South Dakota Legislative Research Council

Issue Memorandum 95-28

THE STATE AID TO EDUCATION FORMULA ENACTED BY THE 1995 LEGISLATURE

INTRODUCTION

The 1995 Legislature enacted a new state aid to education formula. The repeal of the formula in existence at the time and replacement with a different formula was the product of several factors. Some of those factors were: 1) the inclusion of a new state aid formula as part of Governor Janklow's property tax reduction proposal presented to the Legislature; 2) the notion that the formula in existence at the time rewarded school districts that were high-cost districts--and did not promote efficient use of school district financial resources--in fact, that formula was very often correctly described as being "expenditure driven"; 3) the notion that the formula in existence at the time was complex and difficult to understand--which has been and is a criticism of most state aid formulas over time and around the country; 4) a lack of confidence in the system of school finance in South Dakota--well illustrated by last year's state aid lawsuit (refer to *Issue Memorandum 94-39,* THE EDUCATION LAWSUIT: BEZIDCHEK, ET AL. V. SOUTH DAKOTA).

BACKGROUND

The state aid to education formula enacted by the 1995 Legislature represents the third distinct formula within the past twenty years. Up until 1986 South Dakota's aid to education formula distributed aid to school districts based on the number of classroom units (CRU) with reductions for the size of the school district tax base and several revenue sources. CRU were determined by converting the number of students into CRU--with different conversions based upon whether the students were elementary or secondary, and the number of elementary or secondary pupils. The conversion of pupils to CRU was weighted so that more CRU were created by secondary pupils and pupils in smaller school districts. The following table shows the conversion of pupil numbers to CRU.

TABLE I: CONVERSION OF PUPILS TO CLASSROOM UNITS

ELEMENTARY PUPILS	ELEMENTARY PUPILS TO MAKE ONE CRU	SECONDARY PUPILS	SECONDARY PUPILS TO MAKE ONE CRU
10	4.95	10	3.89
30	13.26	30	8.79
50	19.10	50	11.75
80	20.19	80	14.50
100	20.58	100	17.19
200	22.80	200	19.95
300	24.69	300	16.14
400	24.69	400	17.55
500	24.69	500	23.76

The 1986 Legislature, after several studies of the state aid to education formula, repealed the existing formula and enacted a new formula. That formula became commonly known as SB155--which is, of course, the number of the bill that enacted the new formula. The SB155 formula started with a school district's general fund expenditures, and from that subtracted local effort and several revenue sources. The complexity of the SB155 formula was the calculation of local effort. A district's tax base was determined, which was relatively simple, and a formula tax levy was applied against the tax base. The tax levy was determined by a complex formula that converted the district's general fund cost per pupil and number of pupils into a tax levy, such that a greater general fund cost per student resulted in a greater tax levy, with reductions in the tax levy for smaller sized school districts.

Note: The formula for determining the tax levy is found in Section 16 of Chapter 126 of the 1986 Session Laws; Also see *Issue Memorandum 86-10,* SENATE BILL 155: THE NEW STATE AID FORMULA for review of the 1986 SB155 formula. A significant amendment to the SB155 formula was made by the 1990 Legislature. The 1990 amendment removed the complex calculation of the formula tax levy, and replaced it with a single tax levy for all school districts. The 1990 amendment set the tax rate (on agricultural property) at $8.15 per thousand dollars of adjusted taxable valuation. The 1992 Legislature substituted an average agricultural tax rate (to be calculated every year) for the $8.15 tax rate. The formula in this form faced the 1995 legislature.

The SB155 formula, modified by the 1990 amendment, became part of a system of state aid to education that became increasingly controversial. Much of this controversy arose as a result of the addition of several forms of state aid known as "categorical aid." The following table shows the various elements of categorical aid.

TABLE II: CATEGORICAL AID

CATEGORY	AMOUNT IN FY1996 GENERAL BILL	WHEN ENACTED
TEACHERS' SALARIES	$1,950,000	1987
SECONDARY VOC. ED.	$3,000,000	BEFORE 1979
PERS. PROP. TAX. REPL	$26,811,344	BEFORE 1979
GIFTED	$1,135,000	1979--PART OF SPECIAL ED. BEFORE 1979
SALARIES & BENEFITS	$15,783,454	1989
GROWTH	$3,590,000	1989
REORGANIZATION	$1,277,938	BEFORE 1979
SECOND CHANCE	$546,279	1990
MODERNIZATION	$0, BUT WAS $2,000,000 IN THE FY1995 GENERAL BILL	1991

There were arguments on each side of the categorical aid issue. The main argument in favor of categorical aid was that the categorical aid programs allowed the Legislature to direct financial resources to specific public policy targets--such as improving teacher salaries, encouraging staff development, providing incentive to school districts to consolidate, etc. The main argument against categorical aid was that these funds were distributed to school districts without regard to how wealthy the school districts may have been. And as such, some relatively wealthy school districts received some form of financial aid from the state when they had more than ample local financial resources. Once categorical aid elements had been established additional arguments surfaced. Additional arguments for categorical aid were: 1) That school districts had built their budgets around categorical aid, and losing all or part of their categorical aid would cause the school districts budget problems; and 2) The Legislature had made a commitment to school districts to maintain categorical aid--especially personal property tax replacement. Additional arguments against categorical aid were: 1) Money distributed as categorical aid would be distributed in a more equal manner if the money were distributed through the state aid formula; and 2) Some elements of categorical aid--personal

property tax replacement in particular--were distributed based on outdated criteria.
In any event, numerous proposals had been made to eliminate categorical aid. The new state aid formula freezes categorical aid until January 1, 1997, at which time categorical aid is repealed.

A PRELIMINARY LOOK AT THE NEW FORMULA AND ITS PREDECESSORS

The equation for the new state aid formula is: STATE AID = PER STUDENT ALLOCATION x ADJUSTED AVERAGE DAILY MEMBERSHIP MINUS LOCAL EFFORT. WHERE:

PER STUDENT ALLOCATION IS: $3,350 ADJUSTED UPWARD BY THE INDEX FACTOR;

INDEX FACTOR IS: THE LESSER OF 3% OR THE RATE OF INFLATION;

ADJUSTED AVERAGE DAILY MEMBERSHIP IS: THE SCHOOL DISTRICT'S AVERAGE DAILY MEMBERSHIP ADJUSTED UPWARD FOR SMALLER SCHOOLS;
LOCAL EFFORT IS: THE FOLLOWING LEVIES APPLIED AGAINST 85% OF MARKET VALUE AS DETERMINED BY THE DEPARTMENT OF REVENUE: (1) $6.25 PER $1,000 OF AGRICULTURAL PROPERTY; (2) $10.00 PER $1,000 OF OWNER-OCCUPIED SINGLE-FAMILY DWELLING PROPERTY; (3) $16.75 PER $1,000 OF ALL OTHER REAL PROPERTY.

PLEASE NOTE: The adjusted average daily membership will be explored in greater detail later in this memorandum. Also, "Local effort" is defined in SDCL 13-13-10.1 subsection (7). This definition is not as clear as it might be, and as such appears to be ambiguous.

The following table shows some fundamental comparisons between the new state aid formula and the two state aid formulas that preceded it.

TABLE III. SOUTH DAKOTA'S RECENT STATE AID FORMULAS

	PRE-1986 CLASSROOM UNIT FORMULA	1986 SB155, MODIFIED IN 1990 FORMULA	NEW 1995 FORMULA
STATE AID STARTS WITH:	THE NUMBER OF CLASSROOM UNITS (CRU) MULTIPLIED BY AN ALLOCATION PER CRU	GENERAL FUND EXPENDITURES	NUMBER OF PUPILS MULTIPLIED BY AN ALLOCATION PER PUPIL
WITH REDUCTION FOR:	LOCAL EFFORT	LOCAL EFFORT	LOCAL EFFORT
AND ADDITIONAL REDUCTIONS FOR:	VARIOUS REVENUES	VARIOUS REVENUES	NONE

As one can see, there are common elements--local effort and reductions for various revenues. Of course, each formula has a different treatment of these factors, but the overall philosophy of reduction for local effort is common to each formula.

There is, however, **ONE IMPORTANT DISTINCTION BETWEEN THE NEW 1995 FORMULA AND ITS PREDECESSORS.** That distinction is the relationship between the formula and the state appropriation. The pre-1986 formula adjusted the allocation per CRU to the amount appropriated by the Legislature. The 1986 formula adjusted local effort to the amount appropriated by the Legislature. The new 1995 formula, on the other hand, determines the amount that the Legislature should appropriate for distribution through the formula. The new formula has a provision that if the Legislature appropriates more money than is called for by the formula, the excess should be prorated. The Legislature did not address the opposite situation; that is, there is no provision for proration (or any other kind of adjustment) should the Legislature appropriate less money than is called for by the formula. This begs the question, "What happens if the Legislature appropriates less money than is called for by the formula?" There is, of course, no definitive answer to this question, or how the issue may be resolved.

NOTHING NEW UNDER THE SUN

As one can see, the new 1995 formula is related to the pre-1986 formula. Both have a method of converting student numbers into an entitlement, with a reduction for the size of the tax base. Also, the new 1995 formula is similar to two other versions of a state aid formula to which the Legislature has had exposure. First, former Governor Miller's Task Force on Education Fairness recommended a formula that would provide for a "base state aid per pupil" that would have been adjusted each year for inflation. The base state aid per pupil would have been multiplied by the number of pupils (weighted for different factors such as school size, at-risk, and other possible factors). There would have been a reduction for the size of the local property tax base. This formula was modeled after the current formula used in the state of Kansas.

Second, in 1994 Representative Barbara Everist (now Senator Everist) was the prime sponsor of House Bill 1229. 1994 House Bill 1229, like the new 1995 formula, distributed state aid based upon an allocation per adjusted students minus a measure of local tax effort. The student numbers were adjusted for school district size in a using the same concept as in the new 1995 formula.

Each formula treats the calculation of local effort somewhat differently, and the weighting of pupils for special factors is also treated somewhat differently by each formula. Nonetheless, 1994 House Bill 1229, the formula recommended by former Governor Miller's Education Task Force, and the new 1995 formula all have the same design.

THE NEW 1995 FORMULA

The new 1995 formula may be expressed as an equation, where for each school district: STATE AID = ADJUSTED AVERAGE DAILY MEMBERSHIP x PER STUDENT ALLOCATION - LOCAL EFFORT.

In order to use the equation, some concepts need to be defined. These definitions are found in SDCL 13-13-10.1.

1. "Average daily membership (ADM)" is the average number of K-12 students enrolled during the previous school year minus the average number of tuitioned-in students, plus the average number of tuitioned-out students.

2. "Adjusted average daily membership (ADJ ADM)" is: (a.) for school districts with an ADM of 200 or less, the ADM multiplied times 1.2; (b.) for school districts with an ADM of more than 200 and less than 600, the ADM raised to the 0.8293 power, and the result multiplied times 2.98; and (c.) for school districts with an ADM of 600 or more, the ADM multiplied by 1.0 (which is, of course, exactly equal to the ADM).

3. "Index factor" is the annual rate of inflation as measured by the rate of change in PLEASE NOTE: "Taxable value" as will be used in the formula means the assessed value, divided by the sales ratio, and the result multiplied by 0.85. This means that the taxable value for the formula will be 85% of market value.

THE ADM ADJUSTMENT BASED ON SCHOOL SIZE--AS MEASURED BY ADM

The new formula has a feature that takes into account the economies of scale that are believed to exist in larger school districts--i.e., a larger school district can function more efficiently than a smaller school district. This makes sense simply due to the fact that in larger school districts certain fixed costs (those costs that generally do not vary with the number of students in the school district) may be spread over a larger number of students, thus showing a lower per student cost to operate the school district. The new formula takes this into account by basing state aid to education on ADJ ADM rather than ADM. The following table shows the relationship between actual ADM and ADJ ADM.

the consumer price index for urban wage earners and clerical workers or three percent, whichever is less.

4. "Per student allocation" is $1,675 for the period January 1, 1997, to June 30, 1997. After that for fiscal year 1998, the per student allocation is $3,350 increased by the index factor. That means the fiscal year 1998 per student allocation will be greater than $3,350, to a maximum of $3,450.50 (3% increase applied to $3,350).

5. "Local effort" for each school district is the sum of: (a.) $6.25 per $1,000 of "taxable value" of agricultural real property; (b.) $10.00 per $1,000 of "taxable value" of owner-occupied single family property; (c.) $16.75 per $1,000 of "taxable value" of all other real property (generally commercial property). For the period January 1, 1997 to June 30, 1997, local effort is one-half the amount as would be determined above.

TABLE IV. THE CONVERSION FROM ADM TO ADJ ADM

ADM	ADJ ADM
50	60
75	90
100	120
125	150
175	210
200	240
201	242
225	266
250	290
300	338
350	384
400	429
450	473
500	516
550	558
599	599
600	600
1,000	1,000
1,500	1,500
3,000	3,000
8,000	8,000
16,000	16,000

Looking at the cost per student in a school district and the size (as measured by ADM) of the school district, it appears that indeed that as school district size increases, the cost per student tends to decrease. Thus a relationship between school district size and cost per student exists. The new formula goes a step beyond that and assumes that school district size is a predictor of the cost per student. Statistical analysis confirms this relationship--but also tells us that the relationship is weak. There are a number of statistical techniques by which to measure this relationship. Most of these techniques tell us that in attempting to explain the differential in cost per student between the school districts in the state, approximately one-third of the cost per student differential can be explained by the school district size. What other factors might explain the difference in cost per student from district to district? Certainly average class size is important. Other important factors include transportation expenses, average salaries of the school district, age and condition of the building and physical plant, special needs students,--the list could go on and on. As other factors are added to any statistical techniques, care needs to be taken to evaluate the statistical importance of the factors in explaining the variation in cost per student between school districts.

TAX RATES AND NEW CLASSES OF PROPERTY

The 1995 formula and related legislation created a new class of property for purposes of school taxation and redefined two other classes of property. The three new classes of property, as mentioned above, are: (1) agricultural real property; (2) owner-occupied single-family dwelling; and (3) all other real property (generally commercial or utility property). The **formula tax rates as well as the statutory maximum school**

general fund levies (SDCL 12-12-42) are $6.25, $10.00, and $16.75 per $1,000 of "taxable value," respectively. Prior to the three classes of property, there were two classes of property: (1) agricultural--which is the same as the new definition of agricultural property; and (2) non-agricultural property--out of which was created owner-occupied single-family dwelling and non-agricultural property.

Under the old scheme, the rate differential between agricultural property and non-agricultural property varied between being identical at low levies (the two were equal at $4.00 per $1,000 of taxable valuation) to the maximum levies of $14.40 and $24.00 per $1,000 of taxable valuation on agricultural and non-agricultural property, respectively. As such, agricultural property had no advantage at the low end of the tax levy, while at the high end, agricultural property tax levies were only 60% of the non-agricultural property tax levies. The new scheme provides that agricultural property tax levies will always be 62.5% of owner-occupied single-family dwelling tax levies, and 37.3% of other real property tax levies. Similarly, where previously owner-occupied single-family dwelling property tax levies were equal to other real property tax levies, the new formula scheme provides that owner-occupied single-family dwelling tax levies will always be 59.7% of other real property tax levies.

A FEW MISCELLANEOUS ITEMS

The timing of the use of data to drive the new formula and the budgeting and appropriations process do not neatly coincide. For example, consider FY1998, the first full year of the new formula. The ADM used to drive the formula will be the ADM from the 1996-97 school year (according to the definition of ADM in SDCL 13-13-10.1 (1)). This means that when the FY1998 budget is being constructed, in September, October, and November of 1996, the 1996-97 school year will just have started. The FY1998 budget for state aid to education will need to be based on the best estimates available to the Governor and the Governor's budget staff. Similarly, when the Legislature acts upon the FY1998 budget in January, February, and

One feature that changed from time to time in the previous state aid formula was the treatment of the artificial reduction of the tax base through the creation of a tax incremental financing district (TIF) or the discretionary tax reduction formula for new industrial or commercial structures. Both of the following features were in place when the new formula was enacted. First, SDCL 13-13-10.2 provides that the reduced assessed value of property in a TIF is reflected in the state aid formula--i.e., the formula **does not penalize** school districts that have TIFs within their borders. Second, SDCL 13-13-20.4 provides that the actual assessed value of industrial or commercial property given a discretionary reduction in assessed value is reflected in the state aid formula--i.e., the formula **does penalize** school districts that have industrial or commercial property within their borders that has been given a discretionary reduction in assessed value.

SDCL 42-7B-48.1 allocates a portion of Deadwood gaming revenue to the school districts in Lawrence county. SDCL 42-7B-48.2 specifies that the amount of revenue received under the provisions of SDCL 42-7B-48.1 be deducted from any general state aid to which a Lawrence county school district may be entitled.

A FEW TECHNICAL ROUGH SPOTS

March of 1997, the 1996-97 school year will be further along, but still not complete. Under the new formula's timetable the appropriation for general state aid to education will be based on estimates of ADM. How the Legislature will make adjustments to incorporate actual ADM figures into the appropriation is a decision yet to be made. NOTE: SDCL 13-13-73 provides for the proration of excess funds according to ADJ ADM. However, there is no corresponding provision for proration if less money is appropriated than called for by the state aid formula.

One problem that has faced any state aid formula over the years is the fact the any one year's school property tax collections fall into two fiscal years (both school and state fiscal years).
Yet the application of local effort in the formula treats tax collections (a tax levy multiplied times a tax base) as though the tax collections fall into a single fiscal year.

THE NEW FORMULA AND TAX RELIEF

The design of the new formula and the $3,350 allocation per ADJ ADM, and the statutory reduction of school general fund levies will cause a shift of the funding of K-12 education from local property tax sources to state tax sources. Until actual figures are available on the amount of assessed value of each of the three classes of property, the amount of shift from local taxes to state taxes is not known, except that it is expected that the shift will be significant--as the design by the Governor and Legislature was for a 20% reduction in property taxes.

SUMMARY

Up to this point the new formula can only be evaluated on the basis of its structure in statute. This formula, like its predecessors, is a defensible, rational tool for distribution of state tax dollars to local school districts. The structure of the formula, along with tax limitation measures enacted during the 1995 Legislative Session, should make for a more homogeneous system of K-12 education--with state and local sources together providing for a fixed amount of expenditure per ADJ ADM ($3,350 plus an inflation factor--refer to the "per student allocation" mentioned earlier in this memorandum). Once state officials, school boards and school administrators, teachers, and taxpayers all experience the working of the new formula, some fine-tuning will undoubtedly take place. Some of this fine-tuning may require legislation, some may be done through Department of Education and Cultural Affairs administrative rules.

South Dakota's experience with the new 1995 state aid formula can be likened to personal experience in buying a car. You kick the tires and take a test drive, and if you think you like it, you decide to but the car--but you do not really know all the peculiar features of the car and how well you will ultimately enjoy the car until after several months and several thousand miles. In this respect South Dakota has kicked the tires of the new formula and taken the test drive. The several months and several thousand miles are still to come.

This issue memorandum was written by Dale Bertsch, Chief Analyst for Fiscal Research and Budget Analysis for the Legislative Research Council. It is designed to supply background information on the subject and is not a policy statement made by the Legislative Research Council.