

RESEARCH REPORTS

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COMPARING KANSAS: State-Level Data and its Implications

Introduction

This report collects blog posts made in July and August of 2015 on kasbresearch.blogspot.com related to comparing Kansas to other states based on a variety of available state-level statistics.

Knowing Your Peers Revisited

Last July, we attempted to identify “peer” states for Kansas, as described in this blog post. We used four variables, Z scores, and standard deviations in order to try and determine which states are most like Kansas. Here is the resulting list of states:

- Arizona
- Arkansas
- Idaho
- Iowa
- Minnesota
- Nebraska
- Oklahoma
- Oregon

The four variables we used were:

- Population per Square Mile
- Percent of Students Eligible for Free or Reduced-Price Lunch
- Percent of Students Participating in Programs for English language Learners

- Percent of Students Served under IDEA (Special Education)

We selected these variables because they are commonly cited as factors influencing the nature of education at the state level.

Since July, we have spent a lot of time with this state-level data, and even undertook a large multi-year multiple regression analysis trying to determine what factors, in what combinations, have the largest impact on student outcomes. The results of the analysis suggested a much larger list of variables had a noticeable impact on student outcomes than the ones we had used to identify peer states.

In January, KASB released our first “Kansas Educational Achievement Report Card,” in which we discuss Kansas’ ranking on a variety of funding, outcome, and demographic variables to determine how our state compares with others.

Based on the work we’ve done since last July, we decided it was time to revisit the notion of peer states and see if we can better identify those states that are similar to us. Taking the multiple regression analysis and the report card data, we identified 34 measures to be included. For each of these variables, we pulled the most

recent year’s data. From here we could have calculated some form of overall rank or some kind of average of ranks to attempt to identify states similar to Kansas.

But when we say we want to compare ourselves to states similar to ourselves, what are we really going for? And further, is it reasonable to expect that we would want to compare ourselves to the same states each time regardless of the kinds of questions we are asking? Thinking about this, and looking at how we are going to organize the next version of the Kansas Education Achievement Report Card, we put the 34 variables into six categories:

- **Student Attainment**
 - Freshman Graduation Rate
 - Cohort Graduation Rate
 - *All Students*
 - *Economically Disadvantaged Students*
 - *Limited English Proficiency Students*
 - *Students with Disabilities*
- Percent of 18-25 year olds with a high school diploma
- **Student Achievement**
 - Percent performing at or above “Basic” on the NAEP assessment

- All Students
- Students Eligible for the National School Lunch Program
- Students Not Eligible for the National School Lunch Program
- Percent performing at or above “Proficient” on the NAEP assessment
 - All Students
 - Students Eligible for the National School Lunch Program
 - Students Not Eligible for the National School Lunch Program
- Percent meeting all four ACT benchmarks (adjusted for percent participation)
- Average composite SAT score (adjusted for percent participation)
- **Money (School Spending)**
 - Total Revenue Per Pupil
 - Actual Dollars
 - Dollars Adjusted for Regional Cost of Living (RPP)
 - Current Spending Per Pupil
 - Actual Dollars
 - Dollars Adjusted for Regional Cost of Living (RPP)
 - Spending on Instruction Per Pupil
 - Actual Dollars
 - Dollars Adjusted for Regional Cost of Living (RPP)
- **Organization Size**
 - Ratio of Students per District
 - Ratio of Students per School
 - Ratio of Students per Staff Member
- **Student Demographics**
 - Percent of Children at 100 percent Poverty
 - Percent Eligible for Free or Reduced-Price Lunch
 - Percent Served under IDEA (Special Education)

- Percent in English Language Learner Programs
- Percent of Students who are Non-White
- **Population**
 - Median Household Income
 - Population per Square Mile
 - Percent of 25 Year Olds and Older with High School Diploma
 - Percent of 25 Year Olds and Older with Bachelor’s Degree
 - Percent of 25 Year Olds and Older with Graduate Degree

By grouping the variables this way, we can ask more specific questions, such as “How do other states who are similar to Kansas in terms of school spending do on the ACT exam?” Because we are usually interested in comparing ourselves in terms of something specific, these kinds of groupings might help us more than the generic groupings we’ve been discussing.

Let’s assume, for a moment, when we say “peer states,” we are talking about states that have similar populations. We’d want to compare Kansas to other states based on the measures in the “Population” category, for sure. But more specifically, we would want to look

at other states that have similar public school student populations, so we’d also want to compare on the measures in the “Student Demographics” category.

Combining these two categories, we have 10 demographic measures. We took these measures, and marked any state within plus or minus one-half of a standard deviation of Kansas’s value as “similar to Kansas.”

The following shows the states similar to Kansas based on the criteria above on at least six of the 10 demographic measures, along with information on how they compare to Kansas on spending, student outcomes, and student ratios:

Peer States (similar (+/- .5 Std Dev) to KS on at least six of 10 demographic measures)

- **Oregon (7)**
 - Spends more on 0/6 funding measures
 - Better on 1/14 outcome measure
 - Has more students per district, school, and staff
- **Washington (7)**
 - Spends more on 0/6 funding measures
 - Better on 4/14 outcome measures

Table 1: Peer States, Student Demographics, and Population Characteristics

	OR	WA	IL	MI	NE	PA	WI
Pct of Children in Poverty (100%)	↑	↓	↓	↑	↓	↓	↓
Pct of students eligible for FRL	↓	↓	↓	↓	↓	↓	↓
Pct of students (3-21) Served Under IDEA	↓	↓	↓	↓	↑	↑	↓
Pct of students in ELL programs	↑	↓	↓	↓	↓	↓	↓
Pct of Public School Students, Non-White	↓	↓	↑	↓	↓	↓	↓
Median Household Income - Actual Dollars	↑	↑	↑	↓	↓	↓	↓
Population Per Square Mile	↓	↓	↑	↑	↓	↑	↓
Pct of 25-year-olds and > - HS completion or >	↓	↓	↓	↓	↓	↓	↓
Pct of 25-year-olds and > - Bachelors or >	↓	↓	↓	↓	↓	↓	↓
Pct of 25-year-olds and > - Graduate degree or >	↓	↓	↓	↓	↓	↓	↓
↑ = Value Higher than Kansas							
↓ = Value Lower than Kansas							
↑ = Value Similar to Kansas							

- Has more students per district, school, and staff
- **Illinois (6)**
 - Spends more on 6/6 funding measures
 - Better on 2/14 outcome measures
 - Has more students per district, school, and staff
- **Michigan (6)**
 - Spends more on 6/6 funding measures
 - Better on 2/14 outcome measures
 - Has more students per district, school, and staff
- **Nebraska (6)**
 - Spends more on 6/6 funding measures
 - Better on 5/14 outcome measures
 - Has fewer students per district, school, and staff
- **Pennsylvania (6)**
 - Spends more on 6/6 funding measures
 - Better on 4/14 outcome measures
 - Has more students per district, school, and staff
- **Wisconsin (6)**
 - Spends more on 6/6 funding measures
 - Better on 5/14 outcome measures
 - Has more students per school and staff, but fewer students per district

So, what does this tell us?

First of all, of the 7 states similar to us, 5 spend more than Kansas per pupil based on all 6 funding measures. That is 70 percent of our peer states.

Second, of the 7 states similar to us, no state has better student outcomes on a majority of achievement and attainment measures. Peer states perform better on Kansas on anywhere from 1 to 5 of the measures each; meaning Kansas

outperforms each of these peer states on anywhere from 65 percent to 90 percent of the achievement and attainment measures.

Third, Kansas has fewer students per district than 5/7 peer states, fewer students per school than 6/7 peer states, and fewer students per staff than 6/7 peer states. It is unclear specifically how these ratios impact student outcomes, but it is notable that Kansas has more districts, schools, and staff members per student than most of its peers.

Fourth, it is important to note that many of our neighbor states; including Colorado, Iowa, Missouri, and Oklahoma, are not on this list of peer states. Kansas is frequently compared to our neighbor states, despite the fact that we are notably different from them in terms of student demographics and population characteristics.

Next, we'll look at states that outperform Kansas on a majority of outcome measures and discuss what we might be able to learn from them.

Being Like the Cool Kids

In this section, we will discuss KASB's method for identifying states that outperform Kansas, which we will call "Aspiration States."

Looking at states that perform better than Kansas on a majority of outcome measures might help us identify characteristics, such as funding formula components, that are associated with better student outcomes.

The process for identifying aspiration states is similar to the process used for identifying peer states using state values on a variety of measures. We looked for states outperforming Kansas on at least 7 of the 14 achievement and attainment measures listed on page 1.

The following is the list of the identified Aspiration States, along with information on how they compare to Kansas on spending and student outcomes. As noted in the section on Peer States, "similar to Kansas" on student demographics or

Table 2: Aspiration States and Student Outcomes

	NH	NJ	MA	VT	MN
Freshman Grad Rate	↓	↓	↓	↑	↓
Cohort Graduate Rate	↑	↑	↓	↑	↓
Free/Reduced Lunch Eligible	↓	↑	↓	↓	↓
English Language Learners	↓	↓	↓	↓	↓
Special Education Students	↓	↓	↓	↓	↓
Pct 18-25 - High School	↑	↑	↑	↑	↑
NAEP Pct Basic	↑	↑	↑	↑	↑
Free/Reduced Lunch Eligible	↑	↑	↑	↑	↓
Free/Reduced Lunch Ineligible	↑	↑	↑	↓	↑
NAEP Pct Proficient	↑	↑	↑	↑	↑
Free/Reduced Lunch Eligible	↑	↑	↑	↑	↑
Free/Reduced Lunch Ineligible	↑	↑	↑	↑	↑
Pct Meeting All 4 ACT Benchmarks Adjusted	↑	↓	↑	↓	↑
SAT Mean Score Adjusted	↑	↑	↑	↑	↑

↑ = Value Higher than Kansas
↓ = Value Lower than Kansas

population characteristics is defined as within plus or minus one half a standard deviation of Kansas's value for the measure(s) in question.

Aspiration States (*better than KS on at least 8 out of 14 outcome measures*)

- **New Hampshire** (10)
 - Spends more on 6/6 funding measures
 - Has fewer students per district and school, but more students per staff
 - Similar to Kansas on 0/5 student demographic measures
 - Similar to Kansas on 1/5 population measures
- **New Jersey** (10)
 - Spends more on 6/6 funding measures
 - Has fewer students per staff, but more students per district and school
 - Similar to Kansas on 0/5 student demographic measures
 - Similar to Kansas on 0/5 population measures
- **Massachusetts** (9)
 - Spends more on 6/6 funding measures
 - Has more students per district, school, and staff
 - Similar to Kansas on 2/5 student demographic measures
 - Similar to Kansas on 1/5 population measures
- **Vermont** (9)
 - Spends more on 6/6 funding measures
 - Has fewer students per district, school, and staff
 - Similar to Kansas on 0/5 student demographic measures
 - Similar to Kansas on 2/5 population measures
- **Minnesota** (8)
 - Spends more on 6/6 funding measures

- Has fewer students per school, but more students per district and staff
- Similar to Kansas on 3/5 student demographic measures
- Similar to Kansas on 2/5 population measures

So, what does this tell us?

First, only five states perform better than Kansas on a majority of the outcome measures examined.

Second, all of the five aspiration states spend more per pupil than Kansas on all six funding measures.

Third, there is a fairly even mix of states that have more students per district, school, and staff and those that have fewer students per district, school, and staff. Three of five of the states had more students per district, 2/5 had more students per school, and 3/5 had more students per staff.

Fourth, none of these states were identified previously as a “peer state.” Further, only one state is similar to Kansas on a majority of the student demographic measures

(Minnesota), and no state is similar to Kansas on a majority of the population characteristics measures. It is important to remember that these states differ from Kansas in student demographic and population characteristics, which are not under the control of the state education system.

Next we will talk about controlling for differences among states related to student demographics and population characteristics and how such an analysis might better inform us in terms of which states we should be looking to for ideas.

Leveling the Playing Field

In this section, we’re going to talk about how to compare states on certain measures while removing the influence of others.

You may have heard people talking about “controlling for variables” or “holding variables constant” when discussing research, statistics, and analysis. Essentially this means you are trying to remove the influence of these variables on the relationship between other variables.

Chart 1: Differences Between Predicted and Actual Values

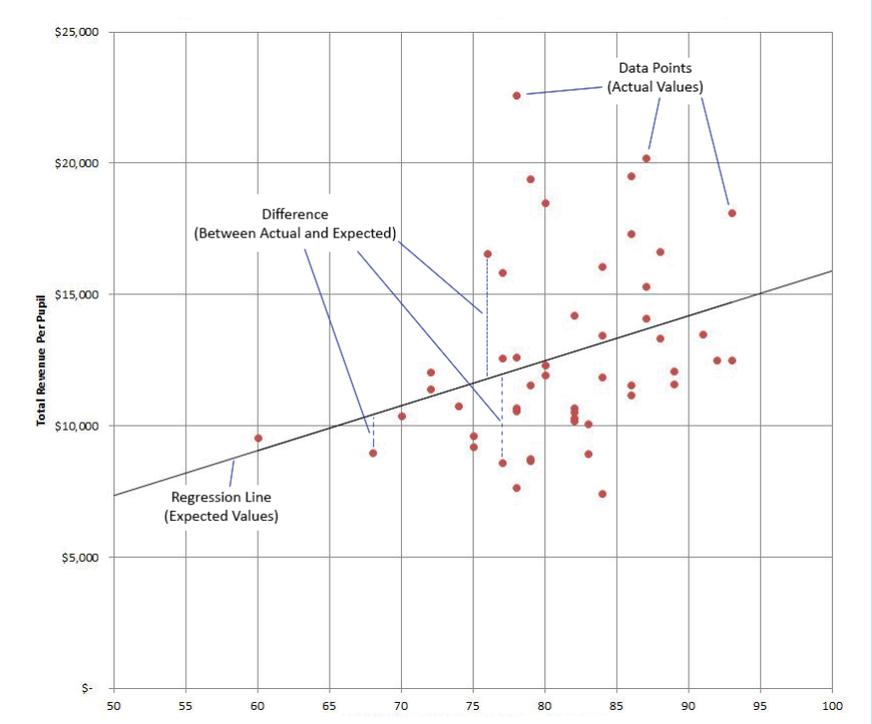


Table 3: Kansas Ranks

Outcome Measure	Unadjusted Rank	Rank Controlling for:		
		Student Demographics	Population Characteristics	Student Demographics and Population Characteristics
AFGR - All Students Rank	5	4	11	5
ACGR - All Students Rank	13	11	15	13
ACGR - Economically Disadvantaged Students Rank	13	13	14	12
ACGR - Limited English Proficiency Students Rank	5	7	3	3
ACGR - Students with Disabilities Rank	3	6	5	7
Percent of 18- to 24-year-olds who were HS completers Rank	28	30	26	27
NAEP Combined All Students Pct Basic Rank	13	6	10	7
NAEP Combined All Students Pct Proficient Rank	15	13	16	13
NAEP Combined NSLP Eligible Pct Basic Rank	12	12	12	11
NAEP Combined NSLP Eligible Pct Proficient Rank	13	16	17	17
NAEP Combined NSLP Ineligible Pct Basic Rank	6	3	5	2
NAEP Combined NSLP Ineligible Pct Proficient Rank	13	7	10	7
ACT Percent Meeting All 4 Benchmarks Adjusted Rank	11	10	13	9
SAT Mean Score - Combined Adjusted Rank	17	38	43	38

In the previous sections, we identified six categories into which our 44 state-level measures fall:

- Student Attainment
- Student Achievement
- Money (School Spending)
- Student Demographics
- Organization Size
- Population

Further, we’ve had some discussions about how school spending relates to student attainment or student achievement.

However, often folks who oppose increases in school funding argue that a straight comparison of school funding to student outcomes ignores the fact that student demographics and population characteristics (among other measures) vary greatly from state to state, and further that differences in student outcomes are more likely due to these factors than to the amount of money spent.

In order to test out these assertions, we would need a way to remove the effects of student demographic and population measures on the student attainment and student achievement measures. Doing so will allow us to create a list of “higher impact states,” or rather those states that produce better results than Kansas

Table 4: Higher Impact States and Student Outcomes

	TX	KY	AR	MD
Freshman Grad Rate	↑	↓	↓	↓
Cohort Graduate Rate	↑	↑	↑	↑
Free/Reduced Lunch Eligible	↑	↑	↑	↑
English Language Learners	↑	↓	↑	↓
Special Education Students	↑	↓	↑	↓
Pct 18-25 - High School	↓	↑	↑	↑
NAEP Pct Basic	↑	↑	↓	↑
Free/Reduced Lunch Eligible	↑	↑	↓	↑
Free/Reduced Lunch Ineligible	↓	↓	↓	↓
NAEP Pct Proficient	↑	↑	↑	↑
Free/Reduced Lunch Eligible	↑	↑	↓	↑
Free/Reduced Lunch Ineligible	↑	↑	↓	↓
Pct Meeting All 4 ACT Benchmarks Adjusted	↓	↓	↑	↓
SAT Mean Score Adjusted	↑	↑	↑	↑
↑ = Adjusted Value Higher than Kansas				
↓ = Adjusted Value Lower than Kansas				

when student demographics and population characteristics are kept constant.

But how do you do that?

Earlier in this report, when talking about the ACT and SAT metrics used, they are described as “adjusted for percent participation”. Research has shown that the percent of students in a state taking either the SAT or ACT has a huge influence on the state’s overall results on these exams. Therefore we employed the following

method for ranking states on the results of these exams “controlling for” percent participation:

1. Run a regression with test outcomes as the dependent (predicted) variable and percent participation as the independent (predictor) value.
2. Use the results to predict the test outcomes that each state should have based on their percent participation.
3. Compare each state’s actual

outcomes with the predicted outcomes.

- Rank the states according to the difference between their actual and predicted outcomes.

Does anyone remember talking about line slopes and intercepts when you learned how to plot lines on a graph? How about $y = mx + b$? Anyone remember that?

Well, essentially that is what we are talking about here. The regression equation gives you the slope and intercept of a line, so then we can look and see on a graph where each state's point should be, and then compare this to where their point actually is. This difference; the space between the point on the graph and the line where we expected the point to be, can be thought of as the influence of all the other variables aside from the one(s) we are controlling for, as demonstrated in the chart below.

To control for multiple variables at the same time, I used a multiple regression, which essentially does the same thing as described above but cannot be plotted on a 2 dimensional graph because there are

multiple independent variables. The steps involve:

- Putting all measures on a consistent scale (using Z scores),
- Running multiple regressions to determine the intercept and slopes for each independent variable included in the regression,
- Calculating the expected value of the dependent variable based on the values of the independent variables for each state and the intercept and slopes identified in #2,
- Determining the difference between the predicted and actual values for each state, and then
- Ranking the results.

Confused? Don't feel bad. It is confusing. Let's just summarize by saying that we calculated state rankings on student attainment and achievement measures controlling for student demographics and population characteristics.

So, what do the Kansas rankings look like; both before and after controlling for these things? Table 3 below

shows ranks for Kansas on the 14 outcome measures:

- Unadjusted
- Adjusted controlling for the 5 student demographic measures
- Adjusted controlling for the 5 population characteristics measures
- Adjusted controlling for the 10 student demographic and population characteristics measures

As you can see, overall Kansas' ranks actually don't change a great deal. When controlling for student demographics and population characteristics, Kansas's ranks go up on 9 measures, stay the same on 2, and go down on 3 measures. This means that Kansas has better student outcomes overall when controlling for student demographic and population characteristics than when these factors are not controlled for.

Going back to the method we used to identify Aspiration States and applying it to these two new sets of ranks, we get the following:

Higher Impact States (*better than KS on at least 8 out of 14 outcome measures controlling for student*

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Table 5: Kansas Funding Formula Components - District

Density/Sparsity of Small Schools	It is a linear transition formula ranging from 100 students up to 1,622 students. The low enrollment weight of districts having enrollments of 100 or fewer is 1.014331 times the BSAPA per pupil. Each change of one pupil changes the low enrollment weight down or up inversely to the enrollment change. High enrollments, above 1,622 and over, are weighted an additional 0.03504 times the BSAPP.
Grade Level Differences	N/A
Declining Enrollment or Growth	A school district determines their enrollment by using the highest enrollment of current year, prior year, or a three-year average of the current year and the two prior years.
Capital Outlay and/or Debt Service	Districts may make a mill levy of up to 8 mills for capital projects and equipment. The state provides state aid to school districts based upon the same amount of taxes levied. The state aid rate for each district is computed based on the assessed valuation per pupil of the district, with the lower valuation per pupil districts getting a higher state aid rate.
Transportation	All districts transporting pupils living 2.5 miles or more from the school receive the state average cost per pupil based on a linear-density formula. The formula takes into the account the per pupil costs of transportation, density of the district in terms of pupils transported, and square miles in the district.
Charter Schools	Charter schools are part of the local school district in Kansas. As such, charter schools are public schools and receive the same funding as traditional schools
Other	N/A

Table 6: Kansas Funding Formula Components - Student

Special Education	State provides 80 percent of special education transportation costs and \$27,900 in categorical aid per instructional unit. That amount is paid on all certified education teachers, while paraprofessionals are paid .4 or \$11,160 per full-time paraprofessional.
Low Income/Comp Ed/At-Risk	Additional funding is provided for at-risk students. The formula is based on the number of students qualifying for free meals with the additional weight set at 0.456. Additional funds are available for high density at-risk percentages. High Density Weighting: Districts in which their students on free meals exceed 35 percent of their total enrollment.
English Language Learning/Bilingual Education	State aid is weighted at 0.395 per eligible pupil, based on the full-time equivalency enrollment of bilingual students receiving services.
Gifted and Talented Education	Does not apply. Paid under the special education reimbursement schedule.
Career and Technical Education	Weighting determined by multiplying the FTE enrollment in vocational education programs by a factor of 0.5; resulting funds must be spent on vocational education.
Preschool Education	A limited number of 4-year-old at-risk students are funded in the general fund formula at 0.5 full-time equivalency. Three- and four-year-old children with an individualized education plan are funded at 0.5 full-time equivalency through the general fund formula.
Other	N/A

Table 7: Kansas Funding Formula Components - Revenue and Expenditure

State Mandates Restricting Revenue or Expenditure Increases	The base state aid per pupil is set by the legislature and is the amount that establishes the spending authority of school districts. That amount is \$3,852 for 2014-15.
Property Assessment Ratios Used/Legal Standards for Property Assessment	Residential property is assessed for tax purposes at 11.5 percent of full market value.
Measure of Local Ability to Support Schools	Under the formula, all school districts levy 20 mills on the assessed valuation per pupil for the general fund and the state makes up the difference between the budget authority and the 20 mills.
School District Budget and Tax Rate Procedures/Sources of Local Revenue	Supplemental General Fund (Local Option Budget or LOB) Districts can budget up to 30 percent of their general fund budget providing certain criteria are met (33 percent in 2014-15). Supplemental General State Aid for the LOB is based on funding that would be generated for the district at the 81.2 percent AVPP statewide and is equalized minus local taxes. See *2014-15 Education - School District and Quality Performance Act and Bond and Interest State Aid Program - Attachment I, LOB. State Aid for Bond and Interest State aid is provided for bond issues based on the assessed valuation per pupil of the district. See *2014-15 Edition - School District and Quality Performance Act and Bond and Interest State Aid Program. State aid for Capital Outlay Districts can levy up to 8 mills for capital outlay and the state aid rate for bonds (above) is multiplied by the dollars levied to determine the capital outlay state aid.
State Support for Nonpublic Schools	Drivers Education aid at \$90 per pupil.

About KASB

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demographics and population characteristics)

- **Texas (11)**
 - Spends more on 0/6 funding measures
 - Has more students per district, school, and staff
 - Better on 2/14 outcome measures without controlling
- **Kentucky (9)**
 - Spends more on 0/6 funding measures
 - Has more students per district, school, and staff
 - Better on 3/14 outcome measures without controlling
- **Arkansas (8)**
 - Spends more on 0/6 funding measures
- **Maryland (8)**
 - Spends more on 6/6 funding measures
 - Has more students per district, school, and staff
- Has more students per district and school but fewer students per staff
- Better on 3/14 outcome measures without controlling

Table 8: Funding Fairness

Measure and Description	Kansas Values	Kansas Ranks
Per Pupil Funding Level: Overall level of state and local revenue provided to school districts, comparing each state’s per-pupil revenue with that of other states. Each state’s revenue is adjusted to reflect differences in regional wages, poverty, economics of scale and population density.	\$10,561	23
Funding Distribution: Distribution of funding across local districts within a state, relative to student poverty. Indicates whether a state provides more or less funding to schools based on their poverty concentration, using simulations ranging from 0 percent to 30 percent child poverty. Indicates the percent of the lower poverty district funding received by higher poverty districts.	96%	28
Effort: Differences in state spending for education relative to state fiscal capacity. “Effort is defined as the ratio of state spending to state gross domestic product (GSP)	Overall - Per Capita GDP	\$44,952
	Overall - Effort Index	0.037
	Change 08-12	-7.60%
	Change 11-12	2.90%
Coverage: Proportion of school-age children attending the state’s public schools combined with the ratio of median household incomes between private and public school students.	Coverage	88%
	Private/Public Household Income Ratio	146%

Table 9: Resource Allocation Indicators

Measure and Description	Kansas Values	Kansas Ranks
Early Childhood Education: 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 provide equal educational opportunities and reduce achievement gaps.	% Low Income Enrolled	40%
	% Non-Low Income Enrolled	50%
	Enrollment Ratio by Income	80%
Wage Competitiveness: 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, and is presented at early career (age 25) and mid-career (age 45) to evaluate whether the teaching profession is economically competitive in each state.	Wage Ratio 25	80%
	Wage Ratio 45	68%
Pupil-to-Teacher Ratios: This measures district staffing patterns, comparing pupil-to-teacher ratios in high-poverty and low-poverty districts. PTR fairness % indicates percent of teachers per pupil in high poverty districts compared to low poverty districts.	Pupil Teacher Ratio at 10% Poverty	14
	PTR Fairness	100%

- Better on 3/14 outcome measures without controlling

What does all of this mean?

First, when you control for student demographics and population factors, only four states outperform Kansas on a majority of student outcome measures. Of these, Maryland spends more per pupil, while Texas, Kentucky, and Arkansas spend less. Also of these, all have more students per district and per school, and all but one (Arkansas) has more students per staff.

Second, none of the high impact states were identified as peer states, and none of the states originally identified as aspiration states show up as outperforming Kansas when you control for student demographics and population factors.

Third, when looking at actual outcome values, none of the higher impact states outperform Kansas on more than 3/14 outcome measures. This is an important factor to remember when comparing ourselves to these states.

Scholars, politicians, statisticians, advocates, educators, and other interested parties have been arguing about the connection between school funding and student outcomes for a long, long time, and it is unlikely that the debate will end anytime soon. One argument often cited is that Kansas outperforms other states because our student population is “easier to educate.” However, when controlling for those variables that supposedly make Kansas students more successful, Kansas still outperforms approximately 90 percent of the other states.

The Secret Formula

We have now come up with sixteen states to compare with Kansas - seven peer states, five aspiration states, and four higher impact states. The next question is, what do we want to compare when looking at these states?

We should, of course, start with the variables that were used in the initial analysis. But what else? Since the focus right now in Kansas is on both the amount of funding and on how that funding is distributed, we should look at funding amounts (which were included in our initial analysis) and on differences in how money is allocated.

Luckily we can benefit from someone else’s efforts when it comes to the later. Deborah A. Verstegen, a professor at the University of Nevada, surveyed each State Department of Education to gather information of their finance policies and programs in effect during the 2014-15 school year. You can read more about the work she did here: <https://schoolfinancesdav.wordpress.com/>

Tables 5 through 7 show the categories Verstegen presented in the survey, and Kansas’ responses on each.

As can be imagined, each state differs greatly in terms of what components are included in their funding formulas, and how each of those components are addressed. The state-by-state comparisons we do will include a listing of these categories and how each state addresses them.

No Fair, No Fair!

In this section, we will look at the fairness of funding in Kansas.

Bruce Baker at Rutgers University and his colleagues at the Education Law Center recently released the fourth edition of their report entitled “Is School Funding Fair: A National Report Card.” You can view the full report here: www.schoolfundingfairness.org/National_Report_Card_2015.pdf

The report includes six rankings of funding fairness and three resource allocation indicator ranks. Table 8 shows the funding fairness measures, along with a description of each measure and an indication of where Kansas falls compared to other

states. Table 9 does the same for the resource allocation measures.

Based on this data, it would seem that Kansas is doing relatively well in the areas of effort and coverage, but has more room for improvement in terms of per pupil funding amounts and funding distribution based on poverty levels.

Further, Kansas does fairly well in terms of early childhood enrollment, but has room for improvement in terms of teacher wage competitiveness and the distribution of teachers based on poverty levels.

The state comparisons we do will include comparisons on these values and ranks.

Comparing Apples and Studebakers

In this report, we discussed Peer States, Aspiration States, and High Impact States. Let’s review what we found.

Peer States: We compared each state to Kansas on 10 measures; including those related to student demographics and population characteristics. We defined similar to Kansas as within plus or minus one half a standard deviation of Kansas’s value. We identified peer states as those states that were similar to Kansas on at least 6 of the 10 measures.

Here are the Peer States, from most similar to least:

- Oregon
- Washington
- Illinois
- Michigan
- Nebraska
- Pennsylvania
- Wisconsin

We concluded the following:

- 5/7 peer states, or 70 percent spend more per pupil than Kansas.
- 7/7 peer states, or 100 percent have lower student outcomes

than Kansas on at least 8/14 outcome measures.

- Kansas has fewer students per district, school, and staff than the majority of its peers.
- Most of Kansas' neighbor states are not on the list of peer states.

Aspiration States: We compared each state to Kansas on 14 measures; including those related to student attainment and student achievement. We defined aspiration states as those states that outperformed Kansas on at least 8 of these 14 measures.

Here are the Aspiration States, from those that outperform Kansas on the most measures to those that outperform Kansas on the fewest:

- New Hampshire
- New Jersey
- Massachusetts
- Vermont
- Minnesota

We concluded the following:

- Only five states outperform Kansas on a majority of student outcome measures.
- All five Aspiration States spend more per pupil than Kansas.
- Approximately half of the states had more students per district, school, and staff.

- No Aspiration State is also a Peer State.

Higher Impact States: We compared each state to Kansas on 14 measures, including those related to student attainment and student achievement, while controlling for 16 measures, including those related to student demographics and population characteristics. We defined higher impact states as those states that would outperform Kansas on at least 8 of 14 outcome measures if all states had the same student demographics and population characteristics.

Here are the higher impact states, from those that outperform Kansas on the most measures to those that outperform Kansas on the fewest:

- Texas
- Kentucky
- Arkansas
- Maryland

We concluded the following:

- Only four states outperform Kansas on a majority of student outcome measures when controlling for student demographics and population characteristics.
- None of the higher impact states outperform Kansas on more than 3/14 outcome measures without controlling for student

demographics and population characteristics.

- None of the high impact states were also identified as peer or aspiration states.

So What?

The question remains; how can we use this information? We have created three different ways of comparing Kansas to other states, and each comparison is designed to answer different kinds of questions.

By looking at our peer states, we can ask how states with similar student populations compare with Kansas on funding, organization size, student attainment, and student achievement.

By looking at our aspiration states, we can ask how states that outperform Kansas on student attainment and student achievement compare on funding, organization size, student demographics, and population characteristics.

Using the higher impact states, we can look to states that achieve better student outcomes than expected when holding school funding, student demographics, and population characteristics constant (to a higher degree than Kansas does) to see if there are aspects of their systems that would benefit Kansas.

Resources

The following are additional resources to accompany this report:

- Data on Kansas at its Peer States [www.kasb.org/assets/Publications/Research/StateComparison-Peers.pdf]
- Data on Kansas and its Aspiration States [www.kasb.org/assets/Publications/Research/StateComparison-Aspiration.pdf]
- Data on Kansas and its Higher Impact States [www.kasb.org/assets/Publications/Research/StateComparison-HigherImpact.pdf]
- Interactive tool showing data for the most recent years available. [<https://public.tableau.com/views/KSEdReportCardMax/Overview>]
- Interactive tool showing data for all available years. [<https://public.tableau.com/views/KSEdReportCard/Overview>]

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