Missouri is already one of the lowest per capita taxing and spending states in the nation for public education.

The Missouri Experience from 1992–93 through 1996–97 with a Guaranteed Tax Base Type of State Aid Formula

John A. Jones

This paper addresses the following questions concerning the Missouri system for financing public education and the state aid formula established by the Outstanding Schools Act of 1993 (OSA).

- What are the basic policy issues addressed by the Missouri state aid formula created by the OSA?
- What changes in school finance equity measures have occurred for the state for school years 1992–93 through 1995–96?
- What changes in school finance equity measures are likely for the state beginning in school year 1996–97 when the OSA formula is fully implemented?
- How may greater gains in equity measures be achieved by modifying the OSA formula?
- What are some of the perceived concerns with the OSA formula?

Policy Issues Addressed in Outstanding Schools Act

The following policy issues are addressed by the Outstanding Schools Act based system for financing public education:

- equity (horizontal and vertical)
- revenue equality
- equal access
- wealth neutrality
- adequacy of educational resources
- stability for districts
- responsiveness of state aid
- comprehensive system of school finance
- efficiency (revenue required and student achievement)

1.(A) *Equity*—occurs when all students in the state are treated equally in accordance with the constitution and statutes of the state. Equity usually refers to equal treatment of equals.

The concept of equity is based upon the Judeo-Christian concepts that all persons are of equal worth and that each individual person is of great worth. Therefore, when it comes to public education, all students are worthy of both equal and adequate treatment. Equity can also refer to unequal treatment of unequals. Some students bring with them handicapping or disabling conditions which make them more challenging to educate, requiring greater educational costs and services to help them reach their potential.

The OSA formula provides very similar amounts of revenue from state and local sources for students in school districts with the same local property tax rate and with equal concentrations of special needs students. State categorical add-on revenue sources allow districts with higher concentrations of special needs students to receive greater revenue for additional services required for these students. New funding of programs for at-risk students has been provided by the OSA state aid formula.

(B) *Equity*—may also be defined as the condition when all students in the state have equal opportunity to participate in quality educational programs.

The Missouri School Improvement Program for classifying school districts is the primary means of the state for determining the quality of educational programs. The OSA provides for greater equity of educational opportunity by giving all parents in unaccredited school districts the freedom of choice to send their children to accredited school districts with transportation and tuition paid by the district of residence. Also, the OSA provides for greater equity of educational opportunity by requiring that all districts which are unaccredited for two consecutive years be lapsed and their territory joined to accredited districts.

2. *Revenue Equality*—occurs when students with equal educational needs have equal amounts of revenue to purchase educational services regardless of their location within the state.

The OSA formula is not designed to provide revenue equality because increasing amounts of state aid are provided for a wide range of district property tax rates between the minimum tax rate of $2.75 (unless exempt) and the maximum tax rate for state aid of $4.60 per $100 of assessed valuation (AV) which may be entered into the state aid formula. This provides a ceiling to revenues from the state based upon local effort.

School districts may levy tax rates in excess of $4.60 with no matching state aid on the portion of the levy in excess of $4.60.

The OSA formula does provide a limited but significant amount of gain in revenue equality primarily because the minimum tax rate was increased which allowed poorer, lower tax rate districts to gain more revenue from the OSA state aid formula. The OSA formula and the increased minimum tax rate increase the revenues for students in poorer school districts while not decreasing revenues for any student in any other school district in the state. This strategy of increasing state and local revenues for many poor districts over a four year phase-in period while not decreasing revenues for any other district was made possible by means of individual and corporate income tax increases which were a part of the OSA.

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3. *Equal Access*—to combined state and local revenues is achieved when each penny of local property tax rate produces the same amount of revenue per pupil in all school districts.

When fully implemented and fully funded, the OSA state aid formula is designed to provide equal access to a combination of state and local revenues for about 90 to 95 percent of Missouri's public school students within the range of property tax rates between the minimum tax rate and the maximum tax rate for state aid of $4.60 per $100 of assessed valuation (AV). The OSA state aid formula is not designed to provide revenue equality or equal revenues per pupil for all students in the state. The only way an equal access state aid formula can provide an extremely high level of revenue equality is to require all school districts to levy the same property tax rate or to limit local tax options for districts so that no district may receive revenues in excess of a pre-established amount per pupil.

4. *Wealth Neutrality*—a state system of financing public education occurs when there is little or no relationship between school district wealth per pupil and the amount of revenue per pupil available to purchase educational services.

Wealth neutrality for a state system is usually measured by calculating the correlation between a wealth per pupil measure and a revenue or expenditure per pupil measure for all school districts. For Missouri school districts, wealth is usually expressed in terms of assessed valuation (AV) per pupil and average gross income per state tax return for school district residents. Expenditures or revenues are expressed as revenue or current expenditures per pupil in average daily attendance (ADA) or per pupil enrolled.

An equal access formula, like the OSA formula, that uses local school district property tax rates to access revenue from a Guaranteed Tax Base (GTB) can provide perfect wealth neutrality only when there is little or no relationship (correlation) between tax rates and wealth. As a consequence of the importance of wealth neutrality issues, the General Assembly has mandated public reporting of the correlation between district tax rates and districts' assessed valuation (AV) per pupil after each property tax reassessment (RSM.163.021.4)

5. *Adequacy*—occurs when students have access to high quality education programs which prepare them to successfully function in American society.

A minimal level of adequacy of funding is provided in the OSA by increasing the minimum local property tax rate required for eligibility for increases in state aid from $2.00 per $100 of AV to $2.75 per $100 AV. A minimal level of fiscal adequacy is also provided in the OSA by setting the GTB at a high level based on the ratio between the 95th percentile rank AV per pupil and the state average AV per pupil in 1993–94 and by providing more state revenue to fund the new state aid system.

6. *Stability*—of combined state and local revenues for school districts occurs when the combined revenues do not fluctuate widely from year to year.

Stability is provided in the OSA formula by a three year phase-in period which limits the amount of revenue paid to gaining districts and prevents any losses in revenues paid to districts which might have lost revenue. A hold harmless provision provides stability of state aid to districts which might otherwise be paid less state revenue than was paid in the last year of the previous formula. Stability of state aid paid to districts losing enrollment is increased by allowing districts to be paid based on the greater of the previous or current years' enrollment. Stability of combined state and local revenue is also provided by proration of entitlements of the formula when it is under- or over-funded. Stability of revenue usually works against equity and responsiveness.

7. *Responsiveness*—is achieved when a formula reacts to increase state aid when local revenues decrease and vice versa.

Because state aid plus local wealth equals a constant amount per pupil for each penny of tax rate and because local revenues received the prior year are more fully deducted, the OSA formula will change the state aid amount within one year on a dollar for dollar basis as local revenue deductions change.

8. *Comprehensive*—systems for financing schools bring together both general and categorical sources of state and local revenues for education so that no one program is funded at the expense of other programs.

The OSA formula increased the number of state and local revenues used as deductions and provides for proration of state entitlements so that nearly all state education funding priorities bear the consequence of under-funding together using a common proration factor.

9.(A) *Efficiency*—of a state equalization program for funding education may be measured in part by the amount of revenue required to maintain equity.

The OSA formula reduced the cost of full funding of the state aid formula from about $1.9 billion to about $1.3 billion. The cost of funding the OSA formula is not driven by previous levels of spending for education as was the 1976 formula. Therefore, the state is more likely to sustain over time high percentage or full funding of the OSA formula. The OSA formula is designed to establish a high correlation or relationship between school district expenditures and local tax rates.

(B) *Efficiency*—of a state system for funding of public education may be viewed as obtaining the maximum amount of student achievement from a given amount of expenditures for public education.

The reforms sections of the OSA are designed to:

- increase the levels of pupil performance measured by the state wide assessment program which has been referenced to the Show-Me Standards and Curriculum Frameworks,
- increase the graduation rate for public high schools, and
- increase the successful placement rates for public high school graduates for first time employment, trade school training, military service, or college education.

The OSA education reform sections are designed to increase the efficiency of public education by increasing its measured outputs.

State Aid Formula as Modified by Senate Bill 795

This section provides a brief description of the state aid formula as modified by Senate Bill 795. During the 1996 legislative session, the General Assembly enacted the first amendments to the OSA formula to make state aid more stable for districts that lose tax rate because of reassessment of property.

The entire OSA state aid formula worksheet consists of 19 lines and four distinct parts:

District entitlement (Line 1)

Deductions (Lines 2 through 10)

Categorical add-ons (Lines 11 through 18)

District apportionment (Line 19) (See Appendix A).

The first two parts of the OSA state aid formula result in a "basic formula", lines 1 through 10, payment amount which is intended to increase the equity of the entire state and local system for financing public schools.

The district entitlement is determined annually for each eligible pupil (EP) by multiplying the district equalized tax rate for operations times the GTB. The GTB is the state mean AV per EP times 2.167 based on data for the third preceding year.

The size of the state's appropriation for the foundation formula also determines the amount of a district's entitlement on Line 1. A proration factor or decimal fraction, which is the same for all districts is multiplied times each district's entitlement to make the payments to school districts equal the appropriated amount. Proration of district entitlements on Line 1 of the foundation formula causes the entitlement per eligible pupil to change in equal proportion for all districts when the formula is under- or over-funded.

The placement of the proration factor within the state aid formula is critical to its ability to maintain equity when it might be under- or over-funded. Prorating the state aid payment amount after deductions is a proration of the difference between the state entitlement and local wealth deductions. Prorating the difference results in a proration of both the entitlement and the deductions which favors the more wealthy districts when the formula is under funded and favors the less wealthy districts when over funded. Therefore the efficiency of a state aid formula in providing equity when it is under- or over-funded is greatly enhanced by prorating district entitlements before deductions which causes the district entitlement to change in equal proportion for all districts.

The prorated district entitlement is supported by a combination of state and local revenues. The greater the wealth of a school district, the greater the district's share of funding (deductions) of the prorated entitlement, and the smaller the state's foundation formula payment. The actual amount of a district's share is determined in the deduction section of the formula (Lines 2 through 10). The state's share of the prorated district entitlement is the difference between Line 1 and the sum of Lines 2 through 9. This remainder is called the "basic formula" amount. The state basic formula amount plus the total deductions (sum of Lines 2 through 9) is equal to the prorated district entitlement.

In Line 2 of the formula, the equalized tax rate is multiplied by the district's equalized assessed valuation (AV). If the district income factor is 1.0 or less, the assessed valuation (AV) tax rate product is multiplied by the district income factor. If the income factor is greater than 1.0 in value, it is multiplied times the 1994 AV and any growth in AV since 1994 is multiplied by an income factor of 1.0. This adjusted AV is then multiplied by the equalized tax rate. The income factor is based on a ratio between the average income of district residents and the average income of all state residents. When the property of a county is more than 5 percent under assessed based on State Tax Commission studies the assessed valuation and tax rate of each school district in the county are equalized to 33 1/3 percent equivalent values. All but two of the significant state and local revenues which are non-categorical in use are deducted at 100 percent of the amounts placed in the operating funds (general and special revenue funds).

The third part of the OSA state aid formula is the categorical add-ons (Lines 11 through 18). These are state revenue sources for programs which are unique to the district or for programs for special needs students who are more costly to educate and are not uniformly distributed among schools districts. If the state aid formula (Lines 1 through 10) is under-funded, which is indicated by a proration factor of less than 1.0, the categorical programs in Lines 11 through 15 shall be prorated so that none of these programs have a proration factor greater than the proration factor on Line 1 of the state aid formula. The categorical programs were included in the OSA state aid formula to prevent them from being funded completely at the expense of the state's ability to fund the basic formula portion (Lines 1 through 10) of the formula.

The total district payment is shown on the last line of the state aid formula (Line 19). For most districts, the total payment amount is the sum of Lines 11 through 17 plus the difference between Lines 1 and 10. Extremely wealthy districts will have total deductions (Line 10) which are greater than their district entitlement (Line 1). These districts are held harmless by paying them the Line 18 amount for categorical add-ons plus an amount based on their per pupil payment rate from the last year (1992–1993) of the previous formula minus the amount they gain from Line 14 for their free and reduced priced lunch eligible students.

The Legal Context for Equity Analysis

On January 15, 1993, State Circuit Court Judge Byron Kinder issued a Memorandum Opinion and Judgment concerning the school finance lawsuit between the *Committee for Educational Equality, et al. v. State of Missouri et al.* and *Lee's Summit School District R-VII, et al. v. State of Missouri, et al.* The following statements from the Kinder opinion and judgment are very important for equity analysis:

> The Range, the Restricted Range, the Federal Ratio, the Coefficient of Variation, the Gini Index and the McLoone Index are generally accepted measures for determining school finance equity. Testimony of Dr. Robert Bartman, Dr. John Jones and Dr. Kern Alexander. See Exhibit 502 for definitions of these equity tests (p14).
>
> The Constitution of Missouri requires that the State of Missouri provide and fund a system of free public schools so that every child in Missouri will be afforded substantially equal educational opportunities without regard to place of residence, wealth, or other economic circumstance. A child living in a poor school district must have the same opportunity to receive substantially the same education as a child living in a rich district (p. 30).
>
> A deviation from equality on a per student basis is the distribution of the total resources (both state and local) among the schools in the Missouri school system should not be permitted except to provide resources either (a) to the least advantaged or (b) for specially identified educational needs. There are greater costs involved in educating disadvantaged or "at risk" children (p. 30)
>
> The state must provide adequate funds to "maintain" a system of education providing a "general diffusion of knowledge intelligence" at the level which is necessary in this era to "preserv[e] the rights and liberties of the people (Missouri No. CV190–137cc, p. 30).
>
> The system of public schools in Missouri is a state system, not separate district systems (p.30).

Judge Kinder's order stated that deviation from equality should be attributable only to revenues for students with the least advantages or for students with specially identified educational needs. Therefore, based on Judge Kinder's ruling, categorical revenues for special, at risk or disadvantaged students should be excluded from any equity analysis. Currently, only revenues available to pay for general education costs have been included in this equity analysis.

As currently designed, the state system for financing public education provides a limited amount of state support for capital expenditures and no direct state support for the debt service fund. Therefore, no revenues placed directly in the capital projects or debt service funds which are used for non-routine, one-time expenses will be included in any equity analysis of the Missouri system for financing public education.

Equity Analysis Procedures

Equity is a concept based on the fair treatment of individual students. However, funds are allocated to local school districts for delivering educational services for students.

Therefore, students are the subjects of equity analysis and school districts that serve them are used as data sources. All analyses were weighted by the number of pupils served in each district. The pupil count used for all equity calculations is average daily attendance (ADA) which is the sum of regular school term attendance plus summer school attendance expressed on a regular term equivalence basis.

There are two fundamental methods or approaches which are used by most states when creating systems for distributing revenues to school districts. These methods are the "revenue equality" or "foundation" approach and the "equal access" to revenue or "guaranteed tax base" approach. The OSA state aid formula uses the equal access approach, with a required minimum tax rate to provide a foundation of equalized support for basic adequacy of revenue. Therefore this equity analysis proceeded along two parallel lines using revenue per pupil in ADA to test revenue equality and revenue per pupil in ADA per penny of property tax rate to test equal access to revenue. Revenue per pupil is obtained when the total of 14 general revenues for each Missouri school district is divided by the number of students in ADA during the same year. Revenue per pupil per penny of tax rate is obtained when the total of 14 general revenues is divided by the product of the number of students times the equalized operating levy of the district.

The same tax rate entered in the OSA state aid formula was used for equity calculations. Two variables were used to indicate the wealth of a school district, these are average income per state tax return for residents of the district and equalized assessed valuation per pupil in ADA.

Revenues were used rather than expenditures because districts can make so many decisions concerning their use of revenue in the form of tradeoffs between fund balances, capital expenditures, and current operating expenditures. A previous study of Missouri data by Allan Odden (1995), was based on expenditures made during the 1992–93 and 1993–94 school years. Use of expenditures in the analysis was found to introduce so much variance that it became difficult to detect changes in equity across years.

Correlations between revenue per pupil and wealth were used to measure the "wealth neutrality" of the Missouri school finance system. Ability to spend was expressed as revenue per pupil. In the equal access sense, ability to spend was expressed as revenue per pupil per penny of tax rate. Wealth was indicated by assessed valuation per pupil and/or by adjusted gross income per state tax return. Equity analysis also involved measuring the amount of dispersion about the central tendency using the standard deviation, coefficient of variation, range and federal range ratio.

Data from Missouri school districts for the following school years were analyzed:

Year	Situation
1992–93	Last year of use of the 1976 Foundation Program
1993–94	First phase-in year; 25% of O.S.A. formula amount 75% of 1992–93 payment amount
1994–95	Second phase-in year; 50% of O.S.A. formula amount 50% of 1992–93 payment amount
1995–96	Third phase-in year; 75% of O.S.A. formula amount 25% of 1992–93 payment amount
Simulated 1996–97	Simulated, fully implemented OSA formula amount; 100% of 1994–95 formula payment amount which requires about $187 million in additional basic state aid above the amount distributed in 1994–95.

Summary of Results

This equity analysis was based on non-categorical revenue data for Missouri school districts for the years 1992–93 through 1995–96 plus a simulation of the consequences of a fully funded and implemented OSA state aid formula using 1994–95 data and an additional $187 million in basic state aid. The individual student was the subject of this analysis. Data

Table 1
Five Year Changes in Equity Statistics Summarized for All Districts

Variable Statistics	Equity Viewpoint	1992–93 Value	1995–96 Value	1996–97 Simulated Value	Desired Value
Rev/Pupil	Adequacy	3632	4201	4206	
Mean					
Standard Dev.	Rev. Equality	1025	762	762	0
Range	Rev. Equality	6,003	7,471	4,467	0
Federal R. Ratio	Rev. Equality	1.21	.75	.73	0
Coeff. Var.	Rev. Equality	.282	.184	.181	CV<1.0
r with Levy	Equal Acs.	0.665	0.717	0.777	r>0.80
r with Inc.	Wealth Neu.	0.139	0.492	0.450	r<0.20
r with AV/P	Wealth Neu.	0.463	0.681	0.624	r<0.20
Rev/Pupil/Penny					
Mean	Adequacy	12.86	13.20	13.21	
Standard Dev.	Equal Acs.	3.49	2.32	2.06	0
Range	Equal Acs.	34.02	30.76	26.02	0
Federal R. Ratio	Equal Acs.	1.23	.40	.28	0
Coeff. Var	Equal Acs.	.271	. 176	. 156	CV<.10
r with Inc.	Wealth Neu.	0.306	.412	0.422	r<0.20
r with AV/P	Wealth Neu.	0.282	.781	0.749	r<0.20
r O. Levy with Inc.	Wealth Neu.	0.306	0.148	0.150	r<0.20
r O. Levy with AV/P	Wealth Neu.	0.282	0.079	0.123	r<0.20

were analyzed from both revenue equality and equal access to revenue viewpoints.

The following conclusions are apparent based upon this analysis.

- The correlation between assessed valuation per pupil and district tax rate is 0.079 which indicates a negligible relationship for the 1995–96 school year. Based on this analysis of 1995–96 data an increase in the state minimum property tax rate is not necessary at this time from a wealth neutrality viewpoint. Whether or not the minimum tax rate provides an adequate level of funding for school districts with that tax rate is another issue.

- All statistical indicators justify the conclusion that the OSA state aid formula produces a very high level of equal access to combined state and local revenues for about 86 percent of all public school students.

- All statistical indicators demonstrate that moderate but significant gains have been made in revenue equality. Increases in the minimum property tax rate when applied against a high level of guaranteed tax base (GTB) have resulted in substantial increases in revenue for most of the poorer, lower revenue school districts.

- All statistical indicators point to the conclusion that a small improvement has been made in wealth neutrality. For all school districts in 1992–93, the last year of the previous formula, the correlation of 0.764 between revenue per pupil and AV per pupil accounted for 58 percent of the variation in revenue per pupil among students served by school districts in the state. The same correlation based on simulated values for a fully funded and implemented OSA formula was 0.624 which accounts for 39 percent of the variation in revenue per pupil among students served by school districts in the state. This small decrease in the correlation between revenue per pupil and AV per pupil is more significant than it appears to be upon first inspection.

- Adequacy of funding for public education has improved. This is indicated by the 9.7 percent increase in the mean general state and local revenue per pupil from $3,474 in 1992–93 to $3,812 in 1994–95 During this same period the Consumer Price Index increased by 5.6 percent. This growth in purchasing power for public education in Missouri during was made possible by a combination of the equal access state aid formula, the increased minimum property tax rate, and the progressive income tax increase which were contained in the OSA.

Thus it can be demonstrated quantitatively that the OSA state aid formula and tax increase have significantly improved both the equity and adequacy of the Missouri system for funding public education.

Perceived Concerns Regarding the OSA Formula

The following concerns have been expressed in regard to the OSA formula:

1. My school district is not receiving much revenue growth because of the OSA formula. Where is all this new revenue for schools going?

Response: This question involves a comparison between revenue received from the previous state aid formula of 1976 and revenue received from the OSA formula, which will be fully phased-in and is likely to be fully funded for the first time in the 1996–97 school year. For various reasons in 1992–93 the previous state aid formula paid some school districts as little as 24 percent of their full funding payment amounts while other school districts might be paid as much as 75 to 90 percent of their full funding payment amounts. In 1992–93 districts were paid on the average about 48 percent of their full funding payment amounts.

Therefore districts that were highly advantaged by the previous formula tend to receive small or no increases in state aid from the OSA formula, while most disadvantaged districts receive relatively large increases in state aid.

The OSA provides additional revenues for school districts by means of a minimum property tax rate increase from $2.00 to $2.75 per $100 AV and by means of changes in individual and corporate income taxes. In the first full year of implementation the increased minimum property tax produced about $55 million and the increased income tax produced about $315 million. These new state and local revenues will be distributed to school districts for the following reasons which are presented in rank order from greatest to least in distribution of new revenue:

- Line 14 of the OSA formula will distribute about $185 million when fully implemented and fully funded.

- Minimum tax rate school districts will receive increased local revenues plus matching state aid, often on a 2.0 to 3.5 to 1 state to local match basis.

- Higher tax rate school districts will receive additional matching state aid because of their higher local effort.

- State funded hold harmless districts will receive state aid at their 1992–93 payment rates so their revenues will not be reduced because of the OSA.

2. It is difficult to predict revenue coming to a district from the OSA formula.

Response: Senate Bill 795 has attempted to correct this problem by using the state mean assessed valuation per pupil during the third preceding year times 2.167 to calculate the value of the Guaranteed Tax Base (GTB). This makes the value of the GTB more stable and predictable and a known number about two years before it is first used for payment purposes. The GTB is now a known value during the budget preparation period for both the state and school districts.

Equal access to revenue produced by the OSA state aid formula comes from both state and local revenue sources combined; therefore, increases in local revenues are accompanied by corresponding decreases in basic state aid one year later and vice versa. The reciprocating relationship between state aid and local revenues should be considered before making any comparison between years or districts.

One should never speak of decreases in state aid without also documenting corresponding increases in local revenues. School administrators and policy makers should always document the changes in total state and local revenues when describing the financial situation in their school district.

3. Reassessment of real property causes downward adjustments of property tax rates to make the reassessment cost neutral for taxpayers. The downward adjustment of tax rates causes school districts to lose state equalization aid because a lower tax rate is used in Line 1 of the formula for multiplication against the GTB.

Response: Senate Bill 795 has attempted to correct this problem by authorizing entry of an add-on tax rate in the state aid formula sufficient to pay the district the same amount of state aid it would have received if reassessment had not caused a reduction in its tax rate ceiling. To qualify for this add-on tax rate to hold a district harmless from reductions in state aid due to reassessment a district must meet the following criteria:

a) demonstrate a reduction in its tax rate ceiling due to reassessment,

b) not increase any voluntary rollback in its tax rate ceiling, and

c) pass on to the taxpayers any reduction in its tax rate ceiling.

4. The OSA formula does not provide support for the capital projects and the debt services funds.

Response: Originally the OSA provided support for capital projects fund types of expenditures by elimination of the building fund and by providing state aid for the entire general fund tax rate. No support was provided for the debt service fund. The OSA also provided for the issuance of no interest loans from a school building revolving fund to be financed from riverboat gaming revenues.

In the 1994 legislative session SB676 reestablished the capital projects (building) fund and provided for a limited amount of revenue transfer from the incidental fund to pay for capital projects fund expenditures which can no longer be expensed out of the incidental fund.

In the 1995 legislative session provision for using riverboat gaming revenue to fund the school building revolving fund was eliminated and a revenue intercept procedure was established to help assure timely debt service fund payments which increases the ratings given school district bond issues and lowers interest costs. This legislation also provided state financing for bond issuance costs. Presently, there is no state support for debt service fund expenditures.

5. The OSA formula is not responsive enough to the financial needs of rapidly growing districts for either current operating or debt service costs.

Response: If this is judged to be a valid issue, here are several options to consider:

a) Funding of the school building revolving fund,

b) Providing some level of GTB support for the debt service fund levy, and

c) Providing a temporary weight for two years of 1.2 times the eligible pupil count for any newly opened school site to help pay for opening the school.

6. The OSA formula is too responsive to year to year fluctuations in local revenues and eligible pupil counts. Because the deductions in the formula run one year behind the receipt of local revenues it seems like a school district gets hit twice during the year following a large one year increase in a local revenue.

Response: Large year to year fluctuations in local revenues could be handled by accumulating fund balances the first year and spending the fund balance increase the second year, when the increased deduction decreases state aid. If school administrators cannot manage this two year strategy it would be reasonable to base deductions on an average of revenues received during the second and third preceding years. It would seem fair to base pupil counts and levy amounts used in the formula on the same concept; which would make the cost of full funding of the formula very predictable, but somewhat less responsive. There is always a trade off between responsiveness and predictability for any state aid formula. As a compromise the state aid formula could be modified to make it less responsive to decreases in state aid per pupil and to keep its responsiveness to increases in state aid.

7. Some argue that the OSA formula does not provide enough revenue equality across the state, equal access to revenue is not enough.

Response: This is in part an adequacy of revenue argument. The minimum tax rate times the GTB might not produce enough revenue to support satisfactory educational programs. Please see the previous section for suggestions concerning how to make an equal access type formula provide greater revenue equality. The equal access approach was used for the OSA formula for at least these reasons.

a) It provides a direct matching reward for local taxpayers to vote for increased tax levies to support schools, and

b) It is supportive of local control by allowing patrons to enrich their programs or to maintain smaller more expensive to operate schools and school districts with state and local revenue support, if they levy enough tax rate to pay for the added costs.

8. The OSA formula cannot provide equity when property assessment practices vary widely from county to county.

Response: To provide a more accurate data base for determining the market value of property on the assessment rolls, certificates of value should be required by county or city officials before real property transactions are recorded. The state should provide financial assistance to county governments to help them computerize property tax rolls and give them the ability to more rapidly update these tax rolls during reassessment years. The OSA formula can be no more equitable than the accuracy of real property assessed valuations.

An alternative would be to adopt a revenue equality formula with a uniform statewide property tax or with abolition of property tax support for education. Some alternative form of tax support would have to be found to make up for the lost revenue because Missouri is already one of the lowest per capita taxing and spending states in the nation for public education. In the long run, if property assessments cannot be uniformly administered in the various counties of Missouri a foundation type of state aid formula will have to be enacted with the purpose of providing revenue equality for all students.

Endnotes

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Appendix A

The Outstanding Schools Act of 1993 (SB380) State Aid Formula

(Data shown are for illustrative purposes)

District Entitlement

1. (Eligible Pupils) x (Equalized Operating Levy + Reassessment Adjustments) x (Guaranteed Tax Base) x (Proration) 1,050 x ($3.25/$100 AV) x ($110,000 AV/E.P.) x (1.0000) = $3,753,750

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District Wealth Deductions

2. [(1994 Equalized Assessed Valuation) x (Income Factor) x (Equalized Operating Levy)] + [(current Equalized Assessed Valuation - 1994 Equalized Assessed Valuation) x (Income Factor*) x (Equalized Operating Levy)] *cannot exceed 1.0000 in value [($35,000,000) x (1.033) x ($3.25/$100)] + [($7,233,138) x (1.000) x ($3.25/$100 AV)] = $1,410,456
3. Intangible Taxes, Fines, Forfeitures, Escheats, Payments in Lieu of Taxes, etc. (100% of previous year amount for school purposes) ($75,000) x (1.00) = $75,000
4. State Assessed Railroad and Utility Tax (100% of previous year amount for school purposes) ($450,000) x (1.00) = $450,000
5. Federal Properties Receipts (100% of previous year amount for school purposes) from federal forest, mineral lease, and flood control lands ($15,000) x (1.00) = $15,000
6. (Federal Impact Aid received the previous year for school purposes - $50,000) x (.xxx) ($80,000 - $50,000) x (.90) = $27,000
7. (Proposition C Receipts the previous year for school purposes) x (.xxx*) *usually deducted at 50% ($603,750) x (.50) = $301,875
8. Fair Share Receipts (100% of previous year amount for school purposes) ($34,000) x (1.00)= $34,000
9. Free Textbook Receipts (100% of previous year amount for school purposes) ($75,000) x (1.00) = $75,000
10. Total District Deductions (Sum Lines 2 through 9) $2,388,331

Categorical Add-Ons

11. (Pupil Transportation Aid Entitlement) x (CP) ($250,000) x (.93) = $232,500
12. (Special Education Entitlement) x (CP) ($210,000) x (.95) = $199.500
13. (Gifted Education Entitlement) x (CP) ($40,000) x (1.0000) = $40,000
14. (Free and Reduced Lunch Eligible Pupils) x (.20) x (GTB) x (Min. Levy) x (CP) (250) x (.20) x ($110,000) x ($2.75/$100 AV) x (1.0000) = $151,250
15. (Career Ladder Entitlement) x (CP) (-0-) (1.0000) = (-0-)
16. Vocational Education Entitlements) x (1.0) ($30,000) x (1.0) = $30,000
17. (Early Childhood Education Entitlements) x (1.0) ($15,000) x (1.0) = $15,000
18. Total Categorical Add-Ons (Sum Lines 11 through 17) = $668,250

District Apportionment (Greater of 19.A. or 19.B. the Hold Harmless Amount)

19.A. (Line 18) + (Greater of 0.0 or (Line 1 - Line 10) ($668,250 + ($3,753,750 - 2,388,331)= $2,033,669

19.B. Hold Harmless Amount (Line 18) + ((EP) x (1992–93 Payment Rate)) - (Line 14) $668,250 + ((1,050) x ($1,250/EP)) - $151,250 $668,250 + $1,312,500 - $151,250 = $1,829,500

District Wealth Deductions

2. [(1994 Equalized Assessed Valuation) x (Income Factor) x (Equalized Operating Levy)] + [(current Equalized Assessed Valuation - 1994 Equalized Assessed Valuation) x (Income Factor*) x (Equalized Operating Levy)] *cannot exceed 1.0000 in value [($35,000,000) x (1.033) x ($3.25/$100)] + [($7,233,138) x (1.000) x ($3.25/$100 AV)] = $1,410,456
3. Intangible Taxes, Fines, Forfeitures, Escheats, Payments in Lieu of Taxes, etc. (100% of previous year amount for school purposes) ($75,000) x (1.00) = $75,000
4. State Assessed Railroad and Utility Tax (100% of previous year amount for school purposes) ($450,000) x (1.00) = $450,000
5. Federal Properties Receipts (100% of previous year amount for school purposes) from federal forest, mineral lease, and flood control lands ($15,000) x (1.00) = $15,000
6. (Federal Impact Aid received the previous year for school purposes - $50,000) x (.xxx) ($80,000 - $50,000) x (.90) = $27,000
7. (Proposition C Receipts the previous year for school purposes) x (.xxx*) *usually deducted at 50% ($603,750) x (.50) = $301,875
8. Fair Share Receipts (100% of previous year amount for school purposes) ($34,000) x (1.00)= $34,000
9. Free Textbook Receipts (100% of previous year amount for school purposes) ($75,000) x (1.00) = $75,000
10. Total District Deductions (Sum Lines 2 through 9) $2,388,331

Categorical Add-Ons

11. (Pupil Transportation Aid Entitlement) x (CP) ($250,000) x (.93) = $232,500
12. (Special Education Entitlement) x (CP) ($210,000) x (.95) = $199.500
13. (Gifted Education Entitlement) x (CP) ($40,000) x (1.0000) = $40,000
14. (Free and Reduced Lunch Eligible Pupils) x (.20) x (GTB) x (Min. Levy) x (CP) (250) x (.20) x ($110,000) x ($2.75/$100 AV) x (1.0000) = $151,250
15. (Career Ladder Entitlement) x (CP) (-0-) (1.0000) = (-0-)

16. Vocational Education Entitlements) x (1.0) ($30,000) x (1.0) = $30,000
17. (Early Childhood Education Entitlements) x (1.0) ($15,000) x (1.0) = $15,000
18. Total Categorical Add-Ons (Sum Lines 11 through 17) = $668,250

District Apportionment (Greater of 19.A. or 19.B. the Hold Harmless Amount)

19.A. (Line 18) + (Greater of 0.0 or (Line 1 - Line 10) ($668,250 + ($3,753,750 - 2,388,331)= $2,033,669

19.B. Hold Harmless Amount (Line 18) + ((EP) x (1992–93 Payment Rate)) - (Line 14) $668,250 + ((1,050) x ($1,250/EP)) - $151,250 $668,250 + $1,312,500 - $151,250 = 1,829,500

Appendix B

Definition

District Eligible Pupils (EP)—is determined by adding the average daily attendance (ADA) of resident pupils the preceding year to two times the ADA for summer school. ADA is the total hours of attendance of resident students divided by hours in session. Summer school ADA is total hours of summer school attendance divided by the number of hours in the regular school year. The greater of the preceding year's EP or the current year's estimated EP is used.

District Equalized Operating Levy (EOL)—is determined, when the effective sales ratio is less than .3167, by multiplying the sum of the adjusted incidental (general) and teachers' (special revenue) levies by the effective ratio for the county and dividing the project by .3333. When the effective sales ratio is greater than .3167 the adjusted operating levy is used as the EOL. Effective sales ratio for a county is the greater of either the ratio for the preceding year or the average of the largest three of the last four years' ratios.

Senate Bill 795 of 1996 allows the EOL to be less than the minimum tax rate if adjustments required by Article X, Section 22 of the Missouri Constitution would cause the tax rate to be less than the minimum. Beginning in the 1996–97 school year, districts which are required by Article X, Section 22 of the Missouri Constitution to reduce their property tax rates, may qualify for an add-on tax rate for Line 1 of the formula which prevents any loss in state aid that would have resulted from the forced tax rate reduction.

District Equalized Assessed Valuation (EAV)—is determined, when the effective sales ratio for the county is less than .3167, by multiplying the assessed valuation (AV) of real property by .3333 and dividing the result by the effective sales ratio and then adding to this dividend the personal property AV. When the effective sales ratio is greater than .3167, the actual AV is used as the EAV.

District Free and Reduced Lunch Eligible Pupil Count (FRL)—is the number of pupils on a FTE basis eligible for free or reduced price lunches who were enrolled on the last Wednesday of January of the prior school year.

Phase-In Period—In 1993–94 the district payment amount is based on categorical add-on payments plus 75 percent of the minimum guarantee per EP payment rate in 1992–93 plus 25 percent of the per pupil payment rate from Line 1 - Line 10 + Line 14. In 1994–95 the payment amount is based on categoricals, plus 50 percent of the 1992–93 payment rate, plus 50 percent of the payment rate from Line 1 - Line 10 + Line 14. In 1995–96 the payment amount is based on categoricals plus 25 percent of the 1992–93 payment rate plus 75 percent of the Line 1- Line 10 rate plus Line 14. Beginning in 1996–97 the payment amount will be based 100 percent on the OSA State Aid Formula as presented. During each phase-in year a lesser percentage of Line 1 - Line 10 + Line 14 amounts may be used to determine district payment rates if the appropriation is too small to fully fund the formula.

Hold Harmless—is the amount of state aid required so the total of Line 1 minus Line 10 plus Line 14 is not less than the base year payment rate (BR) for foundation formula aid for 1992–93.

Guaranteed Tax Base Per Eligible Pupil (GTB)—is the equalized assessed valuation per pupil of the district containing the 95th percentile pupil in the state when districts are ranked from lowest to highest based on equalized assessed valuation per pupil.

After two years of experience with a 95th percentile GTB, it was determined that basing the GTB on the AV per EP of an extreme outlier in the distribution of districts gave a GTB which varied widely from year to year in an unpredictable fashion. An unpredictable and highly variable GTB makes long range financial planning difficult for both the State of Missouri and for local school districts. Therefore the definition of the GTB was changed by Senate Bill 795 of 1996 to 2.167 times the state mean AV per EP for the third preceding year. The 2.167 value is based on the ratio relationship between the state mean assessed valuation and the 95th percentile GTB during the 1992–93 school year. Using third preceding year data makes the GTB a known value about two years before its first use in calculating state aid, which is in time for preparing budget estimates.

Proration Factor (PF)—is a decimal fraction which allows the total payment to all school districts equal the amount appropriated.

District Income Factor (IF)—is 1.0 plus 0.30 times the difference between the district income ratio and 1.0. The district income ratio is the district average adjusted gross income per state tax return divided by the state average adjusted gross income per return.

School Purposes—includes revenues placed in the incidental (general) and teachers' (special revenue) funds.

Federal Impact Aid (P.L. 81-874)—is deducted at 90 percent of the amount received the prior year for school purposes less $50,000 or at the percentage allowed by federal regulations if less than 90 percent.

Proposition C Receipts—are deducted at 50 percent of the amount received the previous year. However, during FY 95–FY 97 districts which by board action forego any portion of the Proposition C rollback will calculate their deduction percentage as 100 percent minus the percentage of revenue used for rollback divided by total Proposition C revenue received the previous year.

Categorical Program Proration Factor (CP)—for categorical add-on programs must be equal to or less than the proration factor used on Line 1 and should not be greater than 1.0.

Minimum Operating Levy (MOL)—is equal to $2.00 per $100 AV for 1993 and to $2.75 per $100 AV for 1994 and thereafter.

Required Placement of Revenue—the total payment (Line 19 amount) for each district must be placed in the General Revenue and Special Revenue Funds (operating funds) based on the ratio of the tax rate for that fund to the total tax rate of the two funds.