Is School Funding Fair?
A National Report Card

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About the Authors

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Please visit www.schoolfundingfairness.org to download the report, explore findings with interactive graphics and download complete datasets for further analysis.

Table of Contents

Executive Summary

"Is School Funding Fair? A National Report Card" analyzes the condition of state school finance systems with a focus on the fair distribution of resources to the neediest students. The Report Card makes a number of assumptions about how school funding systems should be designed:

- A fair funding system should provide levels of funding based on student need.
- Student poverty is the most critical variable affecting funding levels and can serve as a proxy for other measures of disadvantage, such as racial segregation, limited English proficiency, and student mobility.
- Fair funding systems are designed "progressively" so that funding increases relative to student poverty.
- A sufficient overall level of funding is a crucial starting point for any funding formula to be successful.

The Seventh Edition of the Report Card examines the fiscal condition of the nation's schools using data from 2015.

The Fairness Measures

The report evaluates states on the basis of four separate, but interrelated, fairness measures. These measures are designed to provide meaningful comparisons among states by taking into account factors that influence education costs, such as geography, regional labor markets, and population density, where appropriate. The measures are:

- **Funding Level:** Using figures adjusted to account for a variety of interstate differences, this measure allows for a comparison of the average state and local revenue per pupil across states. States are ranked from highest to lowest in per pupil funding.
- **Funding Distribution:** This measure shows whether a state provides more or less funding to schools based on their poverty concentration. States are evaluated as "regressive", "progressive", or "flat" and are given letter grades that correspond to their relative position compared to other states.
- **Effort:** This measures differences in state spending relative to a state's fiscal capacity. States are ranked according to the ratio of state spending on education to gross state product (GSP) and personal income.
- **Coverage:** This measures the proportion of school-aged children attending the state's public schools and also addresses the income disparity between families using public and nonpublic schools. States are ranked according to both the proportion of children in public schools and the income ratio of public and nonpublic school families.

Summary of Findings

The report's core findings include:

- **Funding levels** continue to be characterized by wide disparities among states, with gaps between the highest and lowest funded states actually growing. The funding

differential between the highest (New York) and lowest (Idaho) funded states is over $12,400.

- The majority of states have unfair funding systems with "flat" or "regressive" **funding distribution** patterns that ignore the need for additional funding in high-poverty districts. In 2015, only eleven states had progressive funding systems, down from a high of twenty-two in 2008.
- Whether measured in relation to a state's economic productivity or personal income, the **fiscal effort** that states exert varies widely. States with the lowest effort spend on schools about $25 of every $1,000 in economic productivity, while the highest effort states spend $50. Similarly, in relation to personal income, the lowest effort states allocate $29 for every $1,000 in aggregate income compared to $64 in the highest effort state.
- **Coverage** is a relatively stable indicator, but it demonstrates the degree to which wealthier families in some states opt out of the public education system, potentially affecting the public and political will necessary to improve school funding. The percentage of school-aged children enrolled in public schools ranges from 78% in Hawaii, to a high of 93% in Utah.
- Only two states, New Jersey and Wyoming, are positioned relatively well on all **four indicators**.
- California, Florida, Louisiana and Tennessee are poorly positioned on all **four fairness measures**. All three states receive a "C" in Funding Distribution (no additional funding for poor districts). They rank in the lower half of states on Funding Level, and have below average Effort levels and poor Coverage.

Resource Allocation Indicators

Fair school funding delivers adequate resources where they are needed most to support students' academic progress. The report explores the consequences of funding fairness, or lack thereof, for schools and students through the following three resource allocation indicators:

- **Early Childhood Education**: Enrollment of low-income students in early childhood education lags behind that of their wealthier peers in nearly all states. The states with the greatest disparities in preschool enrollment are more likely to have regressively distributed funding.
- **Wage Competitiveness**: A fair school funding system should provide districts with the opportunity to attract and retain high quality teachers. Competitive salaries are one way to attain that goal, but average teacher salaries in most states are below those of their non-teacher counterparts. States with higher funding levels are able to offer more competitive salaries, while in the lowest funded states teacher salaries are the least competitive with other professions.
- **Pupil-to-Teacher Ratios**: An equitable distribution of school staff in districts and states is one of the most meaningful outcomes of fair school funding. Twenty-nine states had a flat or regressive distribution, meaning that higher poverty districts had the same

number or more pupils per teacher. Unsurprisingly, the states with the fairest distribution of staff were also more likely to have a fair distribution of funding.

This edition of the National Report Card, like its precursors, demonstrates that school funding remains stubbornly unfair in most states. As a result, states have failed to create finance systems that support improved student outcomes, especially among the nation's low-income students.

Introduction

The National Report Card was first published in 2010. Since then, a growing body of research has convincingly demonstrated that money does, in fact, make a difference in improving educational opportunities for the nation's schoolchildren. In just the last few years, a body of rigorous empirical studies has shown that:

- Increased funding leads to greater and more fairly distributed education resources. When states make a greater fiscal effort to fund their schools, school spending goes up, and that translates into higher staffing levels, smaller class sizes and more competitive wages for teachers.[1]

- States that invest in the resources that matter – low pupil-to-teacher ratios, especially for high poverty districts, and competitive wages – tend to have higher academic outcomes among children from low-income families and smaller income-based achievement gaps.[2]

- Adequacy-oriented school funding reforms between 1990 and 2011 achieved their goals of improving educational opportunity by raising achievement among students in low-income districts. In fact, states with reform saw decreasing achievement gaps over the period studied, while states without school finance reform saw their achievement gaps increase.[3]

- School funding reform also leads to improvements far beyond test scores. A study of school finance reforms of the 1970s and 80s finds that increased spending led to higher high school graduation rates, greater educational attainment, higher earnings and lower rates of poverty in adulthood.[4]

Money matters because the availability and level of resources in schools matter.[5] Fair and equitable state finance systems must be at the center of efforts to improve educational outcomes and reduce stubborn achievement gaps among students. Yet in the face of compelling evidence, most states still have not enacted school funding reforms to meet the needs of all students, especially those who are most vulnerable because of poverty, disability, or lack of English fluency.

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[1] Bruce D. Baker, Danielle Farrie, David Sciarra. 2016. "The Changing Distribution of Educational Opportunities: 1993-2002." In *The Dynamics of Opportunity in America: Evidence and Perspectives,* eds. Irwin Kirsch and Henry Braun. Educational Testing Service.

[2] Baker, Bruce D., Danielle Farrie, David Sciarra. 2016. Mind the Gap: 20 Years of Progress and Retrenchment in School Funding and Achievement Gaps. Educational Testing Service, Research Report No. RR-16-15.

[3] Julien Lafortune, Jesse Rothstein, Diane Whitmore. 2016. Can school finance reforms improve student achievement? Washington Center for Equitable Growth.

[4] C. Kirabo Jackson, Rucker Johnson, Claudia Persico. 2014. How Money Makes a Difference: The Effects of School Finance Reforms on Outcomes for Low Income Students. Stanford Center for Opportunity Policy in Education.

[5] For a review, see Bruce D. Baker. 2017. How Money Matters for Schools. Learning Policy Institute.

The National Report Card evaluates and compares the extent to which state school funding systems ensure equality of educational opportunity for all children. The goal is to provide data and information for a better understanding of the fairness, or lack thereof, of existing public education finance systems. Our hope is that, armed with this information, lawmakers, educators, advocates and citizens can improve resources and outcomes for school children in their states.

Analyzing School Funding Fairness

To effectively analyze how well states fund public education, one critical question must be answered: What is fair school funding? ***In this report, "fair" school funding is defined as a state finance system that ensures equal educational opportunity by providing a sufficient level of funding that is distributed to districts within the state to account for additional needs generated by student poverty.***

The National Report Card measures the fairness of the school finance systems in all 50 states and the District of Columbia according to the definition above. The central purpose of the Report Card is to evaluate the extent to which state systems ensure equality of educational opportunity for all children, regardless of background, family income, where they live, or where they attend school. Equal educational opportunity means that all children and all schools have access to the teachers, support staff and other essential resources needed to provide them with the "opportunity to learn."

Fair School Funding is a State Responsibility

In the United States the responsibility for funding K-12 education falls to each individual state. As a result, the 50 states and the District of Columbia each have their own unique system for funding their schools. In total, revenues for public elementary and secondary schools are 9% federal, 46% state and 45% local. While the majority of funding is split between state and local revenue sources, the decision about how those revenues are allocated is wholly determined by state policy. Some state finance systems, such as those in Illinois and New Hampshire, provide the majority of revenues through local sources, while others, such as those in Vermont, New Mexico and Minnesota, are heavily reliant on state revenues.

One of the most important features of a fair school finance system is its effectiveness in accounting for the ability of local districts to generate revenue. A greater reliance on state funding does not necessarily lead to a fairer system. The central question is: Are state revenues targeted to districts that have weak fiscal capacity, or is state funding blind to local ability to raise funds, exacerbating inequities? It is critical for states to design systems in which the interaction of local and state revenues results in an adequate level and equitable distribution of funds. If this is not the case, it is the responsibility of state elected officials to enact reforms .to ensure fairness in the system.

The Fairness Principles

The National Report Card is built on the following core principles:

- Varying levels of funding are required to provide equal educational opportunities to children with different needs.
- The costs of education vary based on geographic location, regional differences in teacher salaries, school district size, population density, and various student characteristics. It is critical to account for as many of these variables as possible, given the availability of reliable data.
- The level of funding should increase relative to the level of concentrated student poverty — that is, state finance systems should provide more funding to districts serving larger shares of students in poverty. Economists often evaluate systems as "progressive" or "regressive." As used in this report, a "progressive" finance system allocates more funding to districts with high levels of student poverty; a "regressive" system allocates less to those districts; and a "flat" system allocates roughly the same amount of funding across districts with varying needs.
- Student poverty — especially concentrated student poverty — is the most critical variable affecting funding levels. Student and school poverty correlates with, and is a proxy for, a multitude of factors that increase the costs of providing equal educational opportunity — most notably, gaps in educational achievement, school district racial composition, English-language proficiency, homelessness, and student mobility. State finance systems should deliver greater levels of funding to higher-poverty settings, while controlling for differences in other cost factors.[6]
- While the distribution of funding to account for student need is crucial, the overall funding level in states is also a significant element in fair school funding. Without sufficient base or foundational funding, even a progressively funded system will be unable to provide equitable educational opportunities.
- The sufficiency of the overall level of funding in any state can be assessed based on comparisons to other states with similar conditions and similar characteristics. Using available national data, average differences in state and local revenues between states, as well as within states, can be projected and indexed to compare expected state and local revenues per pupil under a given set of conditions. These expected values are derived from a statistical model that predicts funding levels while controlling for various school district characteristics. These predicted funding levels allow for more direct comparison of districts having similar characteristics across states.

[6] Current data do not permit inclusion of measures for additional student characteristics, e.g., disability or limited English proficiency, without compromising the relationship between school funding and poverty, the main focus of this analysis. For more information, see the technical appendix.

Why Measure Fairness?

Based on these core principles, the data and measures presented in the National Report Card focus on the central question of state school finance systems: Do they support equal educational opportunity for all students and, in particular, for low-income students in school districts with concentrated poverty? Put simply, does a particular state fairly fund its public schools?

Without a state-by-state commitment to enact progressive finance systems that address existing funding inequities, education policies and initiatives to improve overall achievement, while also reducing gaps between the lowest and highest performing students, will continue to falter. Only with strong systems of public education built on sufficient funding, distributed progressively, will states be able to implement and sustain the initiatives necessary to boost student achievement. Policymakers, educators, business leaders, parents — and the public at large — urgently need better and more reliable information to understand the fairness of existing finance systems, identify problems with those systems, and devise and implement policy solutions to advance school funding fairness.

Existing Measures of State School Finance

While several reports analyze state school funding systems, they fail to adequately or accurately capture the differences in spending levels among states and the distribution of funds within states.

The National Center for Education Statistics (NCES) publishes the most commonly used metric for state school funding: state and local revenue per pupil. This is a fairly straightforward measure, but one that ignores the complexity of comparing funding levels among states. Without any adjustments for the characteristics of the students served or for differences in regional purchasing power, this measure is unsatisfactory for making state comparisons.

In their annual *Quality Counts* report, *Education Week* publishes state school finance data using four indicators measuring "Equity" and four indicators measuring "Spending." *Education Week* does make adjustments for student characteristics by "weighting" student enrollments to account for student poverty, while adjusting for regional cost differences.[7] However, the poverty weight is hypothetical, not based on research on the additional costs of serving poor students in each state. In addition, the equity measures do not distinguish whether disparities are the result of progressive or regressive school funding, ignoring a basic tenet of funding fairness.

Education Trust, a Washington D.C.-based advocacy group, has published multiple reports addressing funding gaps between high and low poverty districts and high and low minority districts. The most recent analysis adjusts for regional cost differences and student poverty,

[7] A "weighting" is an adjustment to per-pupil revenue or expenditure data designed to address differences in needs and costs.

using a "conservative" poverty weight of 1.4, likely underestimating the additional costs required to serve these students.[8] In addition, focusing only on funding gaps at the extremes of poverty and minority concentration ignores whether these gaps are representative of funding patterns for the state as a whole.

The U.S. Education Department (ED) publishes a measure of funding equity in the "Education Dashboard." Similar to Education Trust, the ED measure shows the difference in per-pupil spending in the highest and lowest quartile districts by poverty. Users can select a "preferred" weighted adjustment for student poverty in 10% increments from 0-100%. However, the most recent data posted are from 2007-08.

More recently, the Urban Institute and EdBuild have adopted a regressive/progressive framework in reports on school funding. The Urban Institute measures progressiveness as the relative spending levels between poor and nonpoor students. This is accomplished by calculating per pupil spending averages weighted, respectively, by the number of poor and nonpoor children in each district.[9] This methodology adjusts for wage differences, but does not include other district characteristics that can influence costs.

EdBuild also categorizes states as progressive or regressive using cost-adjusted funding gaps between the highest and lowest poverty quartiles. They adjust enrollments by various poverty weights ranging from 1.0 to 1.6 to demonstrate how few states meet an equity target by providing additional funding for students in poverty.[10] Again, the poverty weights are hypothetical and do not reflect the true costs of educating poor students in each state.

Research Method

The National Report Card addresses the shortcomings in these reports by:

- Using actual state and local revenues at the district level to characterize the overall pattern of each state's funding relative to student poverty, not limited to funding at the extremes of poverty concentration;
- Adjusting revenues for numerous external cost factors allowing legitimate comparisons among states;
- Including additional indicators to evaluate the economic and political context for establishing fair school funding; and
- Including resource allocation measures that demonstrate how funding fairness influences the distribution of actual resources for students and teachers.

[8] Ed Trust bases this weight on the federal Title I formula and concedes that it is likely an underestimate.
[9] Chingos, Matthew M. & Kristen Blagg. 2017. Do Poor Kids Get Their Fair Share of School Funding? Urban Institute.
[10] EdBuild. 2014. Resource Inequality: Shortchanging Students.

Some of the indicators are quite straightforward, using publicly available data reported at the state level to compose indices that can be easily ranked. Others require more advanced statistical methods in order to control for extraneous factors that influence funding and resource allocation.

The four fairness measures and three resource allocation indicators are described briefly below. For more information on data sources and the details of the construction of these indicators see Appendix A. A more detailed technical report on the data and methodology is available at www.schoolfundingfairness.org. Limited longitudinal data is presented in Appendix B and C, and the full range of data is available online.[11]

The Fairness Measures

The National Report Card consists of four separate but interrelated fairness measures. The four measures are:

- *Funding Level* – This measures the overall level of state and local revenue provided to school districts and compares each state's average per-pupil revenue with that of other states. To recognize the variety of interstate differences, each state's revenue level is adjusted to reflect differences in regional wages, poverty, economies of scale, and population density.

- *Funding Distribution* – This measures the distribution of funding across local districts within a state, relative to student poverty. The measure shows whether a state provides more or less funding to schools based on their poverty concentration, using simulations ranging from 0% to 30% child poverty.[12,13]

- *Fiscal Effort* – This measures differences in state spending for education relative to state fiscal capacity. The report includes two measures of "Fiscal Effort:"1) the ratio of state spending to gross state product (GSP), and 2) the ratio of state spending to aggregate personal income.

- *Coverage* – This measures the proportion of school-aged children attending the state's public schools. The share of a state's students in public schools, and the median household income of those students, is an important indicator of the distribution of funding relative to student poverty (especially where more affluent households opt out

[11] Year-to-year comparisons rely on updated models, and therefore may not align exactly with previously published results.

[12] Poverty is measured using the Census definition of poverty, rather than free or reduced lunch (FRL) eligibility, which is more commonly used in education. The Census poverty threshold in 2015 was approximately $24,000 for a family of four. FRL eligibility is set at 185% of the Census poverty threshold, approximately $44,400. See Appendix D to compare measures.

[13] Hawaii and the District of Columbia are excluded from this analysis because they are single-district systems. Alaska is also excluded because the state's unique geography and sparse population, so highly correlated with poverty, result in inconsistent estimates of within-state resource distribution.

of public schooling, choosing parochial or private schools or home schooling) and the overall effort to provide fair school funding.

States are evaluated by two methods – a grading curve and rank. Funding Distribution and Fiscal Effort, the two measures over which states have direct control, are given letter grades that are based on the typical grading "curve" and range from "A" to "F."[14] Funding Level and Coverage are ranked because these measures are influenced not only by state policy, but also by other historical and contextual factors.

The four fairness measures are comparative in nature, determining how an individual state compares to other states in the nation or region. States are *not* evaluated using specific thresholds of education costs and school funding that might be "adequate" or "equitable" if applied nationally or regionally. This type of evaluation would require positing hard definitions of education costs and student need based on the complex conditions in each state, including the state's unique content and performance standards. Such an exercise is beyond the scope of this report.

Resource Allocation Indicators

Fair school funding delivers adequate resources where they are needed most. The effective use of education funding can lead to adequate staffing of schools; a full, rich curriculum; and effective class sizes, all of which can improve student outcomes.

The following three indicators of how states allocate resources are included in the report:

- *Early Childhood Education* – This measures enrollment rates in early childhood education programs by income level. Access to early learning opportunities, especially for low-income students, is a key indicator of a state's commitment to providing equal educational opportunities and reducing achievement gaps.

- *Wage Competitiveness* – This indicator uses wage data to compare compensation between teachers and non-teachers who have similar education levels, experience, and hours worked. The index is expressed as the ratio between teacher wages and non-teacher wages to evaluate whether the teaching profession is economically competitive in each state.

[14] To calculate grades, a standardized score (z-score) is calculated as the state's difference from the mean, expressed in standard deviations. Grades are as follows: A = 2/3 standard deviation above the mean ($z > 0.67$); B = between 1/3 and 2/3 standard deviations above the mean ($.33 < z < .67$); C = between 1/3 standard deviation below and 1/3 standard deviation above the mean ($-.33 < z < .33$); D = between 1/3 and 2/3 standard deviations below the mean ($-.33 > z > -.67$); F = 2/3 standard deviation below the mean ($z < -.67$). In some cases, the tables show states that have the same numerical score but different letter grades because their unrounded scores place them on opposite sides of the grading cutoffs.

- *Teacher-to-Student Ratios* – This measures district staffing patterns, comparing teacher-to-student ratios in high poverty and low poverty districts. A fair distribution of staffing resources would result in higher teacher-to-student ratios in high poverty districts. An unfair distribution would result in comparable teacher-to-student ratios in schools, regardless of student poverty, or fewer teachers in high poverty districts.

A Note on Interpretation

The goal of the National Report Card is to use available data to encourage a more sophisticated and nuanced discussion of fair school funding. When examining the state-by-state evaluations in the next sections, it is important to consider a few points. First, because the evaluations are comparative and not benchmarked to a defined outcome, high grades or rankings do not indicate that states have met a fair school funding threshold. Instead, they demonstrate that some states are doing better than others, even if improvement is still needed.

Second, the fairness measures are interrelated and complex. Each of the indicators is important in its own right, but it is also important to consider the interplay between measures. For example, a state that ranks well in distribution, but very low in overall funding levels, is unlikely to meaningfully address the needs of students.

Third, each state's finance system is embedded in a complicated historical, political and economic landscape. This report does not address these complex factors or their influence. The findings, however, can be useful in new or ongoing efforts to reform the finance systems to recognize the demographic and resource needs of all students.

Evaluating the States

Fairness Measure #1: Funding Level

School funding analyses that rely on raw per pupil funding calculations to compare spending by state do not account for the complex differences among states and school districts that affect education costs. To put states on a more equal footing, we have constructed a model of school funding that predicts average funding levels while controlling for the following: student poverty, regional wage variation, and school district size and density. The funding levels presented here are predicted by the model at a 20% poverty rate, close to the national poverty rate (19%).

There continue to be wide disparities in funding among states. In 2015, funding levels ranged from a high of $18,719 in New York, to a low of $6,277 in Idaho. This means the average student in Idaho has access to only one-third of the funding available to a similar student in New York. These vast disparities suggest wide variations in the educational opportunities provided to students by each state.

Relative funding rankings remain consistent over time, with a few notable exceptions. Since 2007, Illinois's rank improved from 28th to 16th, and North Dakota improved from 40th to 19th. Florida declined from 24th to 41st, and Georgia dropped from 22nd to 37th. (See Figure 1)

Fairness Measure #2: Funding Distribution

The funding distribution measure addresses the key question of whether a state's funding system recognizes the need for additional resources for students in settings of concentrated student poverty. States are classified as progressive if high poverty (30%) districts receive at least 5% additional funds over low poverty (0%) districts; regressive if high poverty districts receive 5% less funding than low poverty districts; and flat if they fall in between.

In 2015, eleven states had progressive funding distributions, down from a high of twenty-two in 2008. Twenty states were flat, meaning they had no substantial variation in funding between high poverty and low poverty districts. Seventeen states had regressive funding patterns (see Figure 2).

Utah, Delaware and Minnesota are the most progressive states and provide their highest poverty districts with, on average, over 30% more funding per student than their lowest poverty districts. In the most regressive states – Nevada, Illinois and North Dakota – students in high poverty districts get less than 75 cents for every dollar received by their low poverty counterparts. (See Figure 2)

Figure 1. Predicted Funding Level, 2015

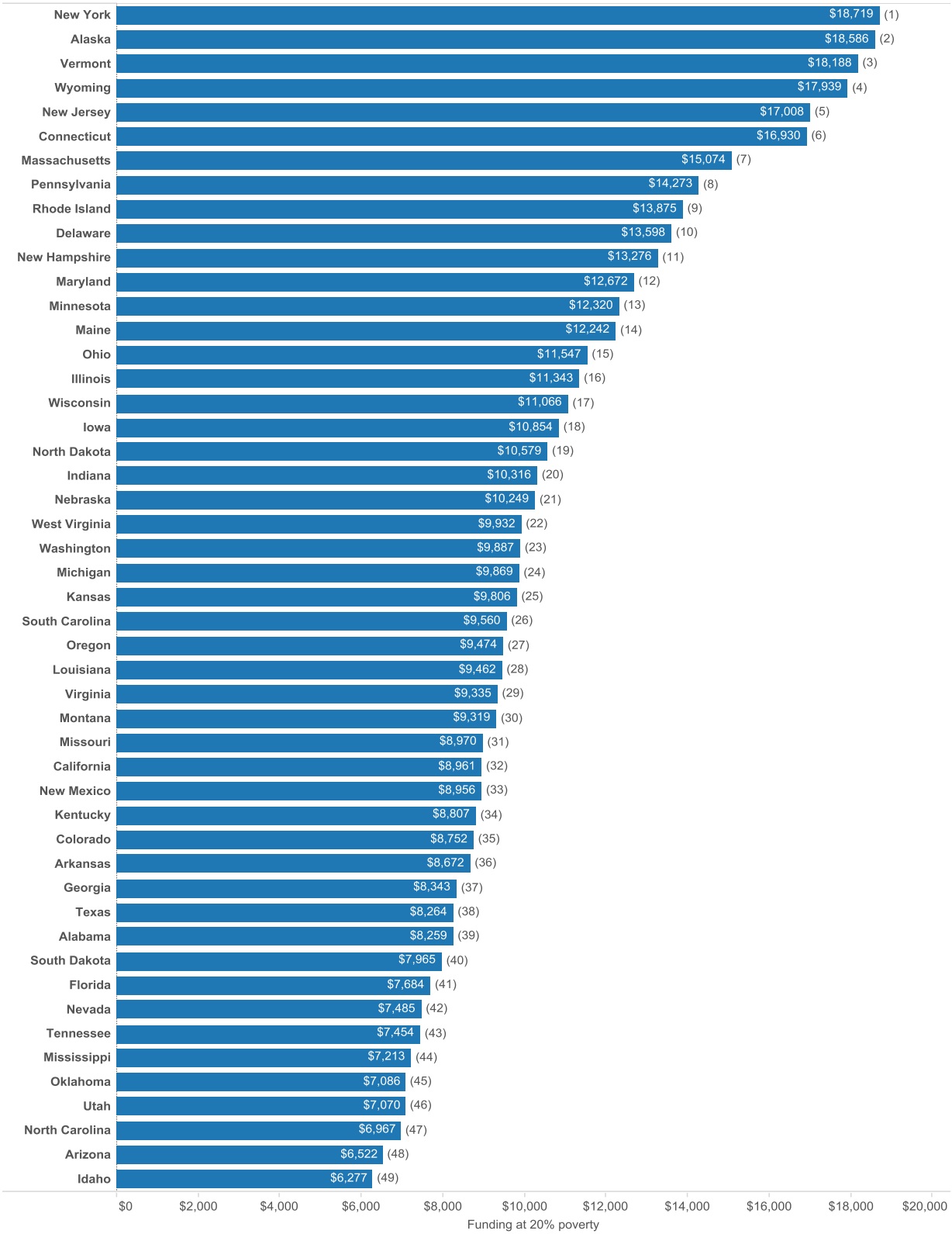
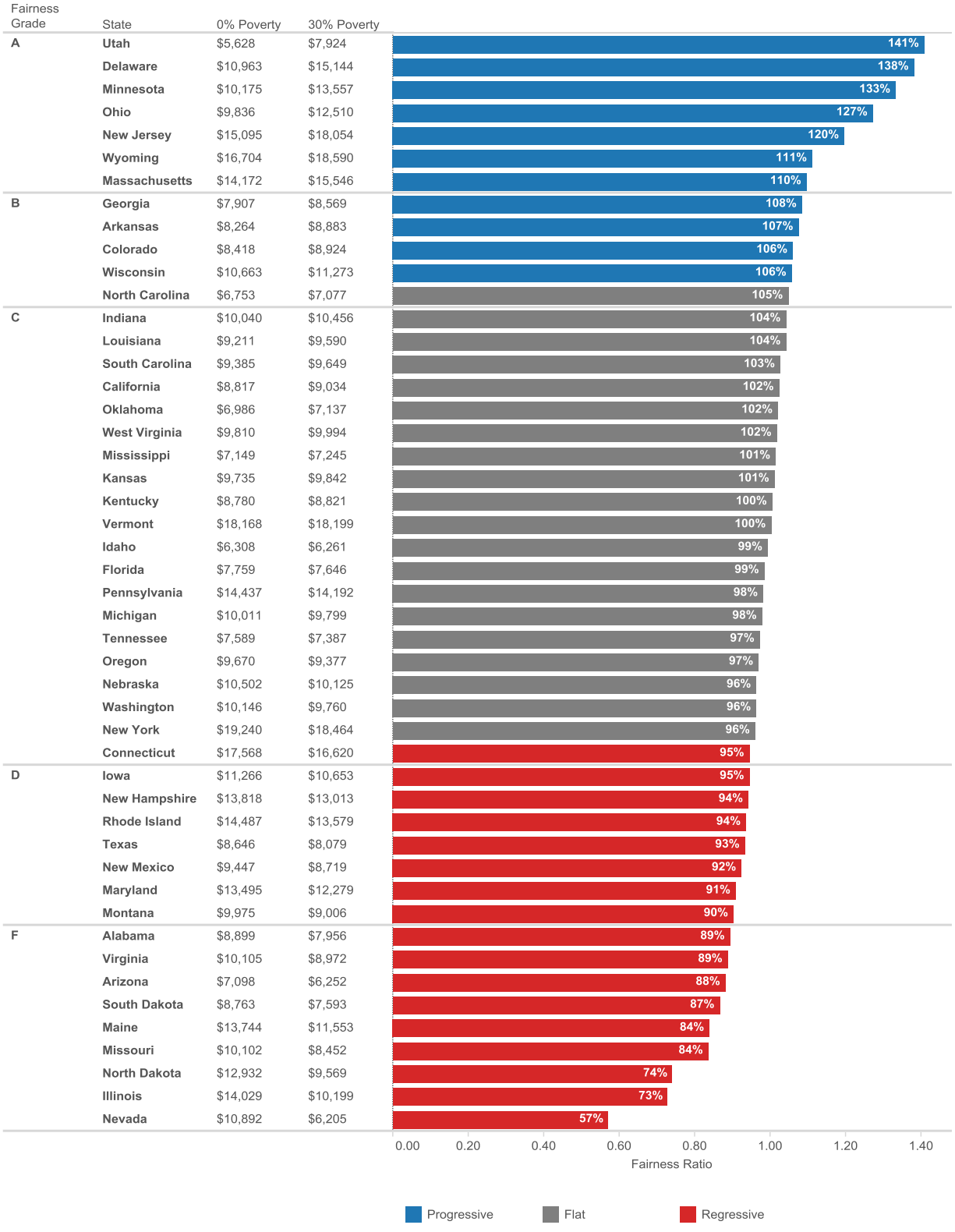


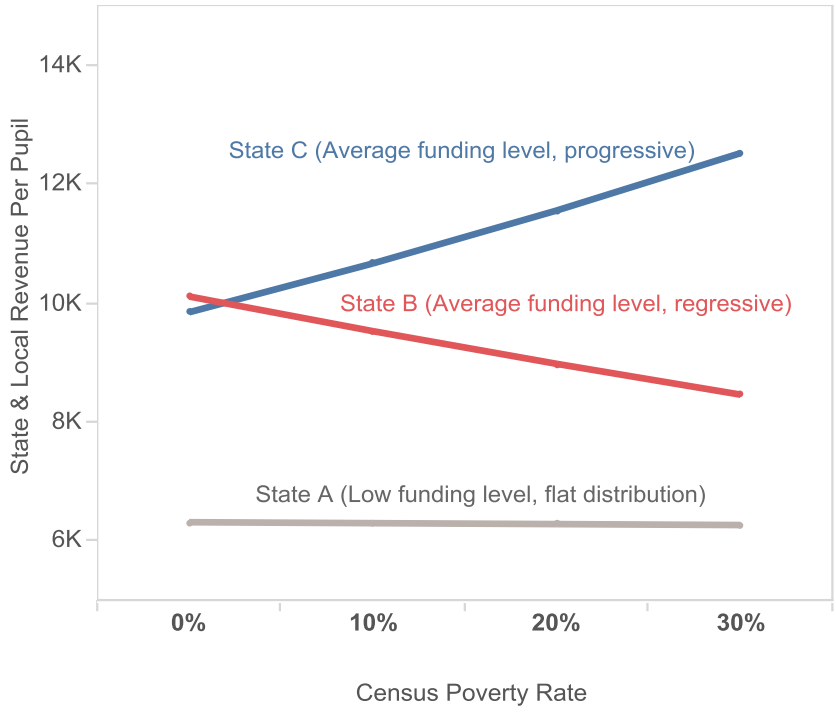
Figure 2. State Funding Distribution, 2015



State Fairness Profiles

State fairness profiles capture two pieces of information that should be considered in tandem when evaluating funding systems. The profile for three hypothetical states is presented in Figure 3. State A is low-funding with a "flat" distribution. States B and C share a common level of funding for districts with 0% poverty. But State B has a downward or "regressive" funding distribution, while State C has an upward or "progressive" distribution, resulting in markedly different funding levels for high-poverty districts in each state.

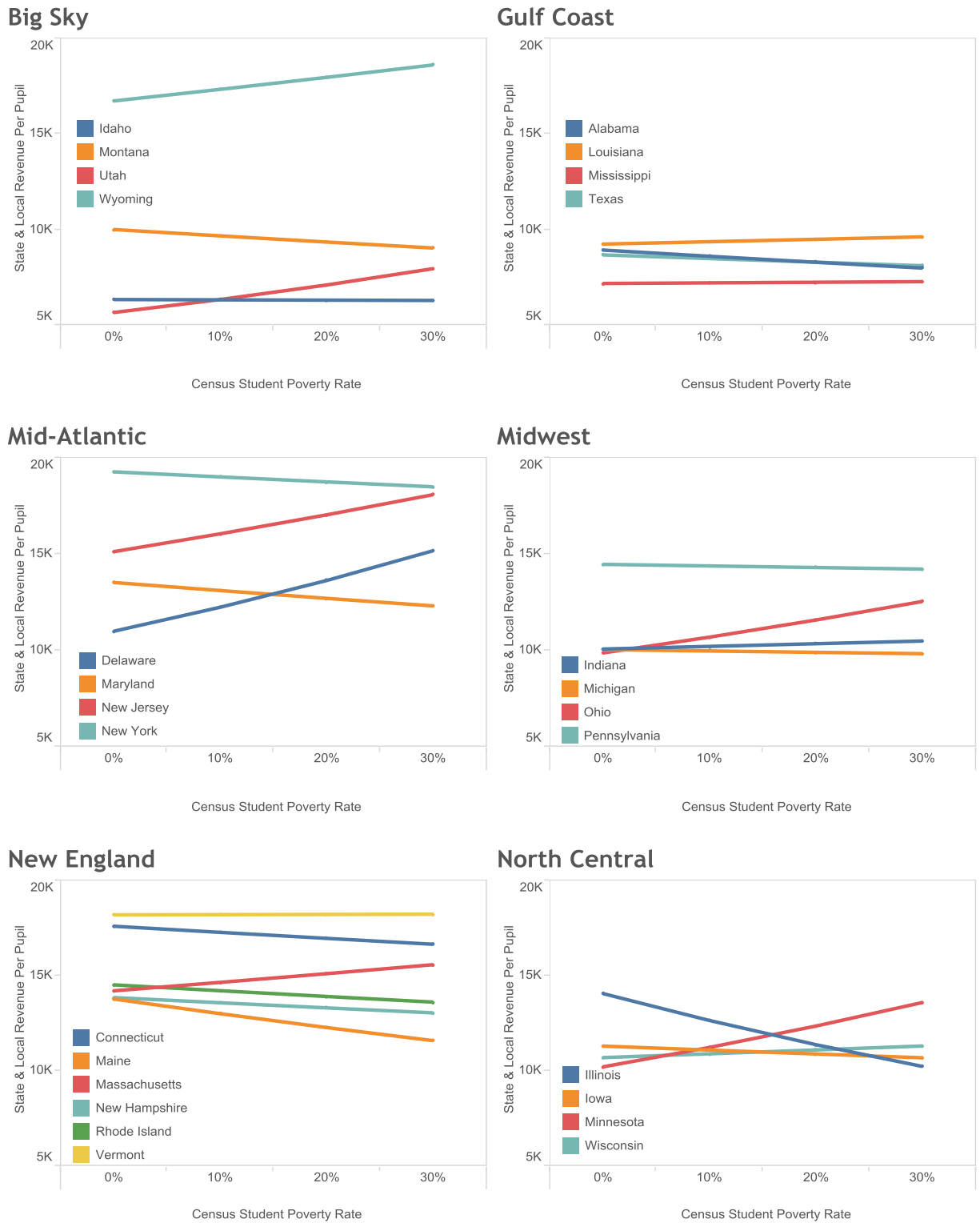
Figure 3. State Fairness Profiles



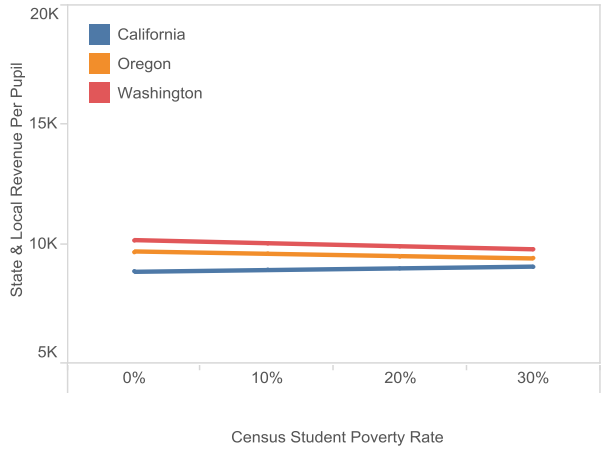
Regional funding profiles are presented in the figures below.[15] Each profile compares both funding level and funding distribution among states in the same geographic area. These regional groupings allow for a more accurate comparison of states that have similar characteristics, such as poverty rates and variations in cost. For customizable state comparison, visit our website to access interactive data charts.

[15] The regional groupings are borrowed from Nate Silver's electoral analysis. These categories group states based not only on geography, but also in terms of social and economic characteristics (www.fivethirtyeight.com).

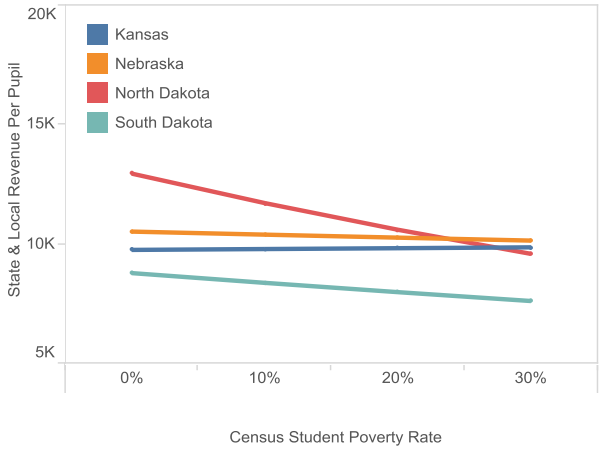
Figure 4. State Fairness Profiles



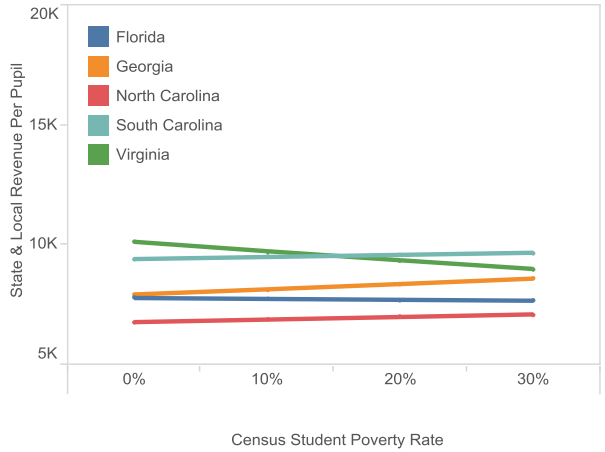
Pacific



Prairie



South Coast



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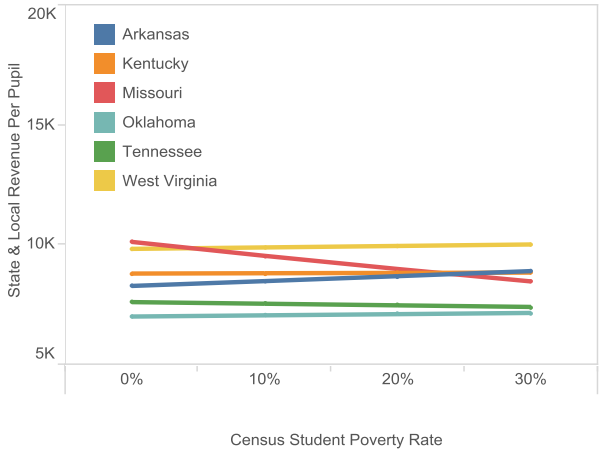
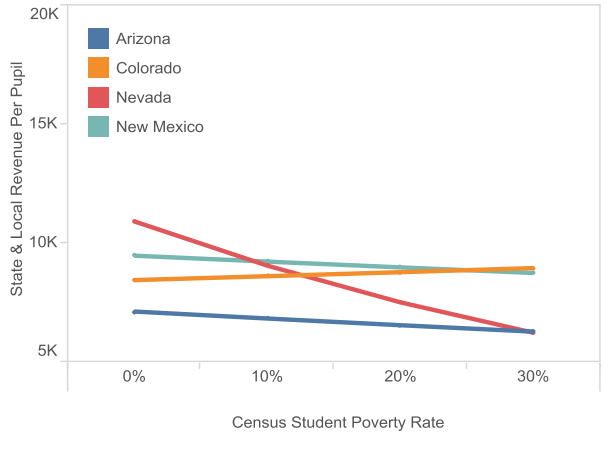


Southwest



Fairness Measure #3: Fiscal Effort

The Fiscal Effort index measures local and state spending on education in relation to a state's ability to generate revenue. Two measures of fiscal effort are taken into account: one based on a state's economic productivity, or gross state product (GSP), and the second based on aggregate personal income. Fiscal effort based on gross state product represents a state's ability to generate revenue from economic productivity, for example, corporate income and proceeds from natural resources. Fiscal effort based on personal income represents residents' income capacity to pay taxes to support public services. The measures are expressed as the dollars spent on education for every $1,000 generated in economic productivity or personal income.

It is important to consider how states' relative wealth and fiscal effort interact. Wealthy states can exert relatively low effort and still generate comparatively high funding levels. Conversely, a state with low economic output could make relatively high effort and still have poorly funded schools.

In general, states rank similarly whether measuring effort through gross state product or personal income. States such as Alaska, New Jersey, New York, Vermont, and Wyoming all have relatively high fiscal effort, whether measuring spending against GSP or personal income. On the other hand, states such as Arizona, California, Colorado, Hawaii, North Carolina, and Nevada exert low fiscal effort on both measures. One exception is Delaware, a state with high corporate revenues from the financial industry, but lower than average personal incomes. As a result, its fiscal effort is low in relation to GSP, but higher than average relative to income.

Figure 5. Fiscal Effort – Gross State Product, 2015

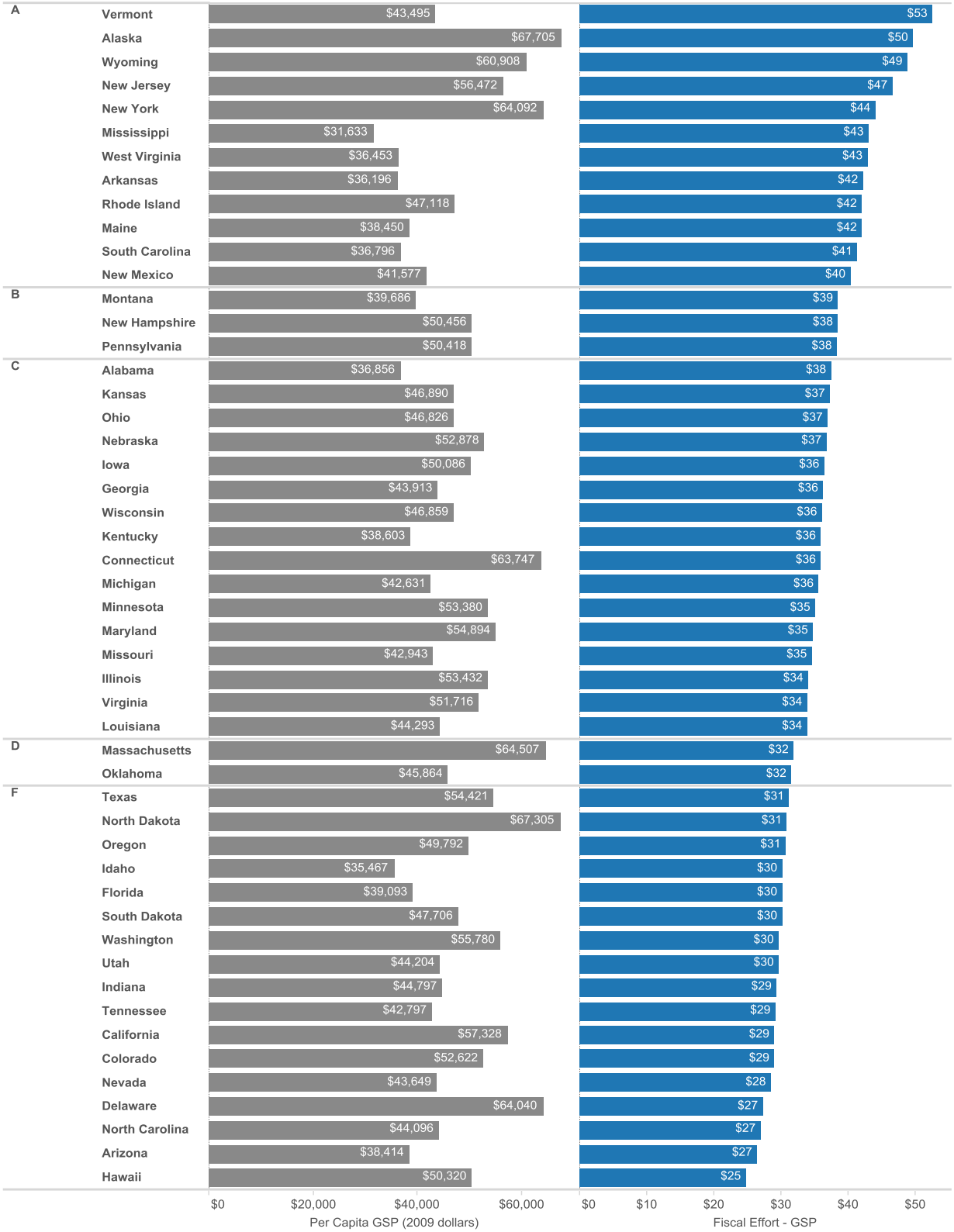
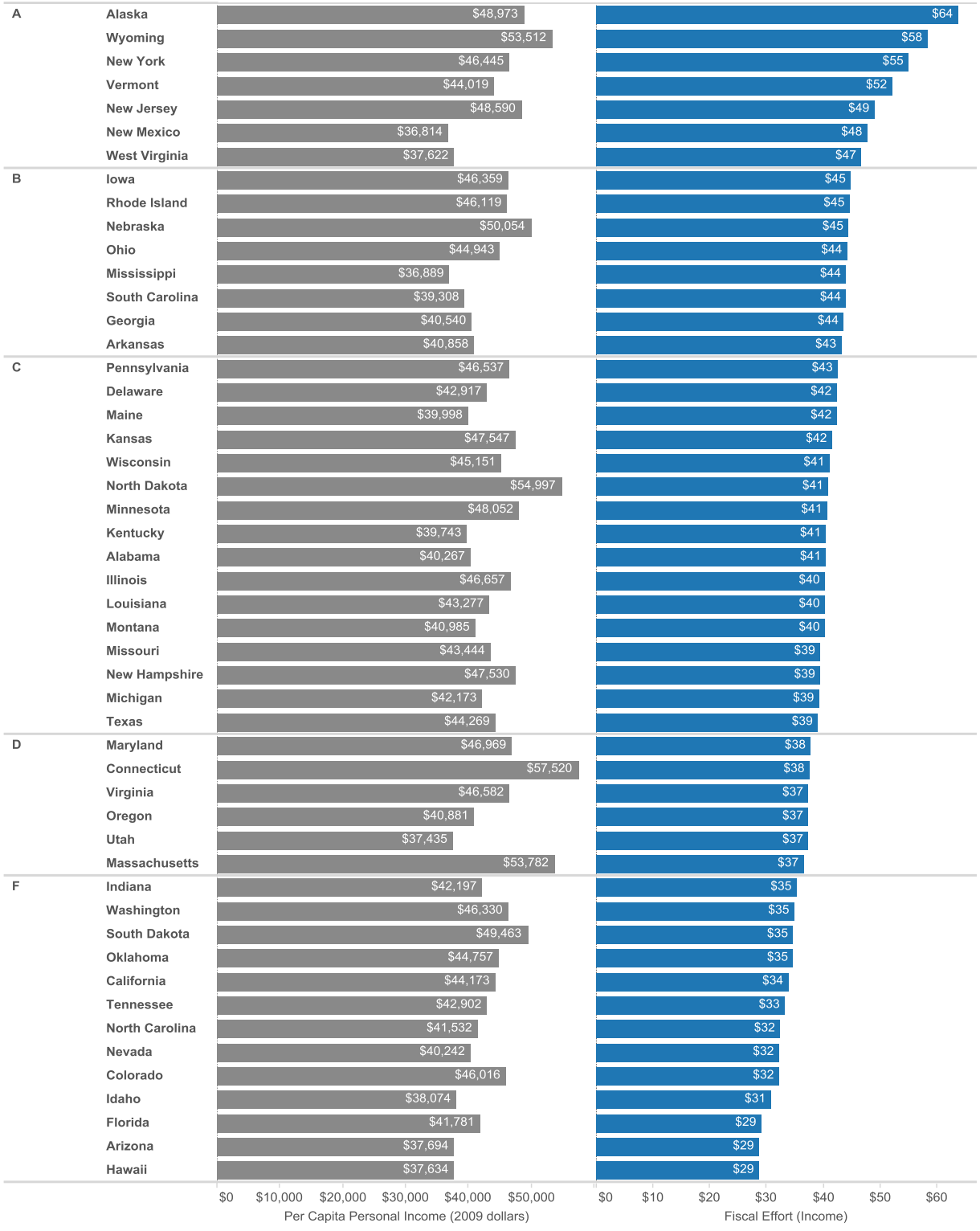


Figure 6. Fiscal Effort – Personal Income, 2015

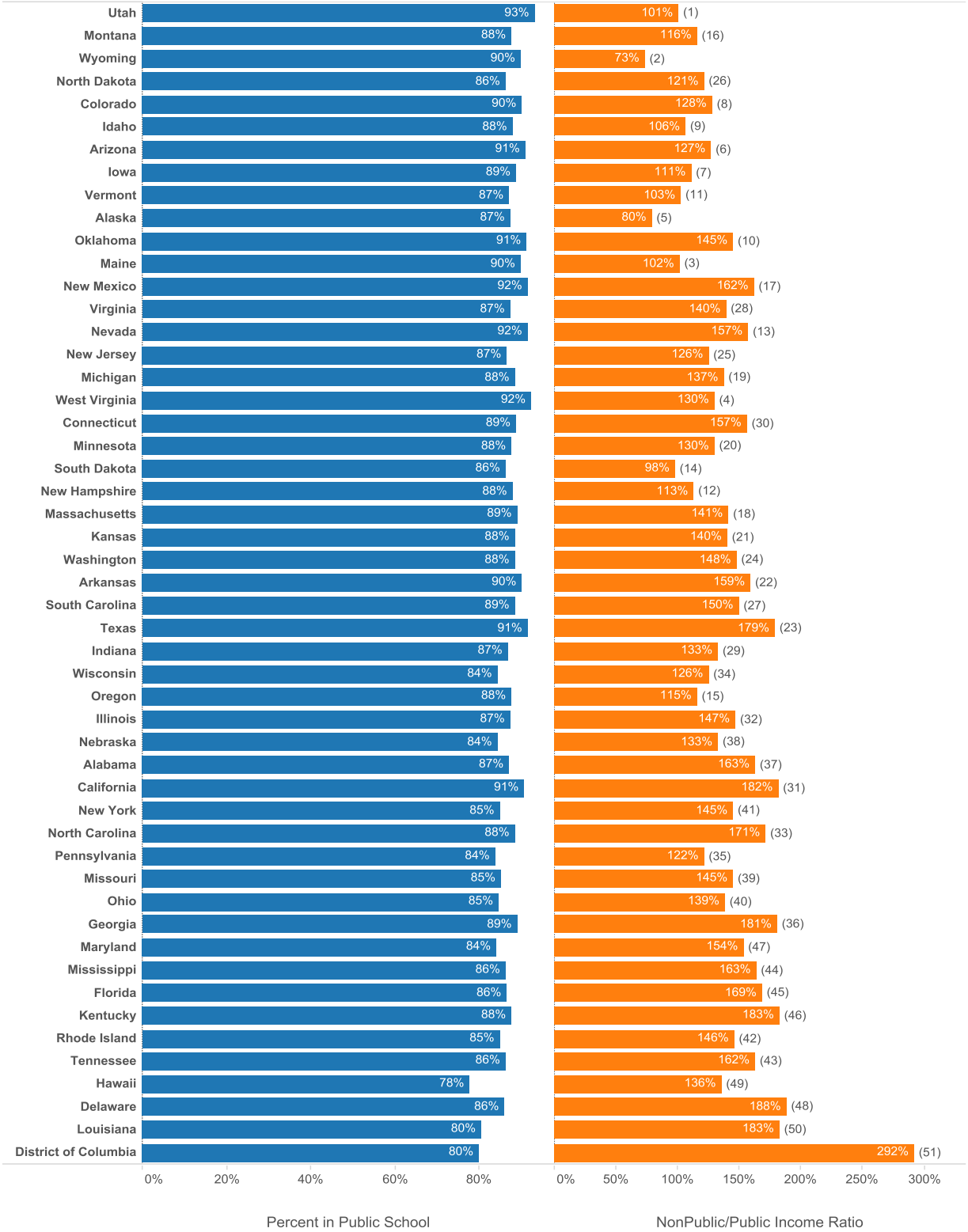


Fairness Measure #4: Coverage

The coverage indicator measures the share of school-aged children enrolled in public schools and the degree of economic disparity between households in the public and nonpublic education systems. The coverage indicator is a gauge of several important issues. The proportion of students enrolled in public schools affects the level of financial support necessary for public education. There are also two important consequences when wealthier households opt out of public education: a further concentration of poverty in the public schools and an increase in the need for resources in those schools. Finally, when wealthier families no longer use the public education system, it affects the public and political will necessary to generate sufficient revenues for a fair school funding system.

The percentage of school-aged children enrolled in public school ranges from 78% in Hawaii to a high of 93% in Utah. In several states, there are wide disparities in the incomes of families with children in public and nonpublic schools. States such as Utah, Wyoming and Maine have comparatively few students who opt out of public schools, and those who do are not very economically different from their public school peers. On the other hand, the District of Columbia, Louisiana and Hawaii have a large percentage of students, whose families are significantly wealthier, who do not attend public schools.

Figure 7. Coverage



Note: States ranked by the average of their standardized scores for percent in public school and the public/nonpublic household income ratio.

The Four Fairness Measures

Table 1 presents each state's scores on the four fairness indicators. The table provides a scorecard on the strengths and weaknesses of a particular state's finance systems and how a state's performance compares to other states in the region and across the country.

A few major findings stand out:

- New Jersey and Wyoming are the only states positioned relatively well on all four fairness indicators.
- South Carolina, Vermont, and West Virginia score well on Funding Level, Fiscal Effort and Coverage, but score poorly on the important Funding Distribution measure. This means that even though these states are funded relatively well, with above average funding levels and fiscal effort, the distribution of those funds disadvantages high poverty districts.
- Arizona, Nevada, South Dakota, and Texas score poorly on all measures except Coverage.
- Colorado, North Carolina, and Utah have somewhat progressive funding systems, but low funding levels. Without a sufficient base level of funding, even a progressive system cannot be fair. These states also score poorly on Fiscal Effort, indicating that they have the capacity to increase the base funding level.
- California, Florida, Louisiana, and Tennessee score poorly on all measures with low funding levels, low fiscal effort, and flat or regressive distribution of funds.

Table 1. National Report Card, 2015

	Funding Distribution	Fiscal Effort GSP	Fiscal Effort Income	Funding Level	Coverage
Alabama	F	B	C	39	37
Alaska		A	A	2	5
Arizona	F	F	F	48	6
Arkansas	B	A	B	36	22
California	C	F	F	32	31
Colorado	B	F	F	35	8
Connecticut	C	C	D	6	30
Delaware	A	F	A	10	48
District of Columbia					51
Florida	C	F	F	41	45
Georgia	B	C	B	37	36
Hawaii		F	F		49
Idaho	C	F	F	49	9
Illinois	F	C	C	16	32
Indiana	C	F	F	20	29
Iowa	D	C	B	18	7
Kansas	C	C	C	25	21
Kentucky	C	C	C	34	46
Louisiana	C	D	C	28	50
Maine	F	A	C	14	3
Maryland	D	C	C	12	47
Massachusetts	A	D	D	7	18
Michigan	C	C	C	24	19
Minnesota	A	C	C	13	20
Mississippi	C	A	B	44	44
Missouri	F	C	C	31	39
Montana	D	B	C	30	16
Nebraska	C	C	B	21	38
Nevada	F	F	F	42	13

Table 1. The National Report Card (cont.)

	Funding Distribution	Fiscal Effort GSP	Fiscal Effort Income	Funding Level	Coverage
New Hampshire	D	B	C	11	12
New Jersey	A	A	A	5	25
New Mexico	D	C	A	33	17
New York	C	A	A	1	41
North Carolina	B	F	F	47	33
North Dakota	F	F	F	19	26
Ohio	A	C	B	15	40
Oklahoma	C	F	F	45	10
Oregon	C	F	D	27	15
Pennsylvania	C	B	C	8	35
Rhode Island	D	A	A	9	42
South Carolina	C	A	A	26	27
South Dakota	F	F	F	40	14
Tennessee	C	F	F	43	43
Texas	D	F	D	38	23
Utah	A	F	C	46	1
Vermont	C	A	A	3	11
Virginia	F	C	C	29	28
Washington	C	F	F	23	24
West Virginia	C	A	A	22	4
Wisconsin	B	C	C	17	34
Wyoming	A	A	A	4	2

Note: Funding Level and Coverage rankings are colored by quartiles: Q1, Q2, Q3, Q4.

Fair School Funding and Resource Allocation

This section explores the impact of funding fairness, or lack thereof, on schools and students through three resource allocation indicators. These indicators are examples of how a state's funding priorities affect the quality and breadth of educational opportunities available for students. Information on methodology and data sources can be found in Appendix A. Detailed, longitudinal data tables for these indicators can be found in Appendix C.

Early Childhood Education

Access to early childhood education is a critical component of a fair and equitable education system. Research shows that low-income children often come to school lagging behind their peers academically. High quality preschool programs can help reduce those gaps.[16] States vary in the degree to which early education programs are available to young children across the socioeconomic spectrum. States that recognize the need for early interventions in children's educational careers can promote and support early education programs that focus on providing opportunities for low-income families.

Not surprisingly, there is great variation in the extent to which young children are enrolled in early childhood programs in the states. Total enrollment of 3- and 4-year-olds ranges from a high of 77% in the District of Columbia to a low of 27% in Idaho. Enrollment of low-income children ranges from 72% in the District of Columbia to only 22% in North Dakota.

Though the importance of early childhood education for low-income children is well documented, in most states these children are still less likely to be enrolled than their peers. Only a handful of states enroll proportionally more low-income students in early childhood programs. In South Dakota, Wyoming, Vermont, and Montana, low-income children are more likely than their peers to be enrolled in early education, as depicted by the enrollment ratio. In the vast majority of states, low-income children are considerably less likely to be enrolled than their peers. In states such as West Virginia, North Dakota, Alaska, and Maine, enrollment rates in general are very low, with about a third of children enrolled in early education. But participation is much lower among low-income students, with only about one in five enrolled in a program.

Wage Competitiveness

A state's ability to attract and retain high quality teachers is a fundamental component of a strong and equitable school system. Because teachers' salaries and benefits make up the bulk of school budgets, a fair school funding system is required to maintain an equitable distribution of high quality teachers in all districts. One of the most important ways that states can ensure that teaching jobs remain desirable in the job market is to provide competitive wages.

[16] For a review, see W.S. Barnett. 2011. "Effectiveness of early educational intervention." *Science,* 333, 975-978.

We have constructed a measure of wage competiveness that compares teachers' salaries to the salaries of other professionals in the same labor market and of similar age, degree level and hours worked. Results are reported for 25-year-olds.

Most states' average teachers' salaries are far below the salaries of their non-teacher counterparts. On average, teachers beginning their careers at age 25 earn about 82% of what non-teachers earn. Only three states have average teacher wages that are comparable to similar workers: Wyoming, Alaska, and Iowa. Wages are least competitive in Colorado, New Hampshire, Virginia, Utah, and Washington, where teachers earn about 30% less than their counterparts.

Teacher-to-Student Ratios

The fundamental premise of fair school funding is that additional resources are required to address the needs of students in poverty. High poverty schools require more staff to address the challenges of serving low-income students, since these students benefit from smaller class sizes, literacy and math specialists, instructional coaches, and social services such as counselors and nurses. Our measure of staffing fairness compares the number of teachers per 100 students in high and low poverty districts.

The staffing fairness measure ranges from a progressive 154% in North Dakota to a regressive 75% in Florida. In other words, high poverty districts in North Dakota have, on average, 40% more teachers per 100 students than low poverty districts, potentially resulting in smaller class sizes, while in Florida, the poorest districts have about 25% fewer teachers per 100 students than low poverty districts. Predicted staff to student ratios, at 20% poverty, range from a high of 9.2 teachers per 100 students in North Dakota to a low of 4.4 in California.

Nineteen states have a progressive distribution of teachers, i.e., at least 5% more teachers per student in high poverty districts. Ten states are regressive and have fewer teachers per student in high poverty districts. The remaining nineteen states have essentially no difference in staffing ratios between low and high poverty districts. This means the majority of states are failing to systematically provide an equitable distribution of teachers so that high poverty schools have smaller teacher-to-student ratios than low poverty schools.

Figure 8. Early Childhood Education

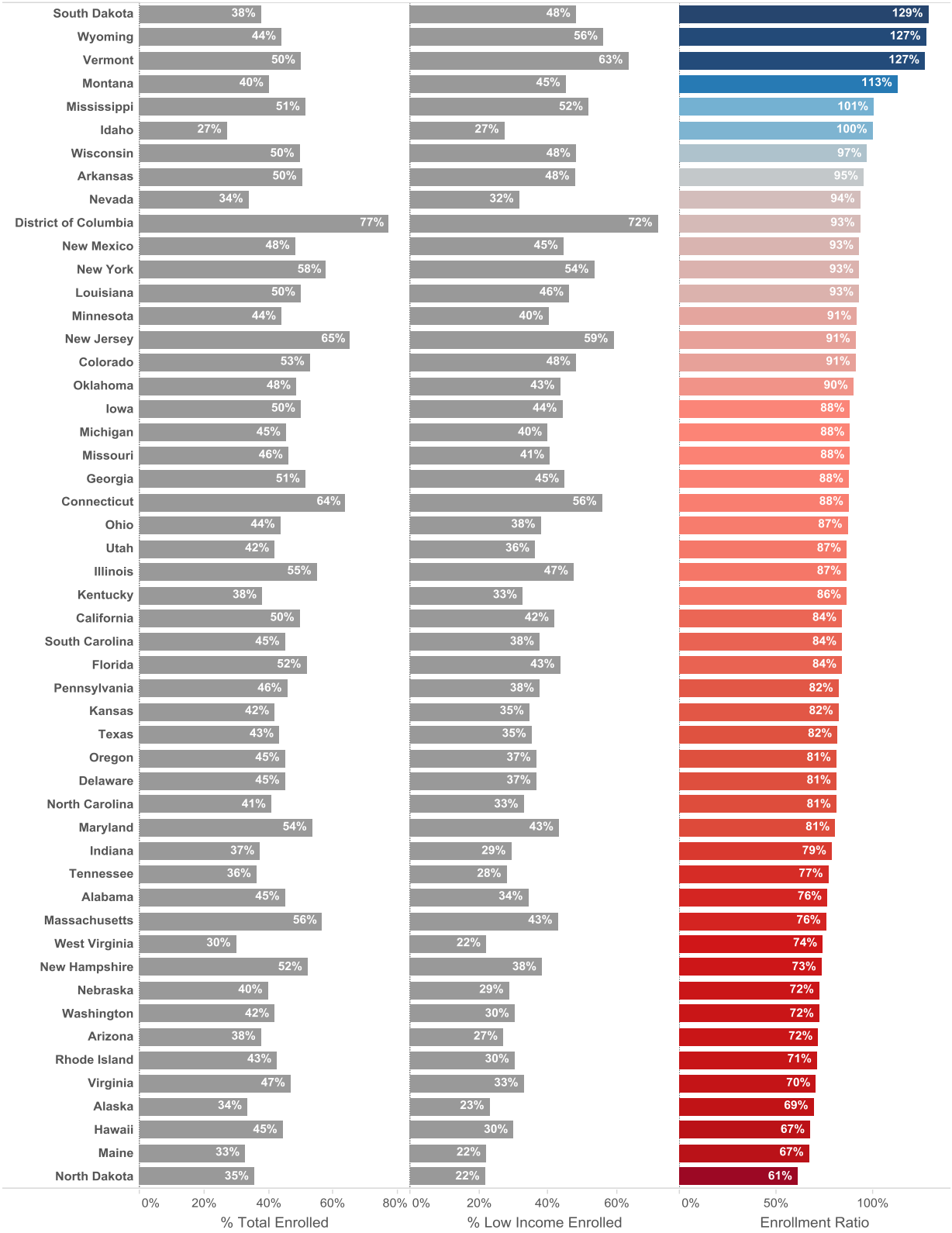


Figure 9. Wage Competitiveness

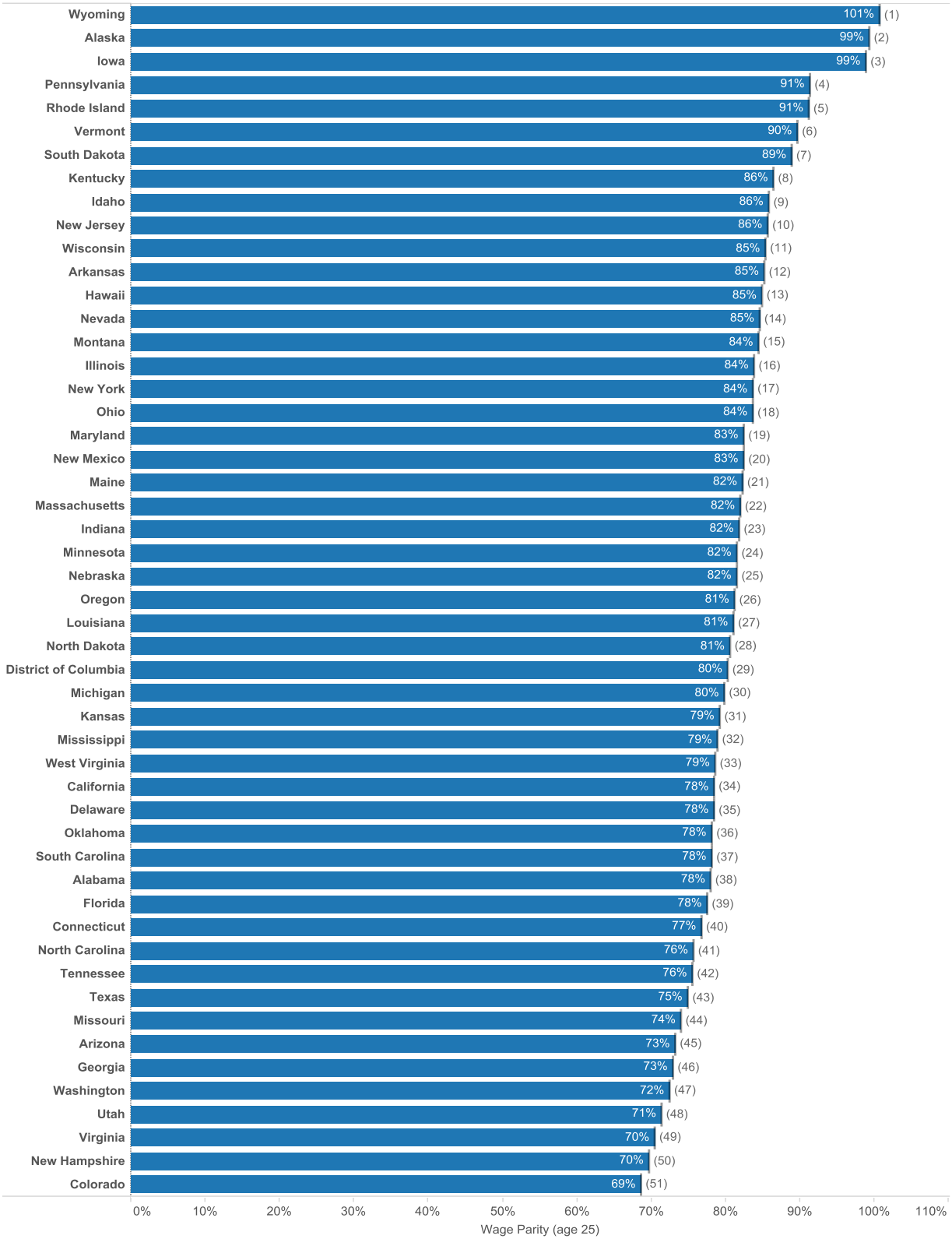
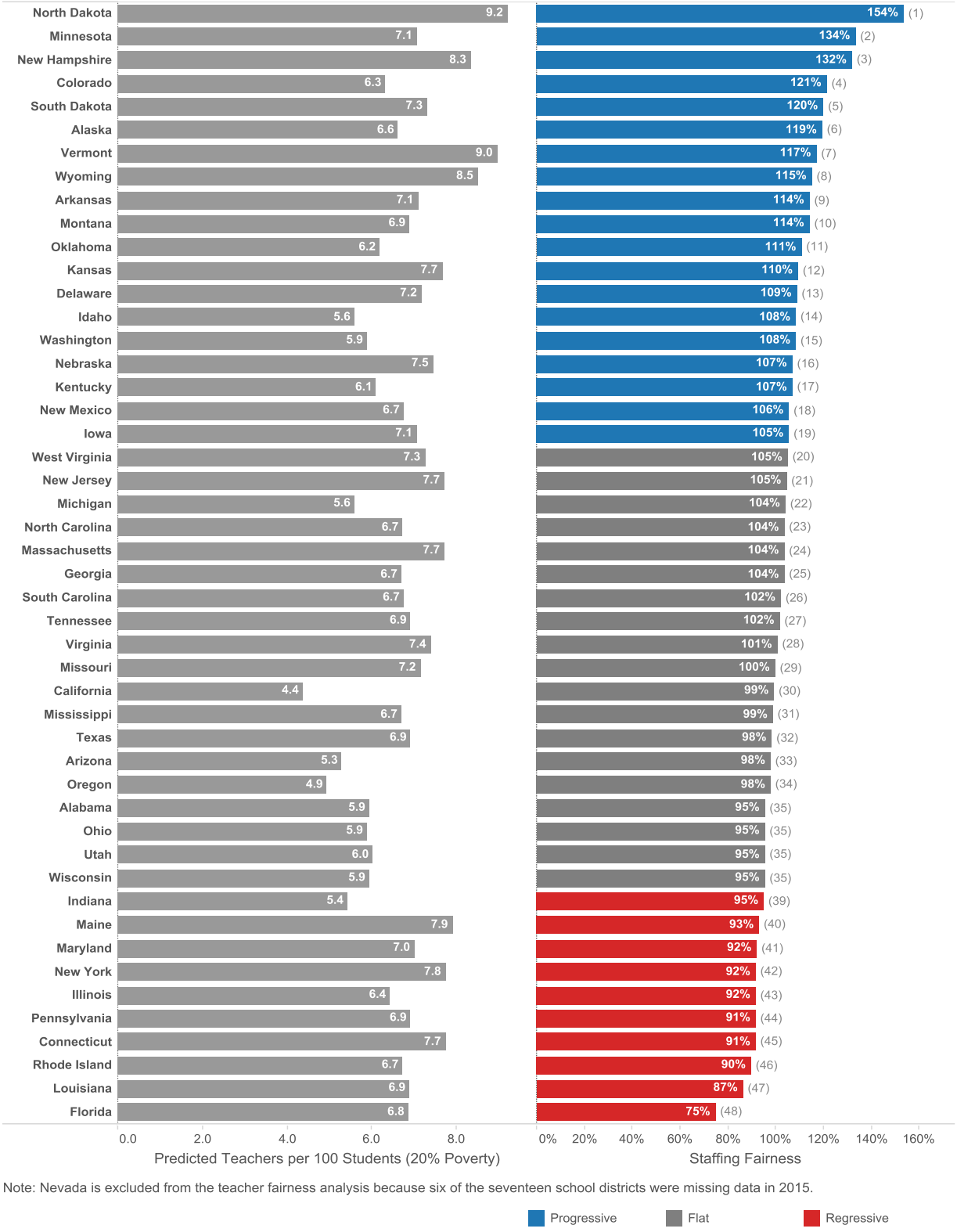


Figure 10. Teacher to Student Fairness Ratio



Note: Nevada is excluded from the teacher fairness analysis because six of the seventeen school districts were missing data in 2015.

How Much is Enough?

The National Report Card shows wide disparities in education funding among states, with the lowest funded states providing less than a third of what the highest funded states provide their schools. Most states' finance systems also fail to increase funding to address higher levels of student poverty in districts.

For policymakers, the key question is: how much should a state spend to meet the goal of student academic proficiency as measured by state standards? To date, this analysis has not been possible at the national level. Because each state sets its own academic standards and faces unique economic conditions, no national study has been able to identify each state's ability to achieve common academic outcomes nor assess the cost of reaching that goal.

The *National Education Cost Model* (NECM) fills this gap in existing research. The model uses newly available, district-level estimates of school expenditures, student population characteristics, economic conditions, and assessments of reading and math that are comparable across states to determine how much each district and state must spend to achieve national average outcomes.

The report, *The Real Shame of the Nation: The Causes and Consequences of Interstate Inequity in Public School Investments,* provides a deeper and sobering analysis of the condition of the 50 state finance systems.[17] The report shows egregiously uneven investment in public schooling across states and equally egregious differences in the ability of state public education systems to achieve even modest student outcomes. In fact, most states do not provide enough funding for their highest poverty children to achieve average outcomes. In some states, the funding disparity for the most vulnerable students exceeds $10,000 per pupil. The handful of states that are successfully targeting resources to higher poverty districts have student outcomes to match.

The NECM and the *Shame of the Nation* report have important policy implications: school finance reform and increased investment is essential to improve student outcomes in those states and districts that are presently most deprived of resources. Further, to reduce achievement gaps both within and among states, an effective federal policy is needed to boost investments in states to reduce interstate inequality while encouraging states with unrealized capacity to do more to address their own shortfalls.

The National Report Card, the NECM, and the *Shame of the Nation* report offer irrefutable evidence of the failure of finance systems in most states to provide all children with the opportunity for educational success. Together these reports are a resounding and urgent call to action for state school finance reform.

[17] Report is authored by Bruce D. Baker, Mark Weber, Ajay Srikanth, Robert Kim and Michael Atzbi.

Appendix A: Data and Methodology

Fairness Measures

Funding Level: A regression model predicts an average per-pupil funding level for each state, while holding other factors constant. This eliminates the variation in funding associated with characteristics that vary between districts and across states, and determines average funding at the state level under a hypothetical, yet meaningful, set of conditions. State and local funding levels are predicted with the following variables: student poverty, regional wage variation, economies of scale, population density, and the interaction between economies of scale and density. Reported funding levels are predicted using national averages for all independent variables and a poverty rate of 20%.

The regression equation includes a panel of 25 years of data and presents estimates for the most recent five years. Models used in previous editions only included 3-year panels, with estimates reported for the most recent year. Due to this change in modeling, there will be slight differences between the results of this edition and previously published editions.

Funding Distribution: Using the above regression model, the relationship between student poverty and school funding is estimated for each state. Funding levels are predicted for poverty levels at 10% intervals from 0% to 30% under the average conditions within each state. The fairness ratio is calculated by dividing state and local funding at 30% poverty by funding at 0% poverty. A higher ratio indicates greater fairness.

Fiscal Effort: The two Fiscal Effort indices are calculated by dividing the total direct expense for elementary and secondary education by: 1) state gross domestic product, and 2) aggregate personal income. The indices are expressed as education spending per $1,000 of GSP or personal income.

Coverage: The Coverage indicator includes two measures. First is the proportion of school-aged children attending the state's public schools, as opposed to private schools, homeschooling, or not attending school at all. The second is the ratio of median household income of students who are enrolled in public schools to those who are not. The Coverage rankings are computed by calculating a standardized score (z-score) for each measure and then taking the average.

Table A-1. Data Sources

Indicator	Data Element	Data Source	
Funding Level & Funding Distribution	Local and state revenues per pupil	U.S. Census F-33 Public Elementary-Secondary Education Finance Survey	http://www.census.gov/govs/school/
	Student poverty rates	U.S. Census Small Area Income and Poverty Estimates	http://www.census.gov/did/www/saipe/data/index.html
	Regional wage variation	Taylor's Extended NCES Comparable Wage Index	http://bush.tamu.edu/research/faculty/Taylor_CWI
	Economies of Scale/District Size	NCES Common Core of Data – Local Education Agency Universe Survey	http://nces.ed.gov/ccd/
	Population Density	U.S. Census Population Estimates	https://www.census.gov/popest/index.html
Effort	Gross State Product	Bureau of Economic Analysis	http://bea.gov/itable/
	Personal Income	Bureau of Economic Analysis	http://bea.gov/itable/
	Total direct expense for elementary and secondary education	The Urban Institute-Brookings Institution Tax Policy Center Data Query System (SLF-DQS)	http://slfdqs.taxpolicycenter.org
Coverage	% 6-16 year olds enrolled in school	U.S. Census American Community Survey	Integrated Public Use Micro Data System www.ipums.org (3-Year Sample)
	Median household income by school enrollment	U.S. Census American Community Survey	Integrated Public Use Micro Data System www.ipums.org (3-Year Sample)
Early Childhood Education	School enrollment of 3- and 4-year-olds by household income	U.S. Census American Community Survey	Integrated Public Use Micro Data System www.ipums.org (3-Year Sample)
Teacher-to-Student Fairness	District teachers per 100 students	NCES Common Core of Data – Local Education Agency Universe Survey	http://nces.ed.gov/ccd/
Wage Competitiveness	Teacher and non-teacher wages	U.S. Census American Community Survey	Integrated Public Use Micro Data System www.ipums.org (3-Year Sample)

Resource Allocation Indicators

Early Childhood: The early childhood indicator compares school enrollment rates for 3- and 4-year-olds by income level. Low-income is defined as family income below 185% of the federal poverty level. This is the threshold at which students qualify for free or reduced price lunch. School enrollment is not limited to public school, and there are no restrictions on the number of days per week or hours per day the student attends. The ratio is calculated as the percentage of enrolled low-income students over the percentage of enrolled not low-income students. States are ranked on this ratio.

Wage Competitiveness: This indicator uses a regression model predicting average wages for teachers and non-teachers while controlling for age, education, and hours/weeks worked. The ratio of wages between teachers and non-teachers is computed at age 25 and indicates whether teachers, on average, are paid more or less than non-teachers.

Teacher-to-Student Ratios: The teacher-to-student ratio fairness measure is calculated by generating a regression model to establish the relationship between district teacher-to-student ratios (teachers per 100 students) and student poverty. Similar to the funding fairness analysis, the model controls for size, sparsity, and poverty and then estimates teacher-to-student ratios at various poverty levels for each state. The fairness ratio is calculated by dividing the predicted teacher-to-student ratio at 30% poverty by the predicted ratio at 0% poverty.

Appendix B: Fairness Measures

Table B-1. Funding Level

	2011		2012		2013		2014		2015	
	Funding Level	Rank	Funding Level	Rank	Funding Level	Rank	Funding Level	Rank	Funding Level	Rank
Alabama	$7,830	37	$7,882	37	$7,870	37	$8,155	37	$8,259	39
Alaska	$14,527	3	$15,326	3	$17,719	1	$16,770	3	$18,586	2
Arizona	$6,618	46	$6,370	47	$6,499	47	$6,778	47	$6,522	48
Arkansas	$8,245	30	$8,536	31	$8,418	32	$8,711	32	$8,672	36
California	$7,730	38	$7,612	39	$7,734	38	$8,363	36	$8,961	32
Colorado	$8,024	35	$7,978	36	$8,226	35	$8,453	35	$8,752	35
Connecticut	$13,984	5	$15,237	4	$15,802	4	$16,549	4	$16,930	6
Delaware	$11,444	12	$12,462	10	$13,563	8	$13,608	10	$13,598	10
Florida	$7,396	41	$7,051	42	$7,196	42	$7,618	41	$7,684	41
Georgia	$8,208	31	$8,144	35	$7,990	36	$8,112	38	$8,343	37
Idaho	$6,145	48	$5,764	49	$5,831	49	$5,872	49	$6,277	49
Illinois	$10,389	16	$10,651	16	$10,788	15	$11,192	15	$11,343	16
Indiana	$9,860	19	$10,165	20	$10,192	19	$10,376	20	$10,316	20
Iowa	$9,942	18	$10,244	19	$10,312	18	$10,582	18	$10,854	18
Kansas	$9,148	22	$9,546	22	$9,559	22	$9,780	23	$9,806	25
Kentucky	$8,110	34	$8,310	32	$8,449	31	$8,521	34	$8,807	34
Louisiana	$8,616	26	$9,017	25	$8,995	28	$9,177	28	$9,462	28
Maine	$11,234	13	$10,876	15	$11,532	13	$12,191	13	$12,242	14
Maryland	$11,879	10	$12,315	11	$12,391	12	$12,706	12	$12,672	12
Massachusetts	$13,349	6	$13,847	6	$14,277	6	$14,988	5	$15,074	7
Michigan	$9,121	23	$9,205	24	$9,403	23	$9,640	25	$9,869	24
Minnesota	$11,215	14	$11,190	14	$11,409	14	$11,734	14	$12,320	13
Mississippi	$6,633	45	$6,827	44	$6,924	44	$7,071	45	$7,213	44
Missouri	$8,202	32	$8,698	29	$8,779	30	$8,900	31	$8,970	31
Montana	$8,358	29	$8,582	30	$8,800	29	$9,007	30	$9,319	30
Nebraska	$9,502	20	$9,610	21	$9,919	21	$10,284	22	$10,249	21
Nevada	$7,329	43	$7,399	41	$7,345	41	$7,436	42	$7,485	42
New Hampshire	$11,561	11	$12,150	12	$12,614	11	$13,100	11	$13,276	11
New Jersey	$14,270	4	$16,397	2	$16,516	3	$17,046	2	$17,008	5
New Mexico	$8,121	33	$8,204	33	$8,252	34	$8,611	33	$8,956	33
New York	$16,190	1	$17,019	1	$17,508	2	$18,190	1	$18,719	1
North Carolina	$7,646	40	$6,617	46	$6,697	46	$7,383	44	$6,967	47
North Dakota	$9,026	24	$9,309	23	$9,369	24	$10,550	19	$10,579	19
Ohio	$10,301	17	$10,285	18	$10,421	17	$10,988	16	$11,547	15
Oklahoma	$6,596	47	$6,747	45	$6,807	45	$7,059	46	$7,086	45
Oregon	$7,868	36	$8,191	34	$8,273	33	$9,021	29	$9,474	27
Pennsylvania	$11,985	9	$12,498	9	$13,047	10	$13,813	8	$14,273	8
Rhode Island	$12,414	8	$12,643	8	$13,241	9	$13,674	9	$13,875	9
South Carolina	$8,609	27	$8,785	27	$9,312	25	$9,431	26	$9,560	26
South Dakota	$7,366	42	$7,543	40	$7,685	39	$7,872	40	$7,965	40
Tennessee	$6,694	44	$6,880	43	$6,950	43	$7,393	43	$7,454	43
Texas	$7,706	39	$7,666	38	$7,627	40	$8,018	39	$8,264	38
Utah	$6,040	49	$6,182	48	$6,310	48	$6,551	48	$7,070	46
Vermont	$12,919	7	$13,363	7	$13,780	7	$14,734	6	$18,188	3
Virginia	$8,633	25	$8,747	28	$9,104	26	$9,231	27	$9,335	29
Washington	$8,544	28	$8,813	26	$9,039	27	$9,694	24	$9,887	23
West Virginia	$9,348	21	$11,434	13	$10,006	20	$10,296	21	$9,932	22
Wisconsin	$11,005	15	$10,515	17	$10,569	16	$10,807	17	$11,066	17
Wyoming	$14,646	2	$14,237	5	$14,614	5	$14,587	7	$17,939	4

Appendix D: Student Poverty Measures

State	Census SAIPE Poverty	Free/Reduced Lunch Eligible (NCES)
Alabama	25%	52%
Alaska	13%	43%
Arizona	23%	
Arkansas	24%	62%
California	20%	59%
Colorado	13%	42%
Connecticut	13%	38%
Delaware	18%	37%
District of Columbia	29%	92%
Florida	22%	58%
Georgia	23%	62%
Hawaii	13%	50%
Idaho	15%	49%
Illinois	18%	54%
Indiana	18%	49%
Iowa	13%	41%
Kansas	15%	50%
Kentucky	23%	57%
Louisiana	26%	64%
Maine	15%	47%
Maryland	13%	45%
Massachusetts	14%	40%
Michigan	20%	47%
Minnesota	12%	38%
Mississippi	30%	74%
Missouri	18%	51%
Montana	16%	44%
Nebraska	14%	44%
Nevada	20%	52%
New Hampshire	10%	29%
New Jersey	14%	37%
New Mexico	25%	63%
New York	21%	51%
North Carolina	22%	57%
North Dakota	10%	30%
Ohio	19%	45%
Oklahoma	20%	60%
Oregon	18%	51%
Pennsylvania	17%	46%
Rhode Island	19%	47%
South Carolina	23%	56%
South Dakota	15%	40%
Tennessee	22%	56%
Texas	22%	59%
Utah	11%	37%
Vermont	12%	39%
Virginia	14%	40%
Washington	14%	46%
West Virginia	22%	46%
Wisconsin	15%	41%
Wyoming	11%	38%

Note: Census student poverty is the number of children age 5-17 below the poverty threshold. FRL is the number of public school students eligible for free or reduced-price lunch (below 185% of the poverty threshold). Arizona's FRL data did not meet NCES data quality standards.

Source: U.S. Census, Small Area Income Population Estimates, School District Estimates; National Center for Education Statistics, Elementary - Secondary Information System.