

### Summary Points

- ◆ AR average teacher salary of \$48,220 ranked **40<sup>th</sup>** in the nation.
- ◆ AR ranked **22<sup>nd</sup>** in the nation after adjusting teacher salaries for cost of living.
- ◆ AR ranked **7<sup>th</sup>** in the nation when teacher salaries are indexed to the median household income.
- ◆ Within AR, differences in teacher salary are greater within regions than between regions.
- ◆ Adjustments for the education and experience level of the teachers do not explain all the variation in teacher salary.
- ◆ Higher student-teacher ratios and overall enrollment are the district characteristics most associated with higher average teacher salary.
- ◆ Districts may seek to adjust staffing ratios and salary schedules to ensure they are offering competitive salaries to recruit and retain quality teachers.

## Arkansas Teacher Salaries

*This brief examines teacher salaries in Arkansas. Using data publicly available from the Arkansas Department of Education, we examine how teacher salaries compare to the nation and surrounding states. Further analyses examine differences in teacher salary within and between the regions of Arkansas. We identify the district factors most related to and make recommendations for utilizing this information.*

### Introduction

In 2007, the Arkansas Supreme Court declared the state's schools funding system constitutional. This finding came 15 years after Judge Collins Kilgore ruled that the state's funding system was depriving some students for their constitutional right to an equal educational opportunity. In the 1992 *Lake View* ruling, Kilgore noted that the disparities in teacher salaries were a violation of the constitution because they "act to destabilize local districts that cannot or will not pay competitive salaries and are unable to hire and retain quality teachers" (p.33).

### This Brief

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One of the resolutions passed by the legislature to ensure constitutionality was the *Public School Funding Act of 2003*. This legislation increased the minimum teacher salary for the state, mandated step raises for each additional year of experience up to 15 years, and required the House and Senate Education Committees to review the average teacher salary during each interim. Under the law, Arkansas's average teachers salary must be compared to average teacher salaries in surrounding states and to member states of the Southern Regional Education Board (SREB).

In this brief, we compare average teachers salaries to other states across the nation, to the 16 SREB states, and to the 6 states that border Arkansas. Direct comparisons of teacher salary are imperfect due to varying costs of living between states, so we adjust teacher salaries by a index for the statewide Cost of Living index and by creating a ratio with median household income.

As seen in Table 1 below, Arkansas's average teacher salary ranks 40<sup>th</sup> in the nation, but after adjusting for cost of living, Arkansas's average teacher salary ranks 22<sup>nd</sup> in the nation. When indexed against median household income, Arkansas's average teacher salary ranks 7<sup>th</sup> in the nation.

**Table 1: Teacher Salary Measures and Rankings, 2015-16**

	Raw Average Teacher Salary (2015-16)	Cost of Living Adjusted Average Teacher Salary	Ratio of Teacher Salary to Median Household Income
Arkansas Average	\$48,220	\$54,733	117%
US Average	\$58,064	\$58,064	108%
<i>AR rank (of 51)</i>	<i>40</i>	<i>22</i>	<i>7</i>
SREB Average	\$50,425	\$53,137	104%
<i>AR rank (of 16)</i>	<i>11</i>	<i>6</i>	<i>2</i>
Border States Average	\$47,276	\$53,063	104%
<i>AR rank (of 7)</i>	<i>3</i>	<i>2</i>	<i>1</i>

Southern Regional Education Board (SREB) states: Alabama, Arkansas, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, & West Virginia.

This brief also compares teacher salaries within Arkansas. For these analyses we are able to control for teacher workforce experience and education, and index salary to median household income for the districts' resident county.

Arkansas's K-12 education funding formula provides per-pupil funding to each local district based on the determined cost for an "adequate" education, which includes teacher salary. While the state has set a minimum salary for all teachers in Arkansas, local school boards have the flexibility to set teacher salary schedules above the state mandated minimum, and many due.

### National Comparisons

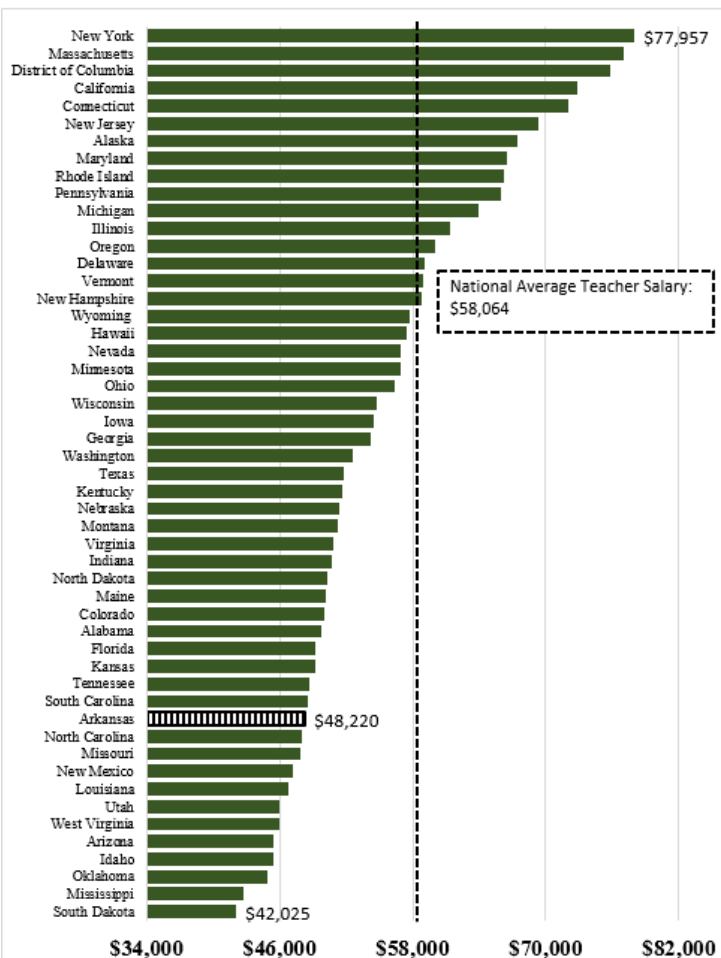
#### Raw average teacher salaries

As presented in Figure 1, the comparison of raw average teacher salaries shows that the highest average raw teacher salary, of nearly \$78,000, was paid in New York, while the lowest average salary of \$42,025 was earned by teachers in South Dakota.

The average teacher salary paid in Arkansas is less than the salaries in most other states across the nation. In 2015-16, Arkansas's teachers, on average, were paid \$48,220, which is below the national average of \$58,064. The average teacher salary in Arkansas was also below the average of the SREB states (\$50,425) but was slightly above the bordering states' average of \$47,276.

Arkansas's raw average teacher salary ranked 40th in the nation, 11th among the 16 SREB states, and third among the seven Arkansas's Border States.

**Figure 1: Raw Average Teacher Salary by State, 2015-16.**



#### Cost of Living Adjusted average teacher salaries

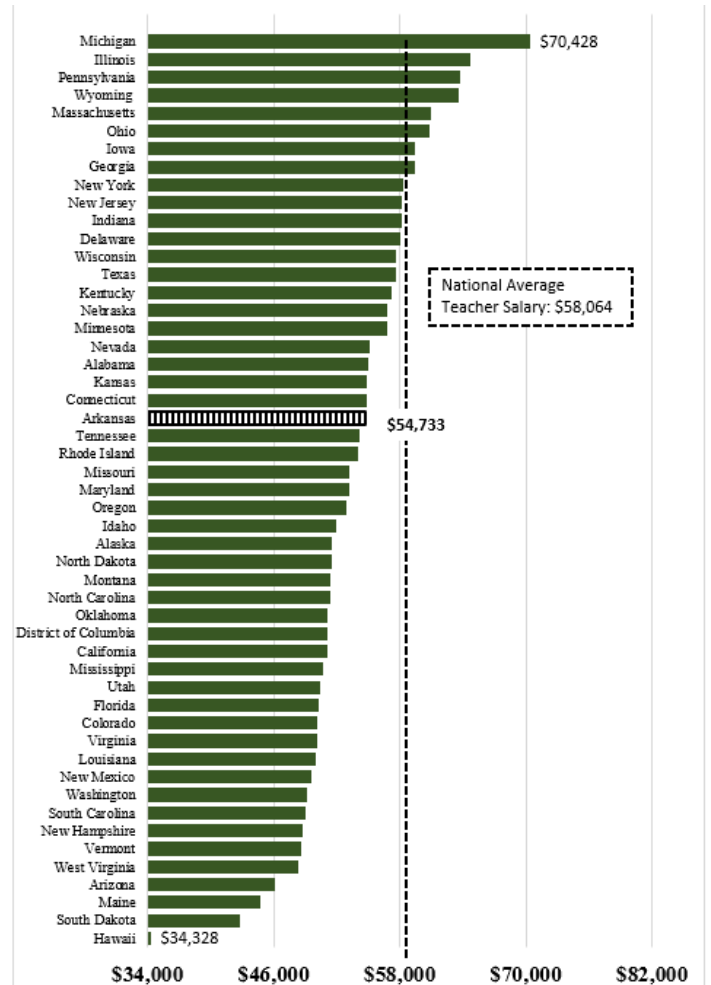
Direct comparisons of raw average teacher salaries across states, however, falsely assumes a dollar has a consistent value in New York City and Little Rock. To reflect the varied power of a dollar between the states, we adjust raw average teacher salaries by using each state's cost of living index. Each state's raw average teacher salary was multiplied by 100 and the product was then divided by the 2016 cost of living index for the state. Average teacher salaries in states with a relatively high cost of living (represented an index greater than the national average of 100) would decrease as the value of each dollar decreases, and average teacher salaries in states with a lower than average cost of living (an index less than 100) would increase. Arkansas's cost of living index for 2016 was 88.1.

As presented in Figure 2, adjusting the average teacher salary to reflect the cost of living results in the highest adjusted teacher salary, of over \$70,000, being paid in Michigan, while the lowest adjusted average salary of \$34,328 was earned by teachers in Hawaii.

The cost of living adjustment increases Arkansas's average teacher salary to \$54,733. Although the adjusted salary is still below the national average salary of \$58,064, it is above the SREB average (\$53,137) and the average teacher salary of the Border States (\$53,063).

Arkansas's cost of living adjusted salary ranks 22nd highest in the nation, sixth highest in SREB states, and second highest among the states that border Arkansas.

**Figure 2: Cost of Living Adjusted Average Teacher Salary by State, 2015-16.**



### Teacher salaries indexed to median household income

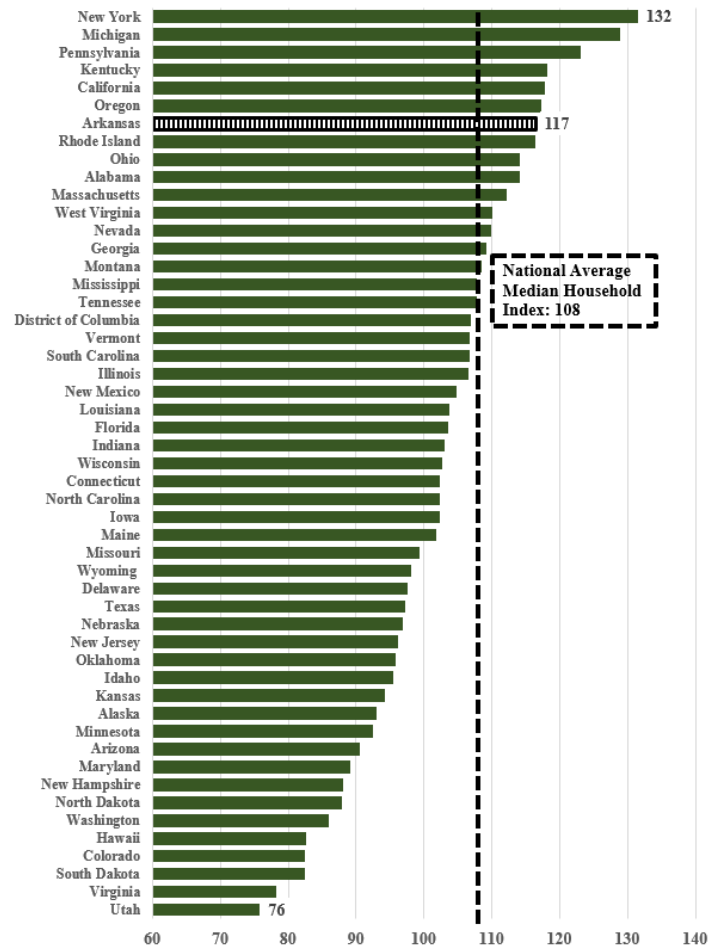
Another method for obtaining a more meaningful comparison of average teacher salaries across the country is to compare the average teacher salary to the median household income in each state. Although not accounting for differences in educational levels, this calculation does demonstrate how much the average teacher earns compared to the average household in the state in which he/she teaches. By dividing each state’s raw average teacher salary by the state’s median household income, we present the salaries paid to teachers relative to other earners in the state.

As presented in Figure 3, New York teachers enjoy the highest index at 132, while the average teacher salary in Utah is only 76 percent of the median household income.

On average, teachers in Arkansas earn 117 percent of the median household income of \$41,371. Although the unadjusted average teacher salary in Arkansas is below the national, SREB and border states average, the 2015 median household income in Arkansas (\$41,371) is also below the national figure (\$53,889), the SREB average (\$49,378), and border state (\$45,652) average and this adjustment also moves Arkansas upward in the salary rankings.

Arkansas’s teacher salary index ranks seventh highest in the country, second in the SREB states, and first among Border States. Although Arkansas’s raw average teacher salary is low in comparison to other states, when cost of living and median household income are considered, Arkansas teacher salaries are competitive with those of bordering states and peer states in the SREB.

**Figure 3: Median Household Income Index of Average Teacher Salary by State, 2015-16.**



### In-State Comparisons

While comparing teacher salaries in Arkansas to those of other states is a valuable analysis to determine how Arkansas fits nationally, it does little to tell us about within-state differences at the regional and district level. In the next section, we analyze how Arkansas teacher salaries compare between each of the five geographic regions and the 234 traditional public school districts in Arkansas.

#### About the Regions

Arkansas districts are divided into five geographic regions by the Arkansas Department of Education. Table 2 presents an overview of the Average Teacher Salary and each region. Values are weighted by the number of students in each district in the region.

The Northwest region of Arkansas includes the greatest number of districts and total student enrollment. Districts in the Northwest region spend the smallest amount per pupil. In the Central region, there are fewer districts, but the average district size is larger than in the Northwest. Districts in the Central region spend the most per pupil at \$10,199. The 23 districts in the southeast region are the smallest on average, and spend nearly as much as the Central districts. The Southeast region also serves the highest percentage of minority students, and the highest percentage of students eligible for free or reduced price lunches.

The Northeast region has the lowest percentage of minority students, while the Northwest and Central regions have the lowest percentage of students eligible for free or reduced price lunches (FRL). The Southeast region however, spends the most per pupil, has the highest percentage of minority students, and the highest percentage of students eligible for free or reduced price lunches.

**Table 2: Descriptive Statistics by Region, 2015-16 (Excluding Charter Schools)**

Region	Number of Districts	Average District Enrollment	Weighted Average Per-Pupil Expenditure	Weighted Average % Minority	Weighted Average % FRL
Northwest	72	2,314	\$9,385	32%	58%
Northeast	66	1,434	\$9,459	29%	65%
Central	35	3,767	\$10,199	45%	58%
Southwest	38	1,209	\$9,753	45%	69%
Southeast	23	1,047	\$10,145	51%	72%
Arkansas Overall	234	1,979	\$9,708	36%	60%

Table 3 presents summary information of two measures of teacher salary for each of the five regions of Arkansas.

### Raw average teacher salaries

In 2015-16, the average teacher salary in Arkansas was \$48,976. The average teacher salary for each region is presented in the initial column of Table 3. Teachers in the Central region earned the highest average salary at \$52,230, while teachers in the Southeast region earned the lowest average salary of \$42,578. Although this difference between regional average teacher salaries is nearly \$10,000, the difference between average teacher salaries within the regions is even greater.

The highest average salary of \$59,143 was paid by Springdale School District, located in the Northwest region of the state. Within the Northwest region, the lowest average salary of \$35,460 was paid by Mulberry School District, resulting in a range of nearly \$24,000 in average teacher salary within the same geographic region. This within-region range in average salary represents 42% of the Northwest regional average salary value.

The lowest average salary of \$33,409 was paid by Earle School District, located in the Northeast region of the state. Within the Northeast region, the highest average salary of \$52,555 was paid by Forrest City School District, resulting in a range of nearly \$19,146 in average teacher salary in the same geographic region. This within-region range in average salary represents 47% of the Northeast regional average salary value.

Within each geographic region of the state, the average teacher salary paid by districts within the region varied by over 1/3 of the regional average salary, or by at least \$15,000. Such wide variation in teacher salary may, however, simply reflect differences in the experience and education level of the workforce.

### Average scale teacher salaries

Comparing the average teacher salaries of Arkansas districts and regions, however, ignores the impact on salary of the experience and education level of the teachers employed in the district. Teachers receive salary increases for the number of years that they have been teaching and for educational attainment such as a bachelor's or master's degree. Although the national data do not provide the information necessary to account for differences in workforce experience and education levels, using each district's teacher salary scales, we compute a salary scale "generosity" measure for each district. The scale salary measure reflects what each district's average teacher salary would be if each district had a corps of teachers with identical years of experience and levels of education.

As presented in Table 3, if all districts employed a similarly experienced and educated group of teachers, the most 'generous' average salary of \$46,419 would be paid to teachers in the Northwest region, while teachers in the Southeast region would receive \$38,946.

Within each geographic region of the state, the range of scale salary that would be paid by districts was smaller than the actual average salary range. The within-region differences in scale salaries range from \$7,914 to \$19,451, compared to the differences in raw average salaries, which range from \$15,102 to \$23,682. This indicates that some of the variation in teacher salary reflects differences in the experience and education level of the workforce.

Considerable variation in teacher salaries is evidenced across the state in more and less generous pay scales. This is most apparent in the Northwest region, where, for example, the Springdale School District's scale salary is \$19,451 more than the Lead Hill School District's scale salary.

Concerns regarding students' equitable access to quality teachers may be raised if higher-paying districts are able to attract better teachers by paying higher salaries; however, it is important to consider the cost of living in these districts to determine the actual "competitiveness" of a teacher's salary.

**Table 3: Teacher Salary Measures by Region, 2015-16 (Excluding Charter Schools and Weighted by Full Time Employees)**

Region	Average Salary	Lowest Average Salary	Highest Average Salary	Average Salary Range	Average Scale Salary	Lowest Average Scale Salary	Highest Average Scale Salary	Average Scale Salary Range
Northwest	\$50,877	\$35,460	\$59,143	\$23,682	\$46,419	\$35,892	\$55,343	\$19,451
Northeast	\$45,650	\$33,409	\$52,555	\$19,146	\$41,405	\$35,674	\$47,569	\$11,895
Central	\$52,230	\$39,105	\$57,265	\$18,161	\$45,717	\$37,218	\$49,723	\$12,505
Southwest	\$44,198	\$35,523	\$50,625	\$15,102	\$39,537	\$35,756	\$43,842	\$8,086
Southeast	\$42,578	\$36,593	\$55,819	\$19,227	\$38,946	\$35,997	\$43,911	\$7,914
Arkansas Overall	\$48,976	\$33,409	\$59,143	\$25,733	\$44,023	\$35,674	\$55,343	\$19,669

### Median Household Index

A potential explanation for differences in teacher salary involves differences in cost of living or standard wages paid in an area. Cost of living measures were not available at the district level, but we used the median household income of the county in which the district is located as a proxy for the economic condition of the area surrounding the district. We apply the same methods for adjusting teacher salary to the economic context that we used earlier to compare salaries across states: as such, we index teacher salaries to the median household income of the district's county.

The average, low, and high median household index scores in each region are displayed in Table 4. All regions have an average index score above 100, demonstrating that, on average, teachers across all regions in Arkansas earn more than the median income within the county in which they teach.

In the Northwest and Central regions, the average median household income index scores the lowest even though the raw average teacher salaries were the highest in the state. Average teachers in these two regions have high raw salaries compared to other regions, but lower salaries when compared to the median household income of those living in the county where they teach.

Conversely, teachers in the Southeast region earned relatively low wages compared to teachers across the state, but earn the highest pay compared to the median income in their counties. Specifically, teachers in the Southeast region are almost guaranteed to earn more than the median income of the area, as the low index is 95, and the high index is 198, meaning that, in the Marvell-Elaine School District, the average teacher earns almost double the median income of the community, with an average salary of \$55,819 and a median income of \$28,171. In the Southeast region, the index is 127, reflecting that teachers in the Southeast region earn about 27% more than the median household income of the area.

**Table 4: Median Household Income Index by Region**  
(Excluding Charter Schools and Weighted by Full Time Employees)

Region	Average Median Household Index	Lowest Median Household Index	Highest Median Household Index	Median Household Income (2014)
Northwest	112	71	147	\$41,014
Northeast	119	94	172	\$37,202
Central	108	72	137	\$45,201
Southwest	117	74	138	\$37,168
Southeast	127	95	198	\$34,022
Arkansas Overall	116	71	198	\$39,253

### Arkansas salary summary

There is substantial variation in teacher salaries paid by districts throughout the state. The differences are not in the minimum salary, which is legislated, but in the maximum salaries that districts paid to teachers. Although the variation is somewhat explained by differences in the education and experience level of the workforce, differences in the generosity of teacher salaries between and within regions of the state persist.

It is important to consider the cost of living in these districts to determine the actual "competitiveness" of a teacher's salary. For instance, in the three regions with the lowest average teacher salaries, the average teacher earned more relative to non-teachers in their county, as evidenced by higher median household income indices. Given that teachers live in the surrounding communities, the lower raw salaries may actually be more attractive to local eligible workers than those in higher paying districts.

### Variables related to differences in teacher salary

Disparities in teacher salaries may be driven by other district characteristics such as the percentage of students eligible for free/reduced lunch, per-pupil expenditures, millage rate, student-teacher ratio or district enrollment. For example, in the Northwest region, the student-teacher ratio is about 16 to 1 in the Springdale School District, with a total enrollment of over 21,000 students, and the student-teacher ratio is about 9 to 1 in the Wonderview School District, with a total enrollment of about 400 students. These two districts differ in raw average salary by over \$20,000. We conduct an initial examination of the relationships between district characteristics and average teacher salary through a correlation analysis. The results of the analysis are presented in Table 5.

The two variables most strongly related to teacher salaries are student-teacher ratio ( $r=.689$ ) and total student enrollment ( $r=.656$ ). In other words, as enrollment and student-teacher ratios get larger, teacher salaries also tend to become larger.

**Table 5: Correlations Between District Characteristics and Teacher Salary by Region** (Excluding Charter Schools)

	Correlation with Average Teacher Salary
Average Teacher Salary	1.000
Student-Teacher Ratio	0.689**
District Enrollment	0.656**
Percent FRL	-0.406**
Median Household Income (2014)	0.343**
Per-Pupil Expenditure	-0.211**
Total Millage Rate	0.155*
Percent Minority	0.134*

234 Observations

\*Results are significant at the 0.05 level,

\*\*Results are significant at the 0.01 level

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## Multiple Regression Analysis

To estimate the individual influence of each district characteristic on teacher salary, we conduct a multiple regression analysis. Seven district-level characteristics were included in the regression: Student-Teacher ratio, district enrollment, percent of students eligible for Free/Reduced lunch, Median Household Income of the county in which the district is located, Per-pupil expenditure, total millage rate, and percent of enrolled students who are African American or Hispanic. The regression coefficients and standard errors are presented in detail in the [full report](#), but practical applications of the model are presented in this brief.

Student-teacher ratio and total district enrollment had the most significant, positive impact on average teacher salary. Per-pupil expenditure had a significant, but modestly positive impact on salary. In contrast, the percent of students who are eligible for free and reduced lunch (FRL) had a significantly negative impact on teacher salary.

In practical terms:

- Increasing student-teacher ratio would be expected to have the largest impact on teacher salary. In a district that employs 50 teachers, if each teacher's class was increased by one student, the average teacher salary would be expected to increase by about **\$1,815**, holding all other factors equal.
- Increasing district enrollment would be expected to have a small impact on average teacher salary. While perhaps more difficult to increase, an increase in district enrollment of 100 students would raise average teacher salary by an estimated **\$53**, holding all other district characteristics constant.
- Increasing per-pupil spending by \$100 is associated with a **\$102** increase to average teacher salary, holding other factors constant.
- The impact of a 16% increase in district FRL results in approximately a **\$1,420** decrease in annual teacher salary.

## Summary

Overall, the data suggest that Arkansas's teacher salaries are competitive when compared to teacher salaries in states across the country. Arkansas salaries are particularly attractive compared to the salaries paid in our neighboring states. The data presented here illustrate that there are disparities between regions and between districts in Arkansas, and that the variation cannot be fully explained by differences in teacher experience and education or by the relative wealth of the surrounding area. We conclude that the strongest drivers of teacher salary differences are student-teacher ratio and district enrollment. Our analysis shows that district size and student-teacher ratio are positively correlated, and that larger districts tend to pay the highest salary. Therefore, if smaller districts want to offer a more competitive salary, they could work to increase class size, as we found that is the strongest driver of teacher salary differences across districts.

While school district leaders cannot control the number or the type of students who enroll in the district, they do have control over the number of teachers they hire, and therefore the number of students for which each teacher is responsible. In an effort for smaller districts to recruit high quality teachers with a competitive salary, they may consider increasing student-teacher ratios within their districts. While there is some research to suggest that class sizes no larger than 17 students to a teacher are associated with increased student performance as measured by test scores, the overall student-teacher ratio within the state of Arkansas is 11 students per teacher, and much smaller in some districts. Increasing the student-teacher ratio is one way that local school districts could re-capture revenue to use to increase average teacher salary. Each district has the opportunity and responsibility to establish their local salary scale and ensure that it is attracting and retaining high-quality teachers for their students.

## SOURCES

*Lake View Sch. Dist. No. 25 v. Huckabee*, 355 Ark. 617, 142 S.W.3d 643

Cost of Living Figures: [http://www.missourieconomy.org/indicators/cost\\_of\\_living/index.stm](http://www.missourieconomy.org/indicators/cost_of_living/index.stm) (note— 2<sup>nd</sup> Quarter 2016 was used in this report)

Average Teacher Salary 2015-16 is unadjusted and was obtained from the National Education Association ([http://www.nea.org/assets/docs/2016\\_NEA\\_Rankings\\_And\\_Estimates.pdf](http://www.nea.org/assets/docs/2016_NEA_Rankings_And_Estimates.pdf)). Summary table G: Estimated Average Annual Salaries of Total Instructional Staff of Classroom Teachers, 2015-16 – Column 9 (All Teachers)

Median Household Income obtained from, <https://www.census.gov/did/www/saipe/data/statecounty/data/2015.html>

Arkansas District Salary information obtained from the Arkansas Department of Education

For additional source information, including a complete district listing of key salary measures, see the Arkansas Education Report, available at <http://www.officeforeducationpolicy.org/comprehensive-analysis-of-arkansas-teacher-salaries-state-region-and-district-2/>

