alaska, Arizona, Indiana |
| Moderate positive | Connecticut, Florida, Kansas, Maine, Massachusetts, Michigan, Minnesota, Missouri, Montana, Nebraska, North Dakota, Ohio, South Carolina, Texas, Utah, Vermont, Wisconsin, Wyoming |
| Moderate negative | Illinois |
| Strong negative | New York |
| **School operations** | |
| Strong positive | Alaska |
| Moderate positive | Arizona, Connecticut, Indiana, Kansas, Massachusetts, Michigan, Minnesota, Missouri, Montana, Nebraska, North Dakota, Oregon, Tennessee, Utah, Washington, West Virginia, Wisconsin |
| Moderate negative | Illinois, Maryland, New Hampshire, New York, Pennsylvania, Rhode Island |
| Strong negative | [none] |
| **Salaries** | |
| Strong positive | Alaska, Indiana, Utah |
| Moderate positive | Arizona, California, Connecticut, Florida, Iowa, Kansas, Massachusetts, Minnesota, Missouri, Montana, North Dakota, Ohio, Oregon, Texas, Washington, Wisconsin, Wyoming |
| Moderate negative | Louisiana, Pennsylvania |
| Strong negative | New York |
| **Salaries and benefits** | |
| Strong positive | Alaska, Indiana, Utah |
| Moderate positive | Arizona, California, Connecticut, Florida, Iowa, Kansas, Maine, Massachusetts, Minnesota, Missouri, Montana, North Dakota, Ohio, Oregon, Texas, Washington, West Virginia, Wisconsin, Wyoming |
| Moderate negative | Louisiana, Pennsylvania |
| Strong negative | New York |
| **Current expenditures** | |
| Strong positive | Alaska, Indiana, Utah |
| Moderate positive | Arizona, California, Connecticut, Florida, Iowa, Kansas, Massachusetts, Michigan, Minnesota, Missouri, Montana, Nebraska, North Dakota, Ohio, Oregon, South Carolina, Texas, Washington, West Virginia, Wisconsin, Wyoming |
| Moderate negative | Louisiana, New York, Pennsylvania |
| Strong negative | [none] |
| **Total expenditures** | |
| Strong positive | Alaska |
| Moderate positive | Arizona, California, Connecticut, Indiana, Massachusetts, Minnesota, Missouri, Montana, North Dakota, Oregon, Utah |
| Moderate negative | Louisiana, Michigan, New York, Pennsylvania, Texas, Virginia |
| Strong negative | [none] |

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data. "School District Financial Survey (F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

Table 5-17. Summary of strong and moderate correlations between district poverty rate and measures of expenditure per pupil: 1997–98

| Unadjusted dollars | | | | Cost-adjusted dollars | | | |
|---|---|---|---|---|---|---|---|
| Positive relationship with expenditures per pupil | | Negative relationship with expenditures per pupil | | Positive relationship with expenditures per pupil | | Negative relationship with expenditures per pupil | |
| State | Number of expenditure measures | State | Number of expenditure measures | State | Number of expenditure measures | State | Number of expenditure measures |
| Alaska | 7 | Alabama | 1 | Alabama | 4 | Illinois | 2 |
| Arizona | 8 | Illinois | 2 | Alaska | 7 | Louisiana | 5 |
| California | 6 | Louisiana | 6 | Arizona | 8 | Maryland | 2 |
| Connecticut | 7 | Maryland | 1 | California | 7 | Michigan | 1 |
| Florida | 4 | Michigan | 1 | Connecticut | 5 | New York | 8 |
| Indiana | 8 | New Hampshire | 1 | Florida | 6 | Pennsylvania | 6 |
| Iowa | 4 | New York | 8 | Idaho | 1 | Rhode Island | 2 |
| Kansas | 6 | Pennsylvania | 7 | Illinois | 1 | West Virginia | 1 |
| Maine | 2 | Rhode Island | 1 | Indiana | 8 | | |
| Massachusetts | 8 | Texas | 1 | Iowa | 5 | | |
| Michigan | 4 | Virginia | 2 | Kansas | 8 | | |
| Minnesota | 8 | West Virginia | 1 | Maine | 5 | | |
| Missouri | 8 | | | Massachusetts | 8 | | |
| Montana | 8 | | | Michigan | 6 | | |
| Nebraska | 4 | | | Minnesota | 8 | | |
| North Dakota | 8 | | | Missouri | 8 | | |
| Ohio | 5 | | | Montana | 8 | | |
| Oregon | 6 | | | Nebraska | 7 | | |
| Rhode Island | 1 | | | North Carolina | 4 | | |
| South Carolina | 2 | | | North Dakota | 8 | | |
| Tennessee | 2 | | | Ohio | 5 | | |
| Texas | 6 | | | Oregon | 7 | | |
| Utah | 8 | | | Pennsylvania | 1 | | |
| Vermont | 1 | | | Rhode Island | 1 | | |
| Washington | 5 | | | South Carolina | 6 | | |
| West Virginia | 4 | | | Tennessee | 7 | | |
| Wisconsin | 7 | | | Texas | 7 | | |
| Wyoming | 5 | | | Utah | 8 | | |
| | | | | Vermont | 1 | | |
| | | | | Washington | 8 | | |
| | | | | West Virginia | 5 | | |
| | | | | Wisconsin | 6 | | |
| | | | | Wyoming | 6 | | |

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data. "School District Financial Survey (F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

Table 5-18. States with strong and moderate correlations between district poverty rate and expenditures per pupil (cost-adjusted dollars): 1997–98

| Type of expenditure per pupil and relationship | States |
|---|---|
| **Instructional expenditures** | |
| Strong positive | Alaska, Utah, West Virginia, Wyoming |
| Moderate positive | Arizona, California, Connecticut, Florida, Illinois, Indiana, Iowa, Kansas, Maine, Massachusetts, Michigan, Minnesota, Missouri, Montana, North Carolina, North Dakota, Oregon, South Carolina, Tennessee, Texas, Washington, Wisconsin |
| Moderate negative | Louisiana, New York, Pennsylvania |
| Strong negative | [none] |
| **Student and instructional staff support services** | |
| Strong positive | Utah |
| Moderate positive | Alabama, Arizona, California, Indiana, Kansas, Massachusetts, Minnesota, Missouri, Montana, Nebraska, North Dakota, Ohio, Tennessee, Texas, Washington, Wisconsin |
| Moderate negative | Pennsylvania, West Virginia |
| Strong negative | New York |
| **Administration** | |
| Strong positive | Alaska, Arizona, Indiana |
| Moderate positive | Alabama, California, Florida, Idaho, Kansas, Maine, Massachusetts, Michigan, Minnesota, Missouri, Montana, Nebraska, North Carolina, North Dakota, Ohio, Oregon, Pennsylvania, South Carolina, Texas, Utah, Vermont, Washington, Wisconsin, Wyoming |
| Moderate negative | Illinois |
| Strong negative | New York |
| **School operations** | |
| Strong positive | Alaska, Missouri |
| Moderate positive | Arizona, Florida, Indiana, Iowa, Kansas, Massachusetts, Michigan, Minnesota, Montana, Nebraska, North Dakota, Oregon, South Carolina, Tennessee, Texas, Utah, Washington, West Virginia, Wyoming |
| Moderate negative | Illinois, Maryland, New York, Rhode Island |
| Strong negative | [none] |
| **Salaries** | |
| Strong positive | Alaska, Indiana, Utah |
| Moderate positive | Alabama, Arizona, California, Connecticut, Florida, Iowa, Kansas, Maine, Massachusetts, Michigan, Minnesota, Missouri, Montana, Nebraska, North Carolina, North Dakota, Ohio, Oregon, South Carolina, Tennessee, Texas, Washington, West Virginia, Wisconsin, Wyoming |
| Moderate negative | Louisiana, Maryland, Pennsylvania, Rhode Island |
| Strong negative | New York |
| **Salaries and benefits** | |
| Strong positive | Alaska, Indiana, Utah |
| Moderate positive | Alabama, Arizona, California, Connecticut, Florida, Iowa, Kansas, Maine, Massachusetts, Michigan, Minnesota, Missouri, Montana, Nebraska, North Carolina, North Dakota, Ohio, Oregon, South Carolina, Tennessee, Texas, Washington, West Virginia, Wisconsin, Wyoming |
| Moderate negative | Louisiana, Pennsylvania |
| Strong negative | New York |
| **Current expenditures** | |
| Strong positive | Alaska, Arizona, Florida, Indiana, Minnesota, Missouri, Utah |
| Moderate positive | California, Connecticut, Iowa, Kansas, Maine, Massachusetts, Michigan, Montana, Nebraska, North Carolina, North Dakota, Ohio, Oregon, South Carolina, Tennessee, Texas, Washington, West Virginia, Wisconsin, Wyoming |
| Moderate negative | Louisiana, Pennsylvania |
| Strong negative | New York |
| **Total expenditures** | |
| Strong positive | Alaska |
| Moderate positive | Arizona, California, Connecticut, Indiana, Kansas, Massachusetts, Minnesota, Missouri, Montana, Nebraska, North Dakota, Oregon, Tennessee, Utah, Washington |
| Moderate negative | Louisiana, Michigan, New York, Pennsylvania |
| Strong negative | [none] |

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data. "School District Financial Survey (F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

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# Appendix A: Supplementary Tables

Table A-1. Correlations between student membership and expenditures per pupil (unadjusted dollars), by state: 1997–98

| State | Total | Current | Instructional | Student and support staff | Administration | Operations | Salary | Salary and benefit | Capital outlay | Facility |
|---|---|---|---|---|---|---|---|---|---|---|
| United States | -0.03* | -0.03* | -0.03* | 0.07* | -0.05* | -0.04* | -0.01 | 0.00 | 0.00 | 0.00 |
| Alabama | -0.01 | -0.06 | -0.06 | 0.16 | -0.21* | 0.12 | -0.04 | -0.04 | 0.04 | 0.07 |
| Alaska | -0.30* | -0.33* | -0.35* | -0.04 | -0.23 | -0.27 | -0.29* | -0.29* | -0.01 | -0.18 |
| Arizona | -0.18* | -0.19* | -0.14* | 0.09 | -0.25* | -0.21* | -0.14* | -0.15* | 0.02 | -0.05 |
| Arkansas | 0.00 | -0.02 | 0.01 | 0.35* | -0.19* | 0.00 | 0.11* | 0.11 | -0.02 | -0.01 |
| California | -0.04 | -0.05 | -0.05 | 0.34* | 0.31* | -0.14* | -0.01 | -0.02 | -0.03 | 0.01 |
| Colorado | -0.16* | -0.17* | -0.20* | 0.09 | -0.03 | -0.21* | -0.11 | -0.13 | -0.05 | -0.08 |
| Connecticut | -0.06 | 0.15 | 0.17* | 0.19* | -0.14 | -0.08 | 0.28* | 0.31* | -0.03 | 0.04 |
| Delaware | 0.43 | 0.56* | 0.69* | 0.19 | 0.15 | 0.05 | 0.51* | 0.54* | 0.14 | 0.13 |
| District of Columbia | ([1]) | ([1]) | ([1]) | ([1]) | ([1]) | ([1]) | ([1]) | ([1]) | ([1]) | ([1]) |
| Florida | 0.12 | 0.10 | 0.30* | 0.05 | -0.21 | -0.01 | 0.25* | 0.25* | 0.02 | 0.03 |
| Georgia | 0.05 | 0.10 | 0.19* | 0.08 | -0.06 | 0.15* | 0.18* | 0.23* | 0.00 | 0.02 |
| Hawaii | ([1]) | ([1]) | ([1]) | ([1]) | ([1]) | ([1]) | ([1]) | ([1]) | ([1]) | ([1]) |
| Idaho | -0.24* | -0.30* | -0.27* | 0.10 | -0.35* | -0.22* | -0.26* | -0.25* | -0.01 | -0.08 |
| Illinois | 0.04 | 0.04 | 0.05 | 0.07* | -0.03 | 0.01 | 0.05 | 0.05 | 0.02 | 0.03 |
| Indiana | 0.28* | 0.40* | 0.39* | 0.39* | 0.00 | 0.17* | 0.38* | 0.43* | 0.13* | 0.16* |
| Iowa | -0.10* | -0.03 | 0.02 | 0.29* | -0.11* | -0.14* | 0.06 | 0.10 | -0.04 | -0.04 |
| Kansas | -0.16* | -0.18* | -0.12* | 0.20* | -0.22* | -0.24* | -0.16* | -0.13* | -0.13* | -0.19* |
| Kentucky | 0.05 | 0.01 | -0.04 | 0.07 | -0.01 | 0.16* | 0.06 | 0.06 | 0.08 | 0.10 |
| Louisiana | 0.03 | 0.05 | 0.21 | -0.01 | -0.01 | -0.13 | 0.09 | 0.12 | -0.06 | -0.02 |
| Maine | -0.38* | -0.29* | -0.27* | 0.35* | -0.28* | -0.29* | -0.09 | -0.09 | 0.01 | -0.03 |
| Maryland | 0.32 | 0.41* | 0.47* | -0.02 | 0.41* | 0.28 | 0.48* | 0.54* | -0.12 | -0.04 |
| Massachusetts | 0.07 | 0.13* | 0.16* | 0.14* | -0.08 | 0.03 | 0.04 | 0.09 | 0.09 | 0.11 |
| Michigan | 0.08 | 0.12* | 0.12* | 0.22* | -0.09* | 0.10* | 0.19* | 0.19* | 0.00 | 0.01 |
| Minnesota | -0.01 | 0.00 | 0.02 | 0.21* | -0.10 | -0.07 | 0.05 | 0.06 | -0.01 | -0.02 |
| Mississippi | 0.12 | -0.09 | -0.03 | 0.00 | -0.25* | 0.11 | 0.02 | 0.01 | 0.20* | 0.23* |
| Missouri | 0.01 | 0.06 | 0.05 | 0.23* | -0.08 | 0.13* | 0.13* | 0.15* | 0.00 | 0.05 |
| Montana | -0.14* | -0.17* | -0.16* | 0.21* | -0.17* | -0.18* | -0.13* | -0.12* | -0.01 | -0.06 |
| Nebraska | -0.06 | -0.06 | -0.08* | 0.15* | -0.05 | -0.04 | -0.04 | -0.03 | 0.03 | 0.00 |
| Nevada | -0.19 | -0.26 | -0.27 | 0.07 | -0.25 | -0.24 | -0.25 | -0.25 | 0.06 | -0.02 |
| New Hampshire | -0.30* | -0.19* | -0.11 | 0.03 | -0.29* | -0.26* | 0.02 | 0.00 | -0.06 | -0.07 |
| New Jersey | -0.06 | 0.04 | 0.05 | 0.09* | -0.19* | 0.07 | 0.08 | 0.09* | 0.02 | 0.05 |
| New Mexico | -0.24* | -0.28* | -0.25* | -0.09 | -0.29* | -0.28* | -0.23* | -0.23* | -0.10 | -0.14 |
| New York | -0.02 | -0.02 | -0.01 | -0.05 | -0.04 | -0.02 | -0.03 | -0.03 | 0.00 | 0.00 |
| North Carolina | -0.16 | -0.24* | -0.21* | -0.19* | -0.26* | -0.06 | -0.22* | -0.22* | -0.05 | -0.06 |
| North Dakota | -0.13* | -0.13* | -0.11 | 0.15* | -0.13* | -0.11 | -0.11 | -0.10 | 0.01 | -0.05 |
| Ohio | 0.11* | 0.18* | 0.17* | 0.28* | 0.05 | 0.09* | 0.25* | 0.25* | -0.04 | -0.01 |
| Oklahoma | -0.10* | -0.15* | -0.17* | 0.21* | -0.15* | -0.08 | -0.14* | -0.12* | 0.14* | 0.07 |
| Oregon | -0.16* | -0.18* | -0.18* | 0.24* | -0.21* | -0.16* | -0.13 | -0.14 | -0.07 | -0.09 |
| Pennsylvania | 0.00 | 0.02 | 0.03 | 0.05 | -0.01 | 0.01 | 0.05 | 0.07 | -0.02 | -0.01 |
| Rhode Island | -0.15 | -0.08 | -0.08 | 0.31 | -0.20 | -0.23 | -0.08 | 0.00 | 0.20 | 0.16 |
| South Carolina | 0.00 | -0.12 | 0.03 | -0.21 | -0.20 | 0.03 | -0.02 | -0.04 | 0.11 | 0.11 |
| South Dakota | -0.10 | -0.15 | -0.12 | 0.38* | -0.25* | -0.18* | -0.09 | -0.08 | 0.01 | 0.00 |
| Tennessee | 0.13 | 0.22* | 0.19* | 0.11 | 0.10 | 0.36* | 0.18* | 0.24* | -0.03 | 0.03 |
| Texas | -0.11* | -0.17* | -0.20* | 0.13* | -0.18* | -0.10* | -0.14* | -0.13* | -0.03 | -0.04 |
| Utah | -0.36* | -0.37* | -0.39* | 0.04 | -0.40* | -0.35* | -0.33* | -0.34* | -0.07 | -0.18 |
| Vermont | -0.33* | 0.08 | 0.15* | 0.26* | 0.03 | -0.24* | 0.21* | 0.23* | 0.03 | 0.04 |
| Virginia | 0.11 | 0.10 | 0.12 | 0.19* | -0.01 | 0.03 | 0.14 | 0.15 | 0.05 | 0.07 |
| Washington | -0.17* | -0.23* | -0.24* | 0.40* | -0.28* | -0.22* | -0.19* | -0.20* | 0.12* | 0.06 |
| West Virginia | -0.10 | 0.04 | 0.12 | 0.23 | -0.07 | -0.20 | 0.22 | 0.12 | -0.16 | -0.13 |
| Wisconsin | -0.07 | 0.04 | 0.09 | 0.12* | -0.10* | -0.02 | 0.10* | 0.10* | -0.06 | -0.06 |
| Wyoming | -0.42* | -0.46* | -0.41* | -0.03 | -0.47* | -0.48* | -0.41* | -0.41* | -0.09 | -0.21 |

*Figure is statistically significant at the 0.05 level or better.

[1]No state-level correlation analysis was possible for the District of Columbia or Hawaii since they only have one district.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

Table A-2. Correlations between student membership and expenditures per pupil (cost-adjusted dollars), by state: 1997–98

| State | Total | Current | Instructional | Student and support staff | Administration | Operations | Salary | Salary and benefit | Capital outlay | Facility |
|---|---|---|---|---|---|---|---|---|---|---|
| United States | -0.07* | -0.08* | -0.08* | 0.05* | -0.08* | -0.07* | -0.07* | -0.06* | -0.01 | -0.02* |
| Alabama | -0.15 | -0.24* | -0.25* | 0.09 | -0.29* | 0.04 | -0.22* | -0.22* | 0.03 | 0.05 |
| Alaska | -0.30* | -0.33* | -0.34* | -0.07 | -0.22 | -0.30* | -0.32* | -0.32* | -0.03 | -0.20 |
| Arizona | -0.22* | -0.23* | -0.19* | 0.04 | -0.26* | -0.22* | -0.19* | -0.20* | -0.01 | -0.09 |
| Arkansas | -0.16* | -0.18* | -0.17* | 0.24* | -0.24* | -0.12* | -0.07 | -0.07 | -0.04 | -0.05 |
| California | -0.07* | -0.08* | -0.10* | 0.34* | 0.31* | -0.14* | -0.06 | -0.06* | -0.04 | 0.00 |
| Colorado | -0.24* | -0.25* | -0.27* | 0.00 | -0.11 | -0.25* | -0.22* | -0.23* | -0.08 | -0.12 |
| Connecticut | -0.24* | -0.11 | -0.08 | 0.10 | -0.27* | -0.22* | 0.01 | 0.05 | -0.04 | -0.01 |
| Delaware | 0.11 | 0.14 | 0.44 | 0.06 | -0.11 | -0.12 | 0.17 | 0.22 | 0.09 | 0.04 |
| District of Columbia | ([1]) | ([1]) | ([1]) | ([1]) | ([1]) | ([1]) | ([1]) | ([1]) | ([1]) | ([1]) |
| Florida | -0.13 | -0.30* | -0.16 | -0.12 | -0.33* | -0.27* | -0.17 | -0.16 | -0.02 | -0.03 |
| Georgia | -0.11 | -0.23* | -0.22* | -0.12 | -0.21* | -0.07 | -0.20* | -0.17* | -0.02 | -0.02 |
| Hawaii | ([1]) | ([1]) | ([1]) | ([1]) | ([1]) | ([1]) | ([1]) | ([1]) | ([1]) | ([1]) |
| Idaho | -0.29* | -0.34* | -0.31* | 0.04 | -0.37* | -0.24* | -0.33* | -0.31* | -0.03 | -0.10 |
| Illinois | 0.00 | -0.01 | 0.00 | 0.06 | -0.05 | -0.03 | 0.00 | 0.00 | 0.02 | 0.01 |
| Indiana | 0.11 | 0.16* | 0.17* | 0.32* | -0.14* | 0.00 | 0.15* | 0.22* | 0.09 | 0.10 |
| Iowa | -0.16* | -0.16* | -0.14* | 0.20* | -0.14* | -0.20* | -0.13* | -0.10 | -0.05 | -0.06 |
| Kansas | -0.25* | -0.27* | -0.23* | 0.11* | -0.27* | -0.29* | -0.26* | -0.24* | -0.16* | -0.24* |
| Kentucky | -0.08 | -0.12 | -0.16* | 0.02 | -0.07 | 0.07 | -0.10 | -0.09 | 0.06 | 0.07 |
| Louisiana | -0.17 | -0.21 | -0.07 | -0.13 | -0.14 | -0.27* | -0.17 | -0.15 | -0.09 | -0.08 |
| Maine | -0.44* | -0.37* | -0.36* | 0.28* | -0.33* | -0.34* | -0.26* | -0.26* | 0.00 | -0.08 |
| Maryland | -0.09 | -0.06 | 0.07 | -0.25 | 0.12 | -0.07 | 0.05 | 0.12 | -0.16 | -0.14 |
| Massachusetts | -0.03 | 0.01 | 0.02 | 0.07 | -0.14* | -0.05 | -0.08 | -0.03 | 0.08 | 0.08 |
| Michigan | -0.02 | -0.03 | -0.02 | 0.19* | -0.12* | 0.02 | 0.10* | 0.10* | -0.02 | -0.01 |
| Minnesota | -0.10 | -0.12* | -0.10 | 0.12* | -0.15* | -0.17* | -0.08 | -0.07 | -0.03 | -0.06 |
| Mississippi | -0.02 | -0.25* | -0.22* | -0.06 | -0.32* | 0.02 | -0.16* | -0.17* | 0.17* | 0.19* |
| Missouri | -0.17* | -0.19* | -0.20* | 0.09* | -0.19* | -0.07 | -0.13* | -0.12* | -0.03 | -0.02 |
| Montana | -0.18* | -0.21* | -0.20* | 0.17* | -0.19* | -0.20* | -0.18* | -0.17* | -0.02 | -0.08 |
| Nebraska | -0.09* | -0.10* | -0.11* | 0.11* | -0.06 | -0.06 | -0.08* | -0.08 | 0.02 | -0.02 |
| Nevada | -0.20 | -0.25 | -0.27 | 0.06 | -0.24 | -0.23 | -0.25 | -0.25 | 0.04 | -0.03 |
| New Hampshire | -0.33* | -0.30* | -0.24* | -0.04 | -0.32* | -0.30* | -0.12 | -0.14 | -0.07 | -0.09 |
| New Jersey | -0.14* | -0.09* | -0.08 | 0.02 | -0.26* | -0.01 | -0.04 | -0.04 | 0.01 | 0.02 |
| New Mexico | -0.25* | -0.30* | -0.28* | -0.13 | -0.29* | -0.28* | -0.27* | -0.27* | -0.11 | -0.14 |
| New York | -0.03 | -0.05 | -0.04 | -0.07 | -0.06 | -0.03 | -0.06 | -0.05 | -0.01 | -0.01 |
| North Carolina | -0.27* | -0.38* | -0.38* | -0.28* | -0.32* | -0.19* | -0.37* | -0.37* | -0.08 | -0.10 |
| North Dakota | -0.15* | -0.16* | -0.15* | 0.12 | -0.15* | -0.12 | -0.15* | -0.14* | 0.00 | -0.07 |
| Ohio | 0.03 | 0.08* | 0.06 | 0.24* | -0.04 | 0.03 | 0.17* | 0.16* | -0.05 | -0.03 |
| Oklahoma | -0.17* | -0.20* | -0.22* | 0.15* | -0.17* | -0.12* | -0.20* | -0.18* | 0.10* | 0.01 |
| Oregon | -0.19* | -0.22* | -0.22* | 0.16* | -0.24* | -0.18* | -0.18* | -0.18* | -0.08 | -0.11 |
| Pennsylvania | -0.04 | -0.05 | -0.05 | 0.01 | -0.05 | -0.04 | -0.01 | 0.01 | -0.02 | -0.02 |
| Rhode Island | -0.22 | -0.17 | -0.16 | 0.23 | -0.23 | -0.28 | -0.17 | -0.11 | 0.14 | 0.05 |
| South Carolina | -0.11 | -0.24* | -0.13 | -0.27* | -0.26* | -0.07 | -0.16 | -0.18 | 0.10 | 0.09 |
| South Dakota | -0.15* | -0.22* | -0.20* | 0.30* | -0.26* | -0.23* | -0.17* | -0.16* | 0.00 | -0.03 |
| Tennessee | -0.01 | 0.05 | 0.01 | 0.03 | 0.00 | 0.26* | 0.02 | 0.08 | -0.04 | -0.01 |
| Texas | -0.15* | -0.23* | -0.26* | 0.06 | -0.20* | -0.15* | -0.22* | -0.22* | -0.05 | -0.08* |
| Utah | -0.39* | -0.40* | -0.43* | -0.02 | -0.41* | -0.35* | -0.36* | -0.37* | -0.10 | -0.22 |
| Vermont | -0.38* | -0.12 | -0.06 | 0.18* | -0.06 | -0.31* | 0.01 | 0.03 | 0.01 | 0.01 |
| Virginia | -0.07 | -0.11 | -0.12 | 0.10 | -0.13 | -0.11 | -0.07 | -0.05 | 0.02 | 0.02 |
| Washington | -0.26* | -0.30* | -0.31* | 0.29* | -0.31* | -0.25* | -0.27* | -0.28* | 0.07 | -0.02 |
| West Virginia | -0.19 | -0.19 | -0.10 | 0.17 | -0.16 | -0.30* | -0.04 | -0.12 | -0.16 | -0.15 |
| Wisconsin | -0.11* | -0.08 | -0.04 | 0.06 | -0.15* | -0.10* | -0.03 | -0.03 | -0.06 | -0.07 |
| Wyoming | -0.45* | -0.49* | -0.44* | -0.08 | -0.49* | -0.49* | -0.45* | -0.44* | -0.10 | -0.23 |

*Figure is statistically significant at the 0.05 level or better.

[1]No state-level correlation analysis was possible for the District of Columbia or Hawaii since they only have one district.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

Table A-3. Correlations between total expenditures per pupil and selected school district demographic and economic characteristics (unadjusted dollars), by state: 1997–98

| State | Minority enrollment | District poverty rate | Median household income | Median housing value |
|---|---|---|---|---|
| United States | 0.05* | -0.10* | 0.29* | 0.28* |
| Alabama | -0.07 | -0.15 | 0.29* | 0.45* |
| Alaska | 0.83* | 0.64* | -0.46* | -0.60* |
| Arizona | 0.29* | 0.25* | -0.16* | -0.13 |
| Arkansas | (1) | (1) | (1) | (1) |
| California | 0.21* | 0.13* | -0.09* | 0.08* |
| Colorado | (1) | (1) | (1) | (1) |
| Connecticut | 0.29* | 0.29* | 0.08 | 0.00 |
| Delaware | 0.47 | -0.19 | 0.40 | 0.47 |
| District of Columbia | (2) | (2) | (2) | (2) |
| Florida | 0.19 | 0.06 | 0.27* | 0.60* |
| Georgia | (1) | (1) | (1) | (1) |
| Hawaii | (2) | (2) | (2) | (2) |
| Idaho | 0.04 | -0.05 | -0.01 | 0.10 |
| Illinois | 0.17* | -0.06 | 0.35* | 0.52* |
| Indiana | 0.40* | 0.25* | 0.01 | 0.18* |
| Iowa | 0.01 | -0.02 | 0.01 | 0.01 |
| Kansas | -0.09 | 0.08 | -0.05 | -0.06 |
| Kentucky | (1) | (1) | (1) | (1) |
| Louisiana | -0.12 | -0.36* | 0.53* | 0.42* |
| Maine | 0.00 | -0.03 | -0.01 | 0.04 |
| Maryland | 0.05 | -0.13 | 0.51* | 0.66* |
| Massachusetts | 0.59* | 0.41* | -0.13* | 0.19* |
| Michigan | 0.02 | -0.13* | 0.33* | 0.37* |
| Minnesota | 0.38* | 0.27* | -0.08 | 0.05 |
| Mississippi | (1) | (1) | (1) | (1) |
| Missouri | 0.52* | 0.21* | 0.10* | 0.17* |
| Montana | 0.28* | 0.24* | -0.18* | -0.31* |
| Nebraska | -0.08* | 0.07 | -0.10* | -0.13* |
| Nevada | 0.42 | 0.35 | -0.37 | -0.58* |
| New Hampshire | -0.16* | -0.06 | 0.05 | 0.19* |
| New Jersey | (1) | (1) | (1) | (1) |
| New Mexico | (1) | (1) | (1) | (1) |
| New York | -0.08* | -0.24* | 0.51* | 0.45* |
| North Carolina | 0.05 | -0.07 | 0.27* | 0.45* |
| North Dakota | 0.31* | 0.39* | -0.29* | -0.28* |
| Ohio | 0.31* | 0.00 | 0.27* | 0.43* |
| Oklahoma | (1) | (1) | (1) | (1) |
| Oregon | 0.41* | 0.28* | -0.11 | -0.02 |
| Pennsylvania | -0.10* | -0.28* | 0.46* | 0.51* |
| Rhode Island | 0.22 | 0.17 | -0.12 | 0.08 |
| South Carolina | 0.00 | -0.16 | 0.26* | 0.37 |
| South Dakota | (1) | (1) | (1) | (1) |
| Tennessee | 0.25* | 0.11 | 0.06 | 0.19* |
| Texas | -0.20* | -0.11* | 0.13* | 0.15* |
| Utah | 0.34* | 0.38* | -0.22 | 0.03 |
| Vermont | 0.03 | -0.09 | 0.09 | 0.14* |
| Virginia | 0.14 | -0.18* | 0.52* | 0.72* |
| Washington | 0.18* | -0.07 | 0.17* | 0.37* |
| West Virginia | 0.02 | 0.09 | -0.13 | -0.06 |
| Wisconsin | 0.03 | 0.06 | -0.01 | 0.04 |
| Wyoming | 0.25 | 0.17 | 0.05 | 0.08 |

*Figure is statistically significant at the 0.05 level or better.
[1]Nine states (Arkansas, Colorado, Georgia, Kentucky, Mississippi, New Jersey, New Mexico, Oklahoma, and South Dakota) were excluded from state-level correlation analysis because more than 50 percent of the school districts were missing Census data.
[2]No state-level correlation analysis was possible for the District of Columbia or Hawaii since they only have one district.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

Table A-4. Correlations between total expenditures per pupil and selected school district demographic and economic characteristics (cost-adjusted dollars), by state: 1997–98

| State | Minority enrollment | District poverty rate | Median household income | Median housing value |
|---|---|---|---|---|
| United States | -0.06* | -0.04* | 0.07* | -0.01 |
| Alabama | -0.07 | -0.01 | 0.07 | 0.24* |
| Alaska | 0.82* | 0.66* | -0.51* | -0.59* |
| Arizona | 0.34* | 0.32* | -0.26* | -0.22* |
| Arkansas | [1] | [1] | [1] | [1] |
| California | 0.10* | 0.26* | -0.28* | -0.17* |
| Colorado | [1] | [1] | [1] | [1] |
| Connecticut | 0.15 | 0.20* | 0.06 | -0.04 |
| Delaware | 0.49 | 0.07 | 0.04 | 0.23 |
| District of Columbia | [2] | [2] | [2] | [2] |
| Florida | 0.08 | 0.20 | 0.01 | 0.25* |
| Georgia | [1] | [1] | [1] | [1] |
| Hawaii | [2] | [2] | [2] | [2] |
| Idaho | 0.05 | 0.00 | -0.11 | -0.02 |
| Illinois | 0.05 | -0.04 | 0.21* | 0.34* |
| Indiana | 0.20* | 0.23* | -0.13* | 0.01 |
| Iowa | -0.20* | 0.03 | -0.19* | -0.23* |
| Kansas | -0.21* | 0.16* | -0.27* | -0.30* |
| Kentucky | [1] | [1] | [1] | [1] |
| Louisiana | -0.27* | -0.32* | 0.37* | 0.10 |
| Maine | -0.07 | 0.06 | -0.15* | -0.13* |
| Maryland | -0.06 | -0.14 | 0.41* | 0.59* |
| Massachusetts | 0.56* | 0.41* | -0.18* | 0.11 |
| Michigan | -0.04 | -0.11* | 0.20* | 0.25* |
| Minnesota | 0.21* | 0.29* | -0.30* | -0.24* |
| Mississippi | [1] | [1] | [1] | [1] |
| Missouri | 0.34* | 0.35* | -0.20* | -0.17* |
| Montana | 0.25* | 0.24* | -0.19* | -0.37* |
| Nebraska | -0.25* | 0.13* | -0.30* | -0.41* |
| Nevada | 0.43 | 0.38 | -0.41 | -0.58* |
| New Hampshire | -0.23* | 0.02 | -0.07 | 0.06 |
| New Jersey | [1] | [1] | [1] | [1] |
| New Mexico | [1] | [1] | [1] | [1] |
| New York | -0.31* | -0.30* | 0.30* | 0.09* |
| North Carolina | 0.08 | 0.13 | -0.02 | 0.18 |
| North Dakota | 0.28* | 0.41* | -0.36* | -0.42* |
| Ohio | 0.18* | -0.01 | 0.23* | 0.37* |
| Oklahoma | [1] | [1] | [1] | [1] |
| Oregon | 0.34* | 0.35* | -0.22* | -0.12 |
| Pennsylvania | -0.18* | -0.21* | 0.29* | 0.34* |
| Rhode Island | -0.01 | -0.05 | 0.09 | 0.26 |
| South Carolina | 0.09 | -0.04 | 0.12 | 0.25* |
| South Dakota | [1] | [1] | [1] | [1] |
| Tennessee | 0.10 | 0.18* | -0.15 | -0.06 |
| Texas | -0.24* | -0.03 | -0.02 | -0.01 |
| Utah | 0.28 | 0.41* | -0.30 | -0.08 |
| Vermont | -0.03 | -0.06 | 0.02 | 0.08 |
| Virginia | 0.09 | -0.05 | 0.31* | 0.49* |
| Washington | 0.08 | 0.13* | -0.11 | 0.04 |
| West Virginia | -0.08 | 0.20 | -0.27* | -0.21 |
| Wisconsin | -0.09 | 0.04 | -0.14* | -0.11* |
| Wyoming | 0.23 | 0.20 | -0.01 | 0.03 |

*Figure is statistically significant at the 0.05 level or better.

[1]Nine states (Arkansas, Colorado, Georgia, Kentucky, Mississippi, New Jersey, New Mexico, Oklahoma, and South Dakota) were excluded from state-level correlation analysis because more than 50 percent of the school districts were missing Census data.

[2]No state-level correlation analysis was possible for the District of Columbia or Hawaii since they only have one district.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

Table A-5. Correlations between current expenditures per pupil and selected school district demographic and economic characteristics (unadjusted dollars), by state: 1997–98

| State | Minority enrollment | District poverty rate | Median household income | Median housing value |
|---|---|---|---|---|
| United States | 0.12* | -0.03* | 0.28* | 0.31* |
| Alabama | 0.08 | -0.06 | 0.19* | 0.29* |
| Alaska | 0.80* | 0.63* | -0.48* | -0.65* |
| Arizona | 0.53* | 0.49* | -0.44* | -0.43* |
| Arkansas | (1) | (1) | (1) | (1) |
| California | 0.33* | 0.33* | -0.20* | 0.11* |
| Colorado | (1) | (1) | (1) | (1) |
| Connecticut | 0.43* | 0.39* | 0.04 | 0.04 |
| Delaware | 0.42 | -0.35 | 0.42 | 0.53* |
| District of Columbia | (2) | (2) | (2) | (2) |
| Florida | 0.40* | 0.36* | 0.02 | 0.46* |
| Georgia | (1) | (1) | (1) | (1) |
| Hawaii | (2) | (2) | (2) | (2) |
| Idaho | 0.10 | 0.03 | -0.12 | 0.04 |
| Illinois | 0.23* | 0.01 | 0.28* | 0.46* |
| Indiana | 0.67* | 0.57* | -0.30* | -0.17* |
| Iowa | 0.51* | 0.34* | -0.17* | -0.07 |
| Kansas | 0.04 | 0.26* | -0.25* | -0.20* |
| Kentucky | (1) | (1) | (1) | (1) |
| Louisiana | -0.04 | -0.36* | 0.57* | 0.46* |
| Maine | 0.13 | 0.10 | -0.06 | 0.10 |
| Maryland | 0.25 | 0.10 | 0.34 | 0.50* |
| Massachusetts | 0.69* | 0.49* | -0.18* | 0.20* |
| Michigan | 0.46* | 0.24* | 0.16* | 0.24* |
| Minnesota | 0.57* | 0.47* | -0.18* | 0.00 |
| Mississippi | (1) | (1) | (1) | (1) |
| Missouri | 0.64* | 0.33* | 0.02 | 0.12* |
| Montana | 0.38* | 0.34* | -0.26* | -0.44* |
| Nebraska | -0.01 | 0.17* | -0.23* | -0.26* |
| Nevada | -0.46 | -0.33 | -0.14 | -0.36 |
| New Hampshire | -0.05 | -0.14 | 0.03 | 0.28* |
| New Jersey | (1) | (1) | (1) | (1) |
| New Mexico | (1) | (1) | (1) | (1) |
| New York | -0.23* | -0.42* | 0.66* | 0.43* |
| North Carolina | 0.12 | 0.03 | 0.13 | 0.32* |
| North Dakota | 0.38* | 0.47* | -0.40* | -0.31* |
| Ohio | 0.54* | 0.16* | 0.13* | 0.33* |
| Oklahoma | (1) | (1) | (1) | (1) |
| Oregon | 0.58* | 0.33* | -0.24* | -0.23* |
| Pennsylvania | -0.08 | -0.27* | 0.51* | 0.56* |
| Rhode Island | 0.13 | 0.07 | -0.06 | 0.06 |
| South Carolina | 0.39* | 0.22* | -0.12 | 0.08 |
| South Dakota | (1) | (1) | (1) | (1) |
| Tennessee | 0.37* | 0.16 | 0.09 | 0.24* |
| Texas | 0.07* | 0.34* | -0.34* | -0.27* |
| Utah | 0.57* | 0.66* | -0.56* | -0.35* |
| Vermont | 0.14* | 0.02 | -0.01 | 0.29* |
| Virginia | 0.17 | -0.13 | 0.52* | 0.75* |
| Washington | 0.38* | 0.32* | -0.25* | -0.03 |
| West Virginia | 0.07 | 0.31* | -0.25 | -0.34* |
| Wisconsin | 0.54* | 0.39* | 0.05 | 0.23* |
| Wyoming | 0.45* | 0.43* | -0.12 | -0.19 |

*Figure is statistically significant at the 0.05 level or better.

[1]Nine states (Arkansas, Colorado, Georgia, Kentucky, Mississippi, New Jersey, New Mexico, Oklahoma, and South Dakota) were excluded from state-level correlation analysis because more than 50 percent of the school districts were missing Census data.

[2]No state-level correlation analysis was possible for the District of Columbia or Hawaii since they only have one district.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

Table A-6. Correlations between current expenditures per pupil and selected school district demographic and economic characteristics (cost-adjusted dollars), by state: 1997–98

| State | Minority enrollment | District poverty rate | Median household income | Median housing value |
|---|---|---|---|---|
| United States | 0.01 | 0.06* | 0.03* | -0.01 |
| Alabama | 0.09 | 0.12 | -0.07 | 0.04 |
| Alaska | 0.78* | 0.64* | -0.53* | -0.64* |
| Arizona | 0.53* | 0.52* | -0.50* | -0.48* |
| Arkansas | (1) | (1) | (1) | (1) |
| California | 0.17* | 0.45* | -0.42* | -0.22* |
| Colorado | (1) | (1) | (1) | (1) |
| Connecticut | 0.28* | 0.30* | 0.03 | -0.02 |
| Delaware | 0.42 | 0.01 | -0.08 | 0.18 |
| District of Columbia | (2) | (2) | (2) | (2) |
| Florida | 0.24 | 0.60* | -0.44* | -0.15 |
| Georgia | (1) | (1) | (1) | (1) |
| Hawaii | (2) | (2) | (2) | (2) |
| Idaho | 0.11 | 0.09 | -0.22* | -0.10 |
| Illinois | 0.10* | 0.05 | 0.11* | 0.26* |
| Indiana | 0.47* | 0.58* | -0.48* | -0.39* |
| Iowa | 0.08 | 0.40* | -0.51* | -0.50* |
| Kansas | -0.16* | 0.31* | -0.46* | -0.46* |
| Kentucky | (1) | (1) | (1) | (1) |
| Louisiana | -0.24 | -0.31* | 0.35* | 0.04 |
| Maine | 0.02 | 0.20* | -0.24* | -0.13* |
| Maryland | 0.16 | 0.12 | 0.21 | 0.40 |
| Massachusetts | 0.65* | 0.49* | -0.25* | 0.12* |
| Michigan | 0.43* | 0.34* | -0.06 | 0.06 |
| Minnesota | 0.37* | 0.53* | -0.49* | -0.38* |
| Mississippi | (1) | (1) | (1) | (1) |
| Missouri | 0.47* | 0.52* | -0.33* | -0.27* |
| Montana | 0.33* | 0.32* | -0.26* | -0.50* |
| Nebraska | -0.21* | 0.21* | -0.41* | -0.53* |
| Nevada | -0.33 | -0.19 | -0.24 | -0.43 |
| New Hampshire | -0.18* | -0.02 | -0.14 | 0.08 |
| New Jersey | (1) | (1) | (1) | (1) |
| New Mexico | (1) | (1) | (1) | (1) |
| New York | -0.49* | -0.51* | 0.49* | 0.09* |
| North Carolina | 0.16 | 0.30* | -0.27* | -0.07 |
| North Dakota | 0.34* | 0.48* | -0.46* | -0.46* |
| Ohio | 0.43* | 0.18* | 0.07 | 0.27* |
| Oklahoma | (1) | (1) | (1) | (1) |
| Oregon | 0.46* | 0.41* | -0.37* | -0.34* |
| Pennsylvania | -0.21* | -0.18* | 0.29* | 0.33* |
| Rhode Island | -0.09 | -0.14 | 0.14 | 0.24 |
| South Carolina | 0.50* | 0.38* | -0.32* | -0.11 |
| South Dakota | (1) | (1) | (1) | (1) |
| Tennessee | 0.24* | 0.25* | -0.14 | -0.02 |
| Texas | -0.06* | 0.33* | -0.44* | -0.41* |
| Utah | 0.47* | 0.64* | -0.58* | -0.41* |
| Vermont | 0.04 | 0.07 | -0.13* | 0.18* |
| Virginia | 0.11 | 0.03 | 0.29* | 0.52* |
| Washington | 0.17* | 0.49* | -0.52* | -0.41* |
| West Virginia | -0.13 | 0.48* | -0.48* | -0.57* |
| Wisconsin | 0.30* | 0.37* | -0.22* | -0.08 |
| Wyoming | 0.40* | 0.44* | -0.18 | -0.24 |

*Figure is statistically significant at the 0.05 level or better.

[1]Nine states (Arkansas, Colorado, Georgia, Kentucky, Mississippi, New Jersey, New Mexico, Oklahoma, and South Dakota) were excluded from state-level correlation analysis because more than 50 percent of the school districts were missing Census data.

[2]No state-level correlation analysis was possible for the District of Columbia or Hawaii since they only have one district.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

Table A-7. Correlations between salaries expenditures per pupil and selected school district demographic and economic characteristics (unadjusted dollars), by state: 1997–98

| State | Minority enrollment | District poverty rate | Median household income | Median housing value |
|---|---|---|---|---|
| United States | 0.11* | -0.07* | 0.33* | 0.33* |
| Alabama | 0.15 | 0.01 | 0.17 | 0.29* |
| Alaska | 0.76* | 0.59* | -0.37* | -0.54* |
| Arizona | 0.46* | 0.36* | -0.35* | -0.36* |
| Arkansas | (1) | (1) | (1) | (1) |
| California | 0.34* | 0.26* | -0.12* | 0.18* |
| Colorado | (1) | (1) | (1) | (1) |
| Connecticut | 0.36* | 0.31* | 0.11 | 0.04 |
| Delaware | 0.41 | -0.22 | 0.29 | 0.49 |
| District of Columbia | (2) | (2) | (2) | (2) |
| Florida | 0.32* | 0.27* | 0.07 | 0.51* |
| Georgia | (1) | (1) | (1) | (1) |
| Hawaii | (2) | (2) | (2) | (2) |
| Idaho | -0.01 | -0.08 | 0.03 | 0.17 |
| Illinois | 0.17* | -0.05 | 0.34* | 0.51* |
| Indiana | 0.62* | 0.52* | -0.26* | -0.13* |
| Iowa | 0.56* | 0.28* | -0.03 | 0.06 |
| Kansas | -0.04 | 0.15* | -0.17* | -0.14* |
| Kentucky | (1) | (1) | (1) | (1) |
| Louisiana | -0.05 | -0.34* | 0.54* | 0.44* |
| Maine | 0.27* | 0.13 | -0.01 | 0.20* |
| Maryland | -0.04 | -0.39 | 0.67* | 0.79* |
| Massachusetts | 0.44* | 0.22* | 0.09 | 0.41* |
| Michigan | 0.30* | 0.07 | 0.30* | 0.35* |
| Minnesota | 0.56* | 0.40* | -0.07 | 0.12* |
| Mississippi | (1) | (1) | (1) | (1) |
| Missouri | 0.52* | 0.15* | 0.17* | 0.28* |
| Montana | 0.36* | 0.31* | -0.23* | -0.41* |
| Nebraska | 0.08* | 0.08* | -0.09* | -0.01 |
| Nevada | -0.42 | -0.29 | -0.18 | -0.35 |
| New Hampshire | 0.25* | -0.02 | 0.01 | 0.31* |
| New Jersey | (1) | (1) | (1) | (1) |
| New Mexico | (1) | (1) | (1) | (1) |
| New York | -0.39* | -0.57* | 0.70* | 0.32* |
| North Carolina | 0.04 | -0.05 | 0.18* | 0.37* |
| North Dakota | 0.35* | 0.40* | -0.27* | -0.13 |
| Ohio | 0.59* | 0.20* | 0.10* | 0.32* |
| Oklahoma | (1) | (1) | (1) | (1) |
| Oregon | 0.51* | 0.22* | -0.13 | -0.13 |
| Pennsylvania | -0.08 | -0.32* | 0.58* | 0.61* |
| Rhode Island | -0.20 | -0.22 | 0.17 | 0.17 |
| South Carolina | 0.30* | 0.13 | -0.06 | 0.09 |
| South Dakota | (1) | (1) | (1) | (1) |
| Tennessee | 0.37* | 0.15 | 0.12 | 0.25* |
| Texas | 0.13* | 0.33* | -0.28* | -0.19* |
| Utah | 0.56* | 0.64* | -0.53* | -0.34* |
| Vermont | 0.19* | -0.05 | 0.12 | 0.40* |
| Virginia | 0.15 | -0.16 | 0.52* | 0.76* |
| Washington | 0.34* | 0.23* | -0.16* | 0.03 |
| West Virginia | 0.34* | 0.17 | -0.07 | -0.21 |
| Wisconsin | 0.31* | 0.15* | 0.18* | 0.33* |
| Wyoming | 0.40* | 0.39* | -0.04 | -0.22 |

*Figure is statistically significant at the 0.05 level or better.
[1]Nine states (Arkansas, Colorado, Georgia, Kentucky, Mississippi, New Jersey, New Mexico, Oklahoma, and South Dakota) were excluded from state-level correlation analysis because more than 50 percent of the school districts were missing Census data.
[2]No state-level correlation analysis was possible for the District of Columbia or Hawaii since they only have one district.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

Table A-8. Correlations between salaries expenditures per pupil and selected school district demographic and economic characteristics (cost-adjusted dollars), by state: 1997–98

| State | Minority enrollment | District poverty rate | Median household income | Median housing value |
|---|---|---|---|---|
| United States | # | 0.02* | 0.09* | 0.02* |
| Alabama | 0.16 | 0.18* | -0.09 | 0.05 |
| Alaska | 0.76* | 0.62* | -0.44* | -0.53* |
| Arizona | 0.47* | 0.42* | -0.45* | -0.43* |
| Arkansas | [1] | [1] | [1] | [1] |
| California | 0.19* | 0.40* | -0.35* | -0.15* |
| Colorado | [1] | [1] | [1] | [1] |
| Connecticut | 0.22* | 0.22* | 0.09 | -0.01 |
| Delaware | 0.40 | 0.08 | -0.13 | 0.20 |
| District of Columbia | [2] | [2] | [2] | [2] |
| Florida | 0.23 | 0.47* | -0.26* | 0.12 |
| Georgia | [1] | [1] | [1] | [1] |
| Hawaii | [2] | [2] | [2] | [2] |
| Idaho | 0.02 | -0.01 | -0.11 | 0.01 |
| Illinois | 0.04 | -0.02 | 0.18* | 0.32* |
| Indiana | 0.42* | 0.52* | -0.44* | -0.35* |
| Iowa | 0.16* | 0.39* | -0.41* | -0.41* |
| Kansas | -0.22* | 0.24* | -0.41* | -0.43* |
| Kentucky | [1] | [1] | [1] | [1] |
| Louisiana | -0.25* | -0.30* | 0.32* | 0.01 |
| Maine | 0.14* | 0.26* | -0.25* | -0.10 |
| Maryland | -0.14 | -0.43* | 0.61* | 0.74* |
| Massachusetts | 0.40* | 0.22* | 0.01 | 0.31* |
| Michigan | 0.26* | 0.13* | 0.14* | 0.21* |
| Minnesota | 0.39* | 0.49* | -0.39* | -0.27* |
| Mississippi | [1] | [1] | [1] | [1] |
| Missouri | 0.37* | 0.36* | -0.19* | -0.12* |
| Montana | 0.31* | 0.30* | -0.23* | -0.49* |
| Nebraska | -0.18* | 0.16* | -0.36* | -0.41* |
| Nevada | -0.28 | -0.13 | -0.29 | -0.43 |
| New Hampshire | 0.08 | 0.09 | -0.17* | 0.13 |
| New Jersey | [1] | [1] | [1] | [1] |
| New Mexico | [1] | [1] | [1] | [1] |
| New York | -0.62* | -0.65* | 0.54* | # |
| North Carolina | 0.09 | 0.23* | -0.22* | -0.02 |
| North Dakota | 0.32* | 0.44* | -0.38* | -0.34* |
| Ohio | 0.52* | 0.23* | 0.05 | 0.26* |
| Oklahoma | [1] | [1] | [1] | [1] |
| Oregon | 0.38* | 0.34* | -0.31* | -0.29* |
| Pennsylvania | -0.19* | -0.25* | 0.40* | 0.44* |
| Rhode Island | -0.32 | -0.35* | 0.31 | 0.31 |
| South Carolina | 0.42* | 0.30* | -0.26* | -0.10 |
| South Dakota | [1] | [1] | [1] | [1] |
| Tennessee | 0.24* | 0.24* | -0.11 | # |
| Texas | -0.04 | 0.34* | -0.43* | -0.38* |
| Utah | 0.44* | 0.62* | -0.58* | -0.42* |
| Vermont | 0.09 | -0.01 | # | 0.30* |
| Virginia | 0.10 | -0.02 | 0.30* | 0.56* |
| Washington | 0.14* | 0.45* | -0.49* | -0.40* |
| West Virginia | 0.10 | 0.40* | -0.36* | -0.49* |
| Wisconsin | 0.08 | 0.13* | -0.08 | 0.03 |
| Wyoming | 0.34* | 0.42* | -0.12 | -0.27 |

# Rounds to zero.

*Figure is statistically significant at the 0.05 level or better.

[1]Nine states (Arkansas, Colorado, Georgia, Kentucky, Mississippi, New Jersey, New Mexico, Oklahoma, and South Dakota) were excluded from state-level correlation analysis because more than 50 percent of the school districts were missing Census data.

[2]No state-level correlation analysis was possible for the District of Columbia or Hawaii since they only have one district.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

Table A-9. Correlations between salaries and benefits expenditures per pupil and selected school district demographic and economic characteristics (unadjusted dollars), by state: 1997–98

| State | Minority enrollment | District poverty rate | Median household income | Median housing value |
|---|---|---|---|---|
| United States | 0.10* | -0.07* | 0.31* | 0.34* |
| Alabama | 0.15 | 0.01 | 0.16 | 0.28* |
| Alaska | 0.74* | 0.56* | -0.36* | -0.55* |
| Arizona | 0.46* | 0.37* | -0.36* | -0.37* |
| Arkansas | [1] | [1] | [1] | [1] |
| California | 0.35* | 0.30* | -0.16* | 0.15* |
| Colorado | [1] | [1] | [1] | [1] |
| Connecticut | 0.43* | 0.37* | 0.05 | 0.01 |
| Delaware | 0.31 | -0.30 | 0.39 | 0.58* |
| District of Columbia | [2] | [2] | [2] | [2] |
| Florida | 0.33* | 0.28* | 0.07 | 0.52* |
| Georgia | [1] | [1] | [1] | [1] |
| Hawaii | [2] | [2] | [2] | [2] |
| Idaho | -0.01 | -0.06 | 0.00 | 0.17 |
| Illinois | 0.14* | -0.07* | 0.33* | 0.49* |
| Indiana | 0.61* | 0.52* | -0.27* | -0.15* |
| Iowa | 0.63* | 0.36* | -0.09 | 0.02 |
| Kansas | 0.07 | 0.23* | -0.21* | -0.14* |
| Kentucky | [1] | [1] | [1] | [1] |
| Louisiana | -0.05 | -0.39* | 0.61* | 0.49* |
| Maine | 0.26* | 0.16* | -0.05 | 0.17* |
| Maryland | 0.00 | -0.33 | 0.64* | 0.76* |
| Massachusetts | 0.51* | 0.30* | -0.02 | 0.34* |
| Michigan | 0.30* | 0.08* | 0.28* | 0.33* |
| Minnesota | 0.57* | 0.40* | -0.06 | 0.13* |
| Mississippi | [1] | [1] | [1] | [1] |
| Missouri | 0.55* | 0.18* | 0.17* | 0.28* |
| Montana | 0.39* | 0.34* | -0.25* | -0.43* |
| Nebraska | 0.05 | 0.09* | -0.13* | -0.07 |
| Nevada | -0.40 | -0.26 | -0.21 | -0.37 |
| New Hampshire | 0.14 | -0.05 | -0.02 | 0.29* |
| New Jersey | [1] | [1] | [1] | [1] |
| New Mexico | [1] | [1] | [1] | [1] |
| New York | -0.32* | -0.51* | 0.68* | 0.37* |
| North Carolina | 0.04 | -0.05 | 0.18 | 0.37* |
| North Dakota | 0.40* | 0.41* | -0.28* | -0.06 |
| Ohio | 0.58* | 0.22* | 0.07 | 0.29* |
| Oklahoma | [1] | [1] | [1] | [1] |
| Oregon | 0.50* | 0.29* | -0.23* | -0.17* |
| Pennsylvania | 0.02 | -0.25* | 0.55* | 0.59* |
| Rhode Island | 0.01 | -0.02 | -0.05 | -0.01 |
| South Carolina | 0.32* | 0.16 | -0.10 | 0.06 |
| South Dakota | [1] | [1] | [1] | [1] |
| Tennessee | 0.39* | 0.13 | 0.14 | 0.29* |
| Texas | 0.16* | 0.38* | -0.32* | -0.22* |
| Utah | 0.52* | 0.62* | -0.52* | -0.35* |
| Vermont | 0.19* | -0.02 | 0.09 | 0.38* |
| Virginia | 0.16 | -0.13 | 0.51* | 0.76* |
| Washington | 0.35* | 0.26* | -0.19* | 0.01 |
| West Virginia | 0.17 | 0.29* | -0.24 | -0.36* |
| Wisconsin | 0.41* | 0.26* | 0.11* | 0.29* |
| Wyoming | 0.49* | 0.41* | -0.06 | -0.18 |

*Figure is statistically significant at the 0.05 level or better.

[1]Nine states (Arkansas, Colorado, Georgia, Kentucky, Mississippi, New Jersey, New Mexico, Oklahoma, and South Dakota) were excluded from state-level correlation analysis because more than 50 percent of the school districts were missing Census data.

[2]No state-level correlation analysis was possible for the District of Columbia or Hawaii since they only have one district.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

Table A-10. Correlation between salaries and benefits expenditures per pupil and selected school district demographic and economic characteristics (cost-adjusted dollars), by state: 1997–98

| State | Minority enrollment | District poverty rate | Median household income | Median housing value |
|---|---|---|---|---|
| United States | # | 0.01 | 0.08* | 0.03* |
| Alabama | 0.16 | 0.19* | -0.10 | 0.03 |
| Alaska | 0.74* | 0.59* | -0.42* | -0.54* |
| Arizona | 0.47* | 0.43* | -0.46* | -0.44* |
| Arkansas | (1) | (1) | (1) | (1) |
| California | 0.19* | 0.44* | -0.39* | -0.18* |
| Colorado | (1) | (1) | (1) | (1) |
| Connecticut | 0.30* | 0.30* | 0.04 | -0.04 |
| Delaware | 0.31 | -0.03 | 0.02 | 0.33 |
| District of Columbia | (2) | (2) | (2) | (2) |
| Florida | 0.24* | 0.49* | -0.26* | 0.12 |
| Georgia | (1) | (1) | (1) | (1) |
| Hawaii | (2) | (2) | (2) | (2) |
| Idaho | 0.01 | 0.01 | -0.13 | 0.01 |
| Illinois | 0.01 | -0.03 | 0.17* | 0.30* |
| Indiana | 0.43* | 0.53* | -0.44* | -0.35* |
| Iowa | 0.30* | 0.48* | -0.45* | -0.40* |
| Kansas | -0.13* | 0.30* | -0.44* | -0.42* |
| Kentucky | (1) | (1) | (1) | (1) |
| Louisiana | -0.26* | -0.35* | 0.39* | 0.07 |
| Maine | 0.13 | 0.29* | -0.28* | -0.12 |
| Maryland | -0.10 | -0.37 | 0.58* | 0.72* |
| Massachusetts | 0.48* | 0.31* | -0.09 | 0.25* |
| Michigan | 0.26* | 0.14* | 0.12* | 0.20* |
| Minnesota | 0.40* | 0.49* | -0.38* | -0.25* |
| Mississippi | (1) | (1) | (1) | (1) |
| Missouri | 0.41* | 0.38* | -0.18* | -0.10* |
| Montana | 0.34* | 0.32* | -0.25* | -0.50* |
| Nebraska | -0.20* | 0.17* | -0.38* | -0.45* |
| Nevada | -0.26 | -0.11 | -0.31 | -0.44 |
| New Hampshire | -0.01 | 0.06 | -0.19* | 0.10 |
| New Jersey | (1) | (1) | (1) | (1) |
| New Mexico | (1) | (1) | (1) | (1) |
| New York | -0.57* | -0.59* | 0.51* | 0.03 |
| North Carolina | 0.09 | 0.24* | -0.23* | -0.03 |
| North Dakota | 0.37* | 0.46* | -0.39* | -0.29* |
| Ohio | 0.50* | 0.25* | 0.02 | 0.22* |
| Oklahoma | (1) | (1) | (1) | (1) |
| Oregon | 0.35* | 0.38* | -0.38* | -0.31* |
| Pennsylvania | -0.08 | -0.16* | 0.36* | 0.41* |
| Rhode Island | -0.17 | -0.19 | 0.14 | 0.17 |
| South Carolina | 0.44* | 0.33* | -0.30* | -0.13 |
| South Dakota | (1) | (1) | (1) | (1) |
| Tennessee | 0.28* | 0.21* | -0.05 | 0.07 |
| Texas | -0.01 | 0.37* | -0.45* | -0.40* |
| Utah | 0.41* | 0.61* | -0.55* | -0.43* |
| Vermont | 0.09 | 0.02 | -0.03 | 0.28* |
| Virginia | 0.11 | 0.01 | 0.31* | 0.56* |
| Washington | 0.14* | 0.47* | -0.51* | -0.41* |
| West Virginia | -0.04 | 0.48* | -0.48* | -0.59* |
| Wisconsin | 0.19* | 0.25* | -0.15* | -0.01 |
| Wyoming | 0.43* | 0.43* | -0.13 | -0.24 |

*Figure is statistically significant at the 0.05 level or better.

[1]Nine states (Arkansas, Colorado, Georgia, Kentucky, Mississippi, New Jersey, New Mexico, Oklahoma, and South Dakota) were excluded from state-level correlation analysis because more than 50 percent of the school districts were missing Census data.

[2]No state-level correlation analysis was possible for the District of Columbia or Hawaii since they only have one district.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

Table A-11. Correlations between instructional expenditures per pupil and selected school district demographic and economic characteristics (unadjusted dollars), by state: 1997–98

| State | Minority enrollment | District poverty rate | Median household income | Median housing value |
|---|---|---|---|---|
| United States | 0.09* | -0.05* | 0.28* | 0.35* |
| Alabama | -0.05 | -0.19* | 0.28* | 0.38* |
| Alaska | 0.78* | 0.66* | -0.52* | -0.66* |
| Arizona | 0.25* | 0.18* | -0.18* | -0.21* |
| Arkansas | (1) | (1) | (1) | (1) |
| California | 0.26* | 0.22* | -0.09* | 0.21* |
| Colorado | (1) | (1) | (1) | (1) |
| Connecticut | 0.51* | 0.48* | -0.08 | -0.05 |
| Delaware | 0.49 | -0.49 | 0.56* | 0.60* |
| District of Columbia | (2) | (2) | (2) | (2) |
| Florida | 0.31* | 0.24 | 0.18 | 0.53* |
| Georgia | (1) | (1) | (1) | (1) |
| Hawaii | (2) | (2) | (2) | (2) |
| Idaho | -0.01 | -0.04 | -0.05 | 0.15 |
| Illinois | 0.29* | 0.07* | 0.26* | 0.46* |
| Indiana | 0.52* | 0.48* | -0.26* | -0.13* |
| Iowa | 0.56* | 0.42* | -0.24* | -0.13* |
| Kansas | -0.03 | 0.17* | -0.20* | -0.15* |
| Kentucky | (1) | (1) | (1) | (1) |
| Louisiana | -0.04 | -0.37* | 0.61* | 0.58* |
| Maine | 0.09 | 0.08 | -0.04 | 0.11 |
| Maryland | 0.25 | 0.32 | 0.13 | 0.31 |
| Massachusetts | 0.65* | 0.48* | -0.17* | 0.20* |
| Michigan | 0.45* | 0.23* | 0.14* | 0.22* |
| Minnesota | 0.49* | 0.43* | -0.19* | -0.04 |
| Mississippi | (1) | (1) | (1) | (1) |
| Missouri | 0.41* | 0.16* | 0.13* | 0.20* |
| Montana | 0.28* | 0.27* | -0.21* | -0.39* |
| Nebraska | -0.25* | 0.02 | -0.16* | -0.23* |
| Nevada | -0.56* | -0.44 | -0.08 | -0.28 |
| New Hampshire | -0.03 | -0.14 | 0.09 | 0.32* |
| New Jersey | (1) | (1) | (1) | (1) |
| New Mexico | (1) | (1) | (1) | (1) |
| New York | -0.05 | -0.27* | 0.60* | 0.53* |
| North Carolina | 0.02 | -0.02 | 0.12 | 0.31* |
| North Dakota | 0.42* | 0.42* | -0.30* | -0.06 |
| Ohio | 0.44* | 0.07 | 0.21* | 0.41* |
| Oklahoma | (1) | (1) | (1) | (1) |
| Oregon | 0.44* | 0.36* | -0.24* | -0.18* |
| Pennsylvania | -0.17* | -0.34* | 0.55* | 0.58* |
| Rhode Island | -0.01 | -0.02 | -0.04 | 0.04 |
| South Carolina | 0.22* | 0.07 | 0.03 | 0.18 |
| South Dakota | (1) | (1) | (1) | (1) |
| Tennessee | 0.30* | 0.09 | 0.14 | 0.26* |
| Texas | -0.06* | 0.26* | -0.31* | -0.25* |
| Utah | 0.45* | 0.60* | -0.56* | -0.25 |
| Vermont | 0.10 | -0.05 | 0.09 | 0.35* |
| Virginia | 0.08 | -0.18* | 0.55* | 0.77* |
| Washington | 0.28* | 0.33* | -0.28* | -0.13* |
| West Virginia | 0.12 | 0.41* | -0.30* | -0.45* |
| Wisconsin | 0.51* | 0.36* | 0.06 | 0.22* |
| Wyoming | 0.58* | 0.56* | -0.25 | -0.25 |

*Figure is statistically significant at the 0.05 level or better.
[1]Nine states (Arkansas, Colorado, Georgia, Kentucky, Mississippi, New Jersey, New Mexico, Oklahoma, and South Dakota) were excluded from state-level correlation analysis because more than 50 percent of the school districts were missing Census data.
[2]No state-level correlation analysis was possible for the District of Columbia or Hawaii since they only have one district.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

Table A-12. Correlations between instructional expenditures per pupil and selected school district demographic and economic characteristics (cost-adjusted dollars), by state: 1997–98

| State | Minority enrollment | District poverty rate | Median household income | Median housing value |
|---|---|---|---|---|
| United States | -0.02* | 0.02* | 0.06* | 0.06* |
| Alabama | -0.05 | -0.03 | 0.03 | 0.15 |
| Alaska | 0.73* | 0.63* | -0.53* | -0.61* |
| Arizona | 0.32* | 0.29* | -0.32* | -0.33* |
| Arkansas | (1) | (1) | (1) | (1) |
| California | 0.10* | 0.38* | -0.34* | -0.16* |
| Colorado | (1) | (1) | (1) | (1) |
| Connecticut | 0.38* | 0.40* | -0.09 | -0.10 |
| Delaware | 0.55* | -0.27 | 0.22 | 0.39 |
| District of Columbia | (2) | (2) | (2) | (2) |
| Florida | 0.19 | 0.46* | -0.19 | 0.05 |
| Georgia | (1) | (1) | (1) | (1) |
| Hawaii | (2) | (2) | (2) | (2) |
| Idaho | 0.02 | 0.03 | -0.17 | -0.01 |
| Illinois | 0.15* | 0.12* | 0.07* | 0.24* |
| Indiana | 0.31* | 0.46* | -0.41* | -0.32* |
| Iowa | 0.18* | 0.48* | -0.54* | -0.51* |
| Kansas | -0.19* | 0.25* | -0.41* | -0.41* |
| Kentucky | (1) | (1) | (1) | (1) |
| Louisiana | -0.28* | -0.35* | 0.41* | 0.14 |
| Maine | 0.00 | 0.17* | -0.21* | -0.10 |
| Maryland | 0.18 | 0.38 | 0.00 | 0.21 |
| Massachusetts | 0.62* | 0.49* | -0.24* | 0.11 |
| Michigan | 0.39* | 0.32* | -0.10* | 0.00 |
| Minnesota | 0.30* | 0.48* | -0.46* | -0.38* |
| Mississippi | (1) | (1) | (1) | (1) |
| Missouri | 0.14* | 0.35* | -0.30* | -0.28* |
| Montana | 0.24* | 0.26* | -0.21* | -0.46* |
| Nebraska | -0.37* | 0.10* | -0.35* | -0.49* |
| Nevada | -0.43 | -0.30 | -0.19 | -0.37 |
| New Hampshire | -0.15* | -0.03 | -0.08 | 0.15 |
| New Jersey | (1) | (1) | (1) | (1) |
| New Mexico | (1) | (1) | (1) | (1) |
| New York | -0.34* | -0.37* | 0.42* | 0.16* |
| North Carolina | 0.08 | 0.28* | -0.31* | -0.11 |
| North Dakota | 0.38* | 0.48* | -0.42* | -0.30* |
| Ohio | 0.29* | 0.07 | 0.16* | 0.34* |
| Oklahoma | (1) | (1) | (1) | (1) |
| Oregon | 0.29* | 0.43* | -0.38* | -0.31* |
| Pennsylvania | -0.31* | -0.26* | 0.34* | 0.37* |
| Rhode Island | -0.19 | -0.20 | 0.15 | 0.21 |
| South Carolina | 0.36* | 0.26* | -0.19 | -0.02 |
| South Dakota | (1) | (1) | (1) | (1) |
| Tennessee | 0.14 | 0.18* | -0.10 | -0.01 |
| Texas | -0.15* | 0.27* | -0.41* | -0.38* |
| Utah | 0.36* | 0.60* | -0.60* | -0.34* |
| Vermont | 0.00 | -0.01 | -0.03 | 0.25* |
| Virginia | -0.02 | -0.01 | 0.27* | 0.48* |
| Washington | 0.08 | 0.49* | -0.53* | -0.47* |
| West Virginia | -0.06 | 0.56* | -0.51* | -0.65* |
| Wisconsin | 0.27* | 0.34* | -0.21* | -0.09 |
| Wyoming | 0.51* | 0.57* | -0.30* | -0.30* |

*Figure is statistically significant at the 0.05 level or better.

[1]Nine states (Arkansas, Colorado, Georgia, Kentucky, Mississippi, New Jersey, New Mexico, Oklahoma, and South Dakota) were excluded from state-level correlation analysis because more than 50 percent of the school districts were missing Census data.

[2]No state-level correlation analysis was possible for the District of Columbia or Hawaii since they only have one district.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

Table A-13. Correlations between student and instructional staff support services expenditures per pupil and selected school district demographic and economic characteristics (unadjusted dollars), by state: 1997–98

| State | Minority enrollment | District poverty rate | Median household income | Median housing value |
|---|---|---|---|---|
| United States | 0.12* | -0.05* | 0.20* | 0.12* |
| Alabama | 0.28* | 0.10 | 0.15 | 0.24* |
| Alaska | 0.01 | -0.21 | 0.35* | 0.16 |
| Arizona | 0.34* | 0.23* | -0.24* | -0.23* |
| Arkansas | (1) | (1) | (1) | (1) |
| California | 0.46* | 0.21* | -0.03 | 0.26* |
| Colorado | (1) | (1) | (1) | (1) |
| Connecticut | -0.05 | -0.08 | 0.29* | 0.13 |
| Delaware | 0.12 | 0.07 | -0.12 | 0.22 |
| District of Columbia | (2) | (2) | (2) | (2) |
| Florida | 0.24* | 0.05 | -0.06 | 0.14 |
| Georgia | (1) | (1) | (1) | (1) |
| Hawaii | (2) | (2) | (2) | (2) |
| Idaho | 0.01 | -0.11 | 0.19* | 0.30* |
| Illinois | 0.15* | -0.10* | 0.35* | 0.50* |
| Indiana | 0.57* | 0.45* | -0.26* | -0.13* |
| Iowa | 0.37* | 0.02 | 0.18* | 0.39* |
| Kansas | 0.24* | 0.07 | 0.05 | 0.19* |
| Kentucky | (1) | (1) | (1) | (1) |
| Louisiana | -0.09 | -0.26* | 0.39* | 0.25* |
| Maine | 0.21* | -0.04 | 0.18* | 0.31* |
| Maryland | 0.03 | -0.34 | 0.54* | 0.65* |
| Massachusetts | 0.56* | 0.33* | -0.04 | 0.30* |
| Michigan | 0.07 | -0.09* | 0.33* | 0.38* |
| Minnesota | 0.61* | 0.32* | 0.06 | 0.28* |
| Mississippi | (1) | (1) | (1) | (1) |
| Missouri | 0.64* | 0.26* | 0.03 | 0.16* |
| Montana | 0.43* | 0.26* | -0.11* | 0.06 |
| Nebraska | 0.47* | 0.16* | 0.01 | 0.20* |
| Nevada | -0.07 | -0.21 | 0.21 | 0.48* |
| New Hampshire | 0.27* | -0.09 | 0.01 | 0.19* |
| New Jersey | (1) | (1) | (1) | (1) |
| New Mexico | (1) | (1) | (1) | (1) |
| New York | -0.63* | -0.72* | 0.62* | 0.05 |
| North Carolina | 0.16 | -0.03 | 0.16 | 0.34* |
| North Dakota | 0.47* | 0.25* | -0.02 | 0.44* |
| Ohio | 0.55* | 0.22* | 0.05 | 0.22* |
| Oklahoma | (1) | (1) | (1) | (1) |
| Oregon | 0.45* | -0.04 | 0.16* | 0.08 |
| Pennsylvania | -0.06 | -0.32* | 0.58* | 0.62* |
| Rhode Island | 0.52* | 0.42* | -0.36* | -0.21 |
| South Carolina | 0.24* | 0.08 | -0.06 | -0.04 |
| South Dakota | (1) | (1) | (1) | (1) |
| Tennessee | 0.38* | 0.28* | -0.06 | 0.07 |
| Texas | 0.31* | 0.40* | -0.22* | -0.06* |
| Utah | 0.72* | 0.56* | -0.40* | -0.30 |
| Vermont | 0.16* | 0.02 | -0.02 | 0.15* |
| Virginia | 0.17 | -0.16 | 0.47* | 0.72* |
| Washington | 0.45* | 0.10 | 0.00 | 0.16* |
| West Virginia | 0.15 | -0.34* | 0.30* | 0.35* |
| Wisconsin | 0.32* | 0.16* | 0.10* | 0.25* |
| Wyoming | -0.03 | 0.01 | 0.25 | 0.13 |

*Figure is statistically significant at the 0.05 level or better.
[1]Nine states (Arkansas, Colorado, Georgia, Kentucky, Mississippi, New Jersey, New Mexico, Oklahoma, and South Dakota) were excluded from state-level correlation analysis because more than 50 percent of the school districts were missing Census data.
[2]No state-level correlation analysis was possible for the District of Columbia or Hawaii since they only have one district.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

Table A-14. Correlations between student and instructional staff support services expenditures per pupil and selected school district demographic and economic characteristics (cost-adjusted dollars), by state: 1997–98

| State | Minority enrollment | District poverty rate | Median household income | Median housing value |
|---|---|---|---|---|
| United States | 0.08* | 0.01 | 0.07* | -0.04* |
| Alabama | 0.30* | 0.18* | 0.05 | 0.15 |
| Alaska | -0.03 | -0.23 | 0.32* | 0.20 |
| Arizona | 0.37* | 0.29* | -0.32* | -0.29* |
| Arkansas | (1) | (1) | (1) | (1) |
| California | 0.45* | 0.24* | -0.06 | 0.22* |
| Colorado | (1) | (1) | (1) | (1) |
| Connecticut | -0.11 | -0.11 | 0.28* | 0.10 |
| Delaware | 0.09 | 0.19 | -0.28 | 0.09 |
| District of Columbia | (2) | (2) | (2) | (2) |
| Florida | 0.17 | 0.15 | -0.25* | -0.14 |
| Georgia | (1) | (1) | (1) | (1) |
| Hawaii | (2) | (2) | (2) | (2) |
| Idaho | 0.04 | -0.07 | 0.11 | 0.22* |
| Illinois | 0.12* | -0.08* | 0.29* | 0.44* |
| Indiana | 0.49* | 0.43* | -0.30* | -0.19* |
| Iowa | 0.27* | 0.05 | 0.07 | 0.27* |
| Kansas | 0.18* | 0.13* | -0.07 | 0.06 |
| Kentucky | (1) | (1) | (1) | (1) |
| Louisiana | -0.18 | -0.22 | 0.27* | 0.04 |
| Maine | 0.16* | 0.00 | 0.09 | 0.20* |
| Maryland | -0.07 | -0.33 | 0.39 | 0.50* |
| Massachusetts | 0.55* | 0.34* | -0.07 | 0.25* |
| Michigan | 0.06 | -0.08* | 0.29* | 0.34* |
| Minnesota | 0.55* | 0.36* | -0.08 | 0.12* |
| Mississippi | (1) | (1) | (1) | (1) |
| Missouri | 0.58* | 0.35* | -0.13* | -0.01 |
| Montana | 0.44* | 0.28* | -0.12* | 0.01 |
| Nebraska | 0.35* | 0.20* | -0.14* | 0.01 |
| Nevada | -0.02 | -0.14 | 0.14 | 0.42 |
| New Hampshire | 0.19* | -0.03 | -0.07 | 0.10 |
| New Jersey | (1) | (1) | (1) | (1) |
| New Mexico | (1) | (1) | (1) | (1) |
| New York | -0.70* | -0.73* | 0.53* | -0.09* |
| North Carolina | 0.19* | 0.14 | -0.08 | 0.11 |
| North Dakota | 0.48* | 0.29* | -0.07 | 0.37* |
| Ohio | 0.50* | 0.23* | 0.02 | 0.19* |
| Oklahoma | (1) | (1) | (1) | (1) |
| Oregon | 0.43* | 0.02 | 0.07 | 0.01 |
| Pennsylvania | -0.13* | -0.28* | 0.47* | 0.51* |
| Rhode Island | 0.42* | 0.32 | -0.26 | -0.12 |
| South Carolina | 0.30* | 0.18 | -0.17 | -0.14 |
| South Dakota | (1) | (1) | (1) | (1) |
| Tennessee | 0.30* | 0.31* | -0.17 | -0.06 |
| Texas | 0.24* | 0.45* | -0.34* | -0.19* |
| Utah | 0.73* | 0.59* | -0.45* | -0.34* |
| Vermont | 0.11 | 0.03 | -0.07 | 0.09 |
| Virginia | 0.16 | -0.11 | 0.40* | 0.65* |
| Washington | 0.39* | 0.25* | -0.19* | -0.07 |
| West Virginia | 0.11 | -0.31* | 0.26 | 0.30* |
| Wisconsin | 0.20* | 0.14* | -0.03 | 0.09 |
| Wyoming | -0.04 | 0.06 | 0.18 | 0.06 |

*Figure is statistically significant at the 0.05 level or better.

[1]Nine states (Arkansas, Colorado, Georgia, Kentucky, Mississippi, New Jersey, New Mexico, Oklahoma, and South Dakota) were excluded from state-level correlation analysis because more than 50 percent of the school districts were missing Census data.

[2]No state-level correlation analysis was possible for the District of Columbia or Hawaii since they only have one district.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

Table A-15. Correlations between administration expenditures per pupil and selected school district demographic and economic characteristics (unadjusted dollars), by state: 1997–98

| State | Minority enrollment | District poverty rate | Median household income | Median housing value |
|---|---|---|---|---|
| United States | 0.05* | -0.05* | 0.16* | 0.09* |
| Alabama | 0.19* | 0.13 | 0.01 | 0.12 |
| Alaska | 0.79* | 0.55* | -0.42* | -0.59* |
| Arizona | 0.52* | 0.53* | -0.48* | -0.46* |
| Arkansas | (1) | (1) | (1) | (1) |
| California | 0.40* | 0.09* | 0.06 | 0.30* |
| Colorado | (1) | (1) | (1) | (1) |
| Connecticut | 0.24* | 0.19* | 0.10 | 0.13 |
| Delaware | -0.16 | -0.11 | 0.57* | 0.54* |
| District of Columbia | (2) | (2) | (2) | (2) |
| Florida | 0.11 | 0.25* | -0.22 | 0.14 |
| Georgia | (1) | (1) | (1) | (1) |
| Hawaii | (2) | (2) | (2) | (2) |
| Idaho | 0.26* | 0.18 | -0.32* | -0.25* |
| Illinois | -0.15* | -0.27* | 0.33* | 0.35* |
| Indiana | 0.55* | 0.54* | -0.35* | -0.30* |
| Iowa | -0.03 | 0.07 | -0.12* | -0.19* |
| Kansas | 0.06 | 0.30* | -0.24* | -0.25* |
| Kentucky | (1) | (1) | (1) | (1) |
| Louisiana | 0.07 | -0.24 | 0.45* | 0.42* |
| Maine | 0.18* | 0.17* | -0.13* | 0.01 |
| Maryland | -0.04 | -0.37 | 0.58* | 0.62* |
| Massachusetts | 0.43* | 0.26* | -0.06 | 0.30* |
| Michigan | 0.36* | 0.25* | -0.07 | -0.01 |
| Minnesota | 0.38* | 0.29* | -0.09 | 0.03 |
| Mississippi | (1) | (1) | (1) | (1) |
| Missouri | 0.51* | 0.26* | 0.04 | 0.12* |
| Montana | 0.36* | 0.31* | -0.25* | -0.43* |
| Nebraska | 0.00 | 0.19* | -0.28* | -0.30* |
| Nevada | 0.07 | 0.20 | -0.40 | -0.65* |
| New Hampshire | -0.11 | 0.00 | -0.22* | -0.06 |
| New Jersey | (1) | (1) | (1) | (1) |
| New Mexico | (1) | (1) | (1) | (1) |
| New York | -0.45* | -0.56* | 0.58* | 0.17* |
| North Carolina | 0.17 | 0.08 | 0.11 | 0.25* |
| North Dakota | 0.36* | 0.43* | -0.37* | -0.41* |
| Ohio | 0.48* | 0.19* | 0.02 | 0.17* |
| Oklahoma | (1) | (1) | (1) | (1) |
| Oregon | 0.13 | 0.10 | -0.17* | -0.10 |
| Pennsylvania | 0.24* | 0.07 | 0.17* | 0.19* |
| Rhode Island | 0.12 | 0.07 | 0.04 | 0.28 |
| South Carolina | 0.50* | 0.37* | -0.28* | 0.02 |
| South Dakota | (1) | (1) | (1) | (1) |
| Tennessee | 0.11 | -0.14 | 0.25* | 0.37* |
| Texas | -0.02 | 0.14* | -0.19* | -0.14* |
| Utah | 0.30 | 0.38* | -0.32* | -0.22 |
| Vermont | 0.24* | 0.14* | -0.01 | 0.22* |
| Virginia | 0.19* | -0.11 | 0.47* | 0.70* |
| Washington | 0.17* | 0.11 | -0.06 | 0.08 |
| West Virginia | 0.04 | -0.08 | 0.12 | 0.05 |
| Wisconsin | 0.35* | 0.27* | 0.00 | 0.15* |
| Wyoming | 0.36* | 0.30* | -0.08 | -0.20 |

*Figure is statistically significant at the 0.05 level or better.
[1]Nine states (Arkansas, Colorado, Georgia, Kentucky, Mississippi, New Jersey, New Mexico, Oklahoma, and South Dakota) were excluded from state-level correlation analysis because more than 50 percent of the school districts were missing Census data.
[2]No state-level correlation analysis was possible for the District of Columbia or Hawaii since they only have one district.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

Table A-16. Correlations between administration expenditures per pupil and selected school district demographic and economic characteristics (cost-adjusted dollars), by state: 1997–98

| State | Minority enrollment | District poverty rate | Median household income | Median housing value |
|---|---|---|---|---|
| United States | -0.02* | 0.00 | -0.01 | -0.11* |
| Alabama | 0.19* | 0.22* | -0.13 | -0.01 |
| Alaska | 0.79* | 0.58* | -0.48* | -0.60* |
| Arizona | 0.50* | 0.53* | -0.51* | -0.48* |
| Arkansas | (1) | (1) | (1) | (1) |
| California | 0.40* | 0.12* | 0.02 | 0.25* |
| Colorado | (1) | (1) | (1) | (1) |
| Connecticut | 0.14 | 0.12 | 0.09 | 0.09 |
| Delaware | -0.20 | 0.12 | 0.31 | 0.34 |
| District of Columbia | (2) | (2) | (2) | (2) |
| Florida | 0.00 | 0.34* | -0.43* | -0.20 |
| Georgia | (1) | (1) | (1) | (1) |
| Hawaii | (2) | (2) | (2) | (2) |
| Idaho | 0.24* | 0.19* | -0.36* | -0.31* |
| Illinois | -0.24* | -0.24* | 0.21* | 0.20* |
| Indiana | 0.37* | 0.50* | -0.45* | -0.42* |
| Iowa | -0.18* | 0.10 | -0.25* | -0.35* |
| Kansas | -0.08 | 0.32* | -0.37* | -0.40 |
| Kentucky | (1) | (1) | (1) | (1) |
| Louisiana | -0.01 | -0.23 | 0.38* | 0.25* |
| Maine | 0.12 | 0.21* | -0.22* | -0.12 |
| Maryland | -0.12 | -0.39 | 0.51* | 0.55* |
| Massachusetts | 0.39* | 0.26* | -0.11 | 0.22* |
| Michigan | 0.28* | 0.25* | -0.18* | -0.11* |
| Minnesota | 0.24* | 0.32* | -0.28* | -0.22* |
| Mississippi | (1) | (1) | (1) | (1) |
| Missouri | 0.40* | 0.37* | -0.17* | -0.12* |
| Montana | 0.32* | 0.30* | -0.25* | -0.46* |
| Nebraska | -0.10* | 0.20* | -0.35* | -0.43* |
| Nevada | 0.11 | 0.24 | -0.43 | -0.65* |
| New Hampshire | -0.17* | 0.05 | -0.28* | -0.13 |
| New Jersey | (1) | (1) | (1) | (1) |
| New Mexico | (1) | (1) | (1) | (1) |
| New York | -0.57* | -0.58* | 0.46* | -0.03 |
| North Carolina | 0.19* | 0.22* | -0.10 | 0.05 |
| North Dakota | 0.33* | 0.43* | -0.39* | -0.46* |
| Ohio | 0.37* | 0.19* | -0.03 | 0.10* |
| Oklahoma | (1) | (1) | (1) | (1) |
| Oregon | 0.08 | 0.15* | -0.25* | -0.16* |
| Pennsylvania | 0.20* | 0.15* | 0.01 | 0.02 |
| Rhode Island | 0.00 | -0.05 | 0.14 | 0.38 |
| South Carolina | 0.55* | 0.46* | -0.38* | -0.09 |
| South Dakota | (1) | (1) | (1) | (1) |
| Tennessee | 0.02 | -0.10 | 0.13 | 0.23* |
| Texas | -0.09* | 0.16* | -0.27* | -0.25* |
| Utah | 0.26 | 0.39* | -0.35* | -0.27 |
| Vermont | 0.18* | 0.15* | -0.06 | 0.17* |
| Virginia | 0.16 | -0.01 | 0.31* | 0.54* |
| Washington | 0.07 | 0.24* | -0.25* | -0.16* |
| West Virginia | -0.04 | 0.00 | 0.01 | -0.06 |
| Wisconsin | 0.19* | 0.24* | -0.15* | -0.04 |
| Wyoming | 0.33* | 0.31* | -0.12 | -0.23 |

*Figure is statistically significant at the 0.05 level or better.

[1]Nine states (Arkansas, Colorado, Georgia, Kentucky, Mississippi, New Jersey, New Mexico, Oklahoma, and South Dakota) were excluded from state-level correlation analysis because more than 50 percent of the school districts were missing Census data.

[2]No state-level correlation analysis was possible for the District of Columbia or Hawaii since they only have one district.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

Table A-17. Correlations between school operations expenditures per pupil and selected school district demographic and economic characteristics (unadjusted dollars), by state: 1997–98

| State | Minority enrollment | District poverty rate | Median household income | Median housing value |
|---|---|---|---|---|
| United States | 0.06* | -0.04* | 0.22* | 0.23* |
| Alabama | -0.03 | -0.11 | 0.15 | 0.10 |
| Alaska | 0.72* | 0.58* | -0.47* | -0.66* |
| Arizona | 0.48* | 0.47* | -0.40* | -0.37* |
| Arkansas | (1) | (1) | (1) | (1) |
| California | -0.32* | -0.02 | -0.10* | -0.27* |
| Colorado | (1) | (1) | (1) | (1) |
| Connecticut | 0.24* | 0.18* | 0.12 | 0.20* |
| Delaware | 0.15 | 0.03 | -0.11 | -0.14 |
| District of Columbia | (2) | (2) | (2) | (2) |
| Florida | 0.31* | 0.21 | 0.05 | 0.32* |
| Georgia | (1) | (1) | (1) | (1) |
| Hawaii | (2) | (2) | (2) | (2) |
| Idaho | 0.10 | 0.08 | -0.11 | -0.09 |
| Illinois | -0.02 | -0.18* | 0.31* | 0.39* |
| Indiana | 0.57* | 0.37* | -0.08 | -0.01 |
| Iowa | 0.00 | 0.06 | -0.08 | -0.08 |
| Kansas | 0.07 | 0.27* | -0.30* | -0.34* |
| Kentucky | (1) | (1) | (1) | (1) |
| Louisiana | -0.09 | -0.22 | 0.26* | 0.07 |
| Maine | 0.00 | 0.00 | -0.04 | -0.04 |
| Maryland | 0.33 | -0.41* | 0.62* | 0.59* |
| Massachusetts | 0.57* | 0.35* | -0.15* | 0.11 |
| Michigan | 0.48* | 0.30* | 0.10* | 0.14* |
| Minnesota | 0.51* | 0.44* | -0.25* | -0.0 |
| Mississippi | (1) | (1) | (1) | (1) |
| Missouri | 0.74* | 0.45* | -0.09* | 0.02 |
| Montana | 0.22* | 0.23* | -0.24* | -0.43* |
| Nebraska | 0.32* | 0.29* | -0.15* | -0.18* |
| Nevada | -0.51* | -0.35 | -0.03 | -0.36 |
| New Hampshire | -0.29* | -0.23* | 0.13 | 0.20* |
| New Jersey | (1) | (1) | (1) | (1) |
| New Mexico | (1) | (1) | (1) | (1) |
| New York | -0.15* | -0.32* | 0.60* | 0.45* |
| North Carolina | 0.13 | -0.09 | 0.35* | 0.51* |
| North Dakota | 0.09 | 0.28* | -0.29* | -0.41* |
| Ohio | 0.37* | 0.06 | 0.15* | 0.31* |
| Oklahoma | (1) | (1) | (1) | (1) |
| Oregon | 0.57* | 0.29* | -0.20* | -0.25 |
| Pennsylvania | -0.01 | -0.16* | 0.35* | 0.41* |
| Rhode Island | -0.25 | -0.34* | 0.39* | 0.30 |
| South Carolina | 0.39* | 0.16 | -0.01 | 0.21* |
| South Dakota | (1) | (1) | (1) | (1) |
| Tennessee | 0.50* | 0.19* | 0.11 | 0.24* |
| Texas | 0.15* | 0.10* | -0.06 | -0.12* |
| Utah | 0.30 | 0.39* | -0.30 | -0.28 |
| Vermont | -0.01 | 0.04 | -0.10 | 0.03 |
| Virginia | 0.25* | -0.03 | 0.41* | 0.58* |
| Washington | 0.29* | 0.18* | -0.17* | 0.05 |
| West Virginia | -0.10 | 0.33* | -0.37* | -0.40* |
| Wisconsin | 0.41* | 0.31* | 0.09 | 0.20* |
| Wyoming | 0.14 | 0.15 | 0.05 | -0.07 |

*Figure is statistically significant at the 0.05 level or better.
[1]Nine states (Arkansas, Colorado, Georgia, Kentucky, Mississippi, New Jersey, New Mexico, Oklahoma, and South Dakota) were excluded from state-level correlation analysis because more than 50 percent of the school districts were missing Census data.
[2]No state-level correlation analysis was possible for the District of Columbia or Hawaii since they only have one district.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

Table A-18. Correlations between school operations expenditures per pupil and selected school district demographic and economic characteristics (cost-adjusted dollars), by state: 1997–98

| State | Minority enrollment | District poverty rate | Median household income | Median housing value |
|---|---|---|---|---|
| United States | -0.02* | 0.02 | 0.07* | 0.03* |
| Alabama | -0.03 | -0.02 | 0.01 | -0.04 |
| Alaska | 0.72* | 0.63* | -0.55* | -0.69* |
| Arizona | 0.47* | 0.48* | -0.42* | -0.39* |
| Arkansas | (1) | (1) | (1) | (1) |
| California | -0.32* | 0.02 | -0.15* | -0.32* |
| Colorado | (1) | (1) | (1) | (1) |
| Connecticut | 0.10 | 0.09 | 0.11 | 0.15 |
| Delaware | 0.12 | 0.18 | -0.33 | -0.30 |
| District of Columbia | (2) | (2) | (2) | (2) |
| Florida | 0.20 | 0.36* | -0.25* | -0.10 |
| Georgia | (1) | (1) | (1) | (1) |
| Hawaii | (2) | (2) | (2) | (2) |
| Idaho | 0.11 | 0.10 | -0.16 | -0.15 |
| Illinois | -0.15* | -0.16* | 0.16* | 0.19* |
| Indiana | 0.41* | 0.35* | -0.19* | -0.15* |
| Iowa | -0.20* | 0.11* | -0.26* | -0.31* |
| Kansas | -0.08 | 0.28* | -0.42* | -0.48* |
| Kentucky | (1) | (1) | (1) | (1) |
| Louisiana | -0.19 | -0.18 | 0.12 | -0.16 |
| Maine | -0.07 | 0.10 | -0.19* | -0.22* |
| Maryland | 0.23 | -0.42* | 0.48* | 0.44* |
| Massachusetts | 0.52* | 0.33* | -0.19* | 0.04 |
| Michigan | 0.46* | 0.35* | -0.04 | 0.01 |
| Minnesota | 0.28* | 0.46* | -0.52* | -0.45* |
| Mississippi | (1) | (1) | (1) | (1) |
| Missouri | 0.68* | 0.55* | -0.25* | -0.15* |
| Montana | 0.19* | 0.22* | -0.24* | -0.46* |
| Nebraska | 0.13* | 0.30* | -0.27* | -0.37* |
| Nevada | -0.44 | -0.27 | -0.10 | -0.40 |
| New Hampshire | -0.35* | -0.12 | -0.02 | 0.06 |
| New Jersey | (1) | (1) | (1) | (1) |
| New Mexico | (1) | (1) | (1) | (1) |
| New York | -0.33* | -0.38* | 0.47* | 0.19* |
| North Carolina | 0.17 | 0.07 | 0.12 | 0.30* |
| North Dakota | 0.09 | 0.30* | -0.33* | -0.47* |
| Ohio | 0.27* | 0.06 | 0.12* | 0.25* |
| Oklahoma | (1) | (1) | (1) | (1) |
| Oregon | 0.54* | 0.33* | -0.25* | -0.30* |
| Pennsylvania | -0.09* | -0.07 | 0.15* | 0.21* |
| Rhode Island | -0.34* | -0.42* | 0.46* | 0.38* |
| South Carolina | 0.48* | 0.29* | -0.16 | 0.07 |
| South Dakota | (1) | (1) | (1) | (1) |
| Tennessee | 0.43* | 0.24* | -0.02 | 0.09 |
| Texas | 0.04 | 0.15* | -0.21* | -0.27* |
| Utah | 0.26 | 0.39* | -0.32* | -0.32* |
| Vermont | -0.07 | 0.07 | -0.17* | -0.04 |
| Virginia | 0.20* | 0.11 | 0.16 | 0.30* |
| Washington | 0.17* | 0.31* | -0.34* | -0.19* |
| West Virginia | -0.18 | 0.40* | -0.46* | -0.50* |
| Wisconsin | 0.25* | 0.28* | -0.08 | 0.00 |
| Wyoming | 0.12 | 0.17 | 0.01 | -0.10 |

*Figure is statistically significant at the 0.05 level or better.

[1]Nine states (Arkansas, Colorado, Georgia, Kentucky, Mississippi, New Jersey, New Mexico, Oklahoma, and South Dakota) were excluded from state-level correlation analysis because more than 50 percent of the school districts were missing Census data.

[2]No state-level correlation analysis was possible for the District of Columbia or Hawaii since they only have one district.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Financial Survey (Form F-33): School Year 1997–98" and U.S. Department of Commerce, Bureau of the Census, 1990 Decennial Census School District Special Tabulation.

# Appendix B: Technical Notes

## Data Sources

The data in this report are based on three sources:

1. 1998 Survey of Local Government Finances, commonly known as the F-33: This source provided the financial information for school districts. This data collection effort was jointly conducted by the NCES and the U.S. Bureau of the Census (Governments Division) for all public school districts in the country. These data permit the assessment of education revenue and expenditures within states, as well as across the nation. It is part of the Common Core of Data (CCD) collection of surveys and administrative-records data relating to public elementary and secondary education.

2. 1990 Census School District Special Tabulation, commonly known as the Census Mapping (CM) file: This source provided information on district and community characteristics.

3. The 1993–94 Cost of Education Indices, downloaded from http://nces.ed.gov/edfin/prodsurv/data.asp. The file contains only the NCES AGENCY ID and CEI across geographic locations.

Taken together, these three data files were intended to include data on all public school districts. However, the CM file was missing a number of districts in certain states, and the CCD and F-33 data files contained missing information for some data fields. To account for this, some missing or deficient data was imputed as described below in Data Modifications and Imputation Procedures. In states where a large proportion (50 percent or greater) of the districts were missing CM data, the analyses dependent upon these data (relationships between expenditure measures and district fiscal and demographic characteristics) were excluded from the report. (This occurred in Arkansas, Colorado, Georgia, Kentucky, Mississippi, New Jersey, New Mexico, Oklahoma, and South Dakota.)

Variables used in this analysis and variable descriptions are listed below by source.

### Survey of Local Government Finances (F-33)

| | |
|---|---|
| TOTALEXP | Total General Expenditures (sum of TCURELSC, NONELSEC, TCAPOUT, L12, M12, Q11, I86) |
| TCURINST | Total current spending for instruction |
| E17 | Current operation expenditures for pupil support |
| E07 | Current operation expenditures for instructional staff support |
| E08 | Current operation expenditures for general administration |
| E09 | Current operation expenditures for school administration |
| V40 | Current operation expenditures for operation and maintenance of plant |
| V45 | Current operation expenditures for student transportation |
| V90 | Current operation expenditures for business/central/other support services |
| V85 | Current operation expenditures for: unspecified |
| TCURELSC | Total current spending for EL-SEC Programs (sum of TCURINST, TCURSSVC, TCUROTH) |
| Z32 | Total salaries and wages |
| Z34 | Total employee benefit payments |

## Census School District Special Tabulation (Census Mapping)

| | |
|---|---|
| Median Income–All Households | Median income—all households in district |
| Median Value Housing Units–All | Median value housing unit—all in district |
| % Non-White Children | Percent of non-white children in the district |
| % Children Below Poverty Level | Percent of children below poverty level in the district |

These data was imported into SAS from Excel.

## Cost of Education Indices

GCEI — Geographic Cost of Education Index. The GCEI uses data from three separate categories of school inputs: certified school personnel, non-certified school personnel, and non-personnel school items. The index reflects how much more or less it costs in different geographic locations to recruit and employ comparable school personnel as well as the varying costs of non-personnel items such as purchased services, supplies and materials, furnishings and equipment, travel, utilities, and facilities.

## Construction of Key Expenditure Categories

The expenditures categories to which the reader is referred in the text and tables in this report were constructed from F-33 variables as shown below:

### Total Expenditures

TCURELSC as described above, plus

| | |
|---|---|
| NONELSEC | Total current spending for non EL-SEC programs |
| TCAPOUT | Capital outlay expenditures |
| L12 | Payments to state governments |
| M12 | Payments to local governments |
| Q11 | Payments to other school systems |
| I86 | Interest on school system indebtedness |

### Current Expenditures

TCURELSC, which is the sum of:

| | |
|---|---|
| TCURINST | Total current spending for instruction (listed above) |
| TCURSSVC | Total current spending for support services |
| TCUROTH | Total current spending for other EL-SEC programs |

### Other Expenditure Categories

Salaries expenditures: Z32
Salaries and Benefits Expenditures: Z32 and Z34
Instructional Expenditures: TCURINST
Student and Instructional Staff Support Services Expenditures: E17 and E07
Administration Expenditures: E08, E09, V90, and V85
Operations Expenditures: V40 and V45

## Selection of Observations

### Primary Analysis Dataset

The F-33, Census Mapping, and Cost of Education files were merged to create the primary analysis dataset. After merging these files, observations were deleted from the dataset if they had any of the following characteristics:

- Designated as college-grade, vocational or special education, nonoperating, or education service agency (source: F-33 school level code)
- Had zero or missing total revenue and total expenditure (source: F-33 total revenue and total expenditure)
- Had the strings "VOC," "TECH," "SPEC ED," or "AGRIC" in the name of the district (source: F-33 LEA name)

## Data Modifications and Imputation Procedures

Taken together, the F-33, Census Mapping, and Cost of Education Index files were intended to include data on all public school districts. However, some data fields in these files contained missing information for some districts, or districts were simply missing from the data file altogether. For example, GCEI data were missing for several districts, and in nine states over half the districts were missing in the Census mapping file.

Conducting analyses with missing pieces of information would pose several logistical problems. In particular, the analysis dataset would change for each variable or data file investigated. That is, only those district observations with non-missing values for a particular variable could be analyzed, and each variable would be represented by a different set of districts. This type of analysis would pose potential problems with the interpretation of data results, as systematic reasons for missing data might produce or mask expenditure patterns. For example, new districts may universally be missing census mapping demographic data because of the timing of census data collection. If these districts were excluded from any given analysis for this reason, the results would obviously be affected by the omission. For these reasons, project staff decided to impute values for missing demographic and cost of education data. Data imputation procedures allow the researcher to run an analysis with a full dataset, with minimal compromising of the original data.

A "nearest neighbor" approach was used in the imputation process. The data were stratified by state so that any recipient always received a value from a donor in that same state. Then the data were sorted by

three variables, and "good" (in this case "good" = non-missing) values were supplanted over missing values. A missing value was always replaced by the last good value before it in the sort order.

Simple analysis revealed that all districts that were missing any one of the four census mapping variables were also missing the other three. There were 2,097 districts missing all 4 census mapping variables, out of 14,254 target districts. Further analysis revealed that all but two districts missing cost of education index data were also missing the census mapping variables. Thus, there were 175 districts missing all 5 pieces of information, 1,922 districts missing only the census mapping variables, and 2 districts missing only the cost of education index variable.

The districts were first sorted by state, a measure of size in descending order (in this case, v33: fall membership in October 1997), a type-of-district code in descending order (schlev: elementary, secondary, or unified district), and finally by a county code (first three digits of the FIPS code). The four census mapping variables were always imputed from the same donor. The cost of education index was occasionally imputed using a donor different from that used for the census mapping variables.

In nine different states, over half the districts were missing demographic census mapping data. These states were Arkansas, Colorado, Georgia, Kentucky, Mississippi, New Jersey, New Mexico, Oklahoma, and South Dakota. Missing data in these states were imputed for use in the national correlation analyses. However, such high imputation rates would have rendered suspicious data in the state-level demographic analyses. Consequently, these states were excluded from state-level analyses using census mapping data.

Expenditures data from the F-33 file were not imputed.

# Glossary

**Administration expenditures** include general and school administration, as well as business support and central support services.

**Capital expenditures** include expenditures for construction of fixed assets and the purchasing of land, existing buildings and grounds and equipment.

**Current expenditures** include expenditures for salaries and wages, employee benefits, purchased services, supplies, and other miscellaneous expenditures in the following categories: elementary/secondary educational instructional programs in pre-kindergarten through grade 12; elementary/secondary non-instructional programs; and nonelementary/secondary programs. Employee benefits include state expenditures for retirement benefits that are allocated to districts.

**District type** is defined by the level of instruction provided. The categories and distinctions used in this report are

- Elementary—district provides instruction only below 8th grade
- Secondary—district provides instruction between 7th and 12th grades
- Unified—district provides instruction for any other combination of grades

**Elementary** is a general level of instruction classified by state and local practice as elementary, composed of any span of grades not above grade 8. Preschool or kindergarten is included only if it is an integral part of an elementary school or a regularly established school system.

**Employee benefit expenditures** include expenditures for all employee benefits paid for by the local education agency. These include the employer share of state or local employment retirement contributions, social security contributions, group life and health insurance, unemployment and workmen's compensation, and any tuition reimbursements.

**Enrollment** is defined as the count of students on the current roll on or about October 1, 1989.

**Expenditures** are defined as money paid out by a school district for the purchase, reimbursement, or hire of goods and services. These are reported as current expenditures and capital expenditures.

The **Geographic Cost of Education Index (GCEI)** reflects how much more or less it costs in different geographic locations to recruit and employ comparable school personnel, as well as the varying costs of non-personnel items such as purchased services, supplies and materials, furnishings and equipment, travel, utilities, and facilities. GCEI uses data from these separate categories of school inputs: certified school personnel, non-certified school personnel, and non-personnel school items. The index is established by weighting each component of expenditure by its share of current expenditure during the 1993–94 school year.

**Geographic region** refers to district location within a region of the country. The regional designators for this analysis are

- **Northeast:** Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont.
- **Midwest:** Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin.
- **South:** Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia.
- **West:** Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming.

**Instructional expenditures** include current operating expenditures for activities dealing with the interaction of teachers and students in the classroom, home, or hospital, as well as co-curricular activities.

**Instructional staff support services** include expenditures for supervision of instructional services, instructional staff training, and media, library, audiovisual, television, and computer-assisted instruction services.

A **local education agency** is a government agency administratively responsible for providing public elementary and/or secondary instruction or education support services.

**Median household income** is defined as the median income of the householder and all other persons 15 years old and over in the household, whether related to the householder or not, in calendar year 1989.

**Median housing value** is defined as the median value of specified owner-occupied housing units in a state in 1990.

**Percent minority students** is defined as the percent of students in a state's public schools who are African American, Hispanic, Asian, American Indian, and Alaskan Native in 1990.

**Percent children in poverty** is defined as children 5 years of age and living in households with income at or below the poverty level in 1990.

**Pupil support expenditures** include expenditures for guidance, health, and logistical support that enhance instruction. Such support includes attendance, social work, student accounting, counseling, student appraisal, information record maintenance, and placement services. Pupil support services also include medical, dental, nursing, psychological, and speech services.

**Salaries expenditures** include expenditures for all salaries and wages paid by the local education agency for education staff employed by the agency.

A **school district** is a geographic area within a state where a public school system operates as a governmental entity with responsibility for operating public schools in that geographic area.

**School operations and maintenance expenditures** includes building services (heating, electricity, air conditioning, property insurance), care and upkeep of grounds and equipment, all transportation vehicle operations and maintenance, and security services. These operations and services are for schools and all other school district facilities.

**Secondary** is defined as the general level of instruction classified by state and local practice as secondary and composed of any span of grades beginning with the next grade following the elementary grades and ending with or below grade 12.

A **student** is an individual for whom instruction is provided in an elementary or secondary education program that is not an adult education program and is under the jurisdiction of a school, school system, or other education institution.

A **vocational education district** is defined as a public elementary/secondary district that focuses primarily on vocational education, and provides education and training in one or more semiskilled or technical occupations.