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Missouri School Foundation Formula:

Fuzzy Math meets Fiscal Crisis

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State Guaranteed Support for K–12 Education

Missouri has institutionalized its support for K–12 education. The General Assembly shall provide it and it will be free for all of school age. And, one might reasonably infer, it must also be adequately funded through *state revenue collections*.

This charge can be found in the Missouri Constitution as early as the Constitution of 1875. The language to this day still states: “A general diffusion of knowledge and intelligence being essential to the preservation of the rights and liberties of the people, the general assembly shall establish and maintain free public schools for the gratuitous instruction of all persons in the state....” ¹

Additionally, the constitution specifically provides for the proportion of the state revenue collections the public education system shall receive, “...in no case shall there be set apart less than twenty–five percent of the state revenue...to be applied annually to the support of the free public schools.” ²

How Funds are Distributed

How to distribute this state revenue to Missouri’s 524 school districts, however, has become a complex and problematic process. In the late 1970s a formula was devised to equalize educational opportunity; it underwent major revision in 1993. While this formula is but one piece of the funding mosaic for K–12 it is the largest and *fuzziest* piece. ³

The revision of 1993 was brought about by a lawsuit that claimed the state educational system was inequitable. Found unconstitutional, the Missouri legislature was instructed to design a way for the school districts of Missouri to receive equitable funding and a way to pay for it. All of this resulted in the passage of Senate Bill 380 which drove the formula that determines funding for all Missouri school districts. Only very minor changes have been made to the formula since that time.

One can observe on the state form from the Department of Elementary and Secondary Education (DESE) for computing the Foundation Formula many words and phrases that are not in common usage, see Exhibit 1. “Equalized assessed valuation,” “proration factor,” “guaranteed tax base,” “district income factor,” “hold harmless,” these are some of the terms used to determine how much funding a school district will receive through Missouri’s Foundation Formula. ⁴ There are some twenty separate lines of calculation required. This brief will try to clarify some of the *fuzzy* nature surrounding this formula as a key component in the financial support for K–12 education in Missouri.

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What Does Missouri Spend for Schools?

In total, Missouri schools now spend about \$6.6 billion on K–12 education.⁵ The financial responsibility for this spending is “shared” among the three levels of government in our federal system, but **not** equally. The major sources of funding for Missouri’s local schools currently are: local funds 42.6%, state funds 40.5%, federal funds 7.0%, and Proposition C funds 9.9% (this is a statewide 1% sales tax).

The majority of dollars (43%) come from local sources, almost entirely the local property tax on real and personal property. The total school tax levy for this purpose averages \$4.00 statewide, with \$3.45 for operating expenditures and \$0.55 for debt service. The variance in tax rates across local districts, however, is considerable from a low of around \$2.75 to a high of \$5.74.⁶ These local levies are applied against a local property tax base (assessed valuation) that also varies widely across districts from a high of \$388,721 in Clayton to a low of \$19,461 in Winona R–II; this is a factor of 20:1.

The state of Missouri provides just over 40% of the costs of local education. In fiscal year 2004 this represented 26.1% of the operating budget for the state. This placed elementary and secondary education second behind human services at 37.9%. Higher education is a far distant third at 5.9%.

The federal government provides only 7.0% of the cost of K–12 education. Most of this is tied to specific categorical educational program areas rather than to general school district operating funds.

These funds flow into a complex statewide school system with almost 900,000 students enrolled. Education is delivered through 524 public school districts that have vastly different pupil demographics, as well as economic and fiscal characteristics, and range in geographic size from less than one square mile in Wellston to 507 square miles in Putnam Co R–I.

Missouri’s students are taught by 66,214 teachers paid an average salary of \$39,292. To provide local education in Missouri a statewide average of \$7,345 is spent per pupil; this ranks Missouri 38th in a national context. The average does not mean that funds are equally distributed and all districts receive even near this amount. Currently, the expenditure per pupil ranges from a high of \$13,748 in Clayton to a low of \$4,561 in McDonald Co R–I; this is a factor of more than three to one.

The Missouri School Foundation Formula

The largest controlling factor for the state portion of K–12 education funding is the so-called “Foundation Formula.” This formula calculates the distribution of funds to school districts to supplement the revenues that are raised locally. The formula has, at least, two distinct purposes. First, it meets part of the state’s constitutional responsibility to provide free education. Second, since resources to support K–12 (as reflected by assessed valuation) are very unevenly distributed across the state’s 524 school districts the formula has been designed to “equalize” these resources. This second point has been an on-going issue since the design of the formula in the late 1970s and the major reform in 1993.⁷

In fiscal 2002 about \$2.0 billion flowed through the foundation formula to local districts. These funds are distributed using a complicated form that can involve consideration of up to 20 separate lines of arithmetic calculation and, in turn, each line may have several separate factors involved in the actual computation. See Exhibit 1 for full detail on the form, *Formula Calculations for Distribution of State School Money*. With an examination of this form, the *fuzziness* gets even more pronounced.⁸

Calculating the School District Funding

The arithmetic process begins with a district’s *entitlement* for both state and local revenues (Line 1 on the form). This is calculated as the product of the following four factors for each district:

- the number of eligible pupils (EP);
- the district’s tax rate (TR);
- the guaranteed tax base (GTB) or the amount, stated in terms of equalized assessed valuation per eligible pupil, that is guaranteed each school district from **both** state and local sources combined;
- the proration factor (PF) which adjusts all districts proportionately from dollars “entitled to,” as determined by the formula, to dollars “available” due to the actual legislative appropriation.

Thus, district entitlement, or what a district qualifies for under the Foundation Formula, is computed as:

$$\text{District Entitlement} = [\text{EP} \times \text{TR} \times \text{GTB} \times \text{PF}]$$

Subtracted from this gross entitlement are certain local school revenues. This includes:

- the amount that can be raised with the local tax levy and the local assessed valuation base,
- intangible taxes,
- certain federal funds,
- and Proposition C school funds.

(see Exhibit 1, Lines 3–9).

This is the initial apportionment (Line 10). To this is added an adjustment for “low income” students as reflected by “Free & Reduced Lunch/At Risk.” Finally, since some districts are held harmless at their 1992/93 level of funding, this is calculated in Line “C” with the higher amount from the given options (1 or 2) determining these districts final apportionment through the formula.⁹

How the Formula Provides Equity

When it is fully funded the Foundation Formula is designed to promote more equitable funding for local education. The formula ensures that a one-penny levy will provide the same funding to 95% of all students from a combination of the monies received from formula funding and local property tax revenues. A greater local effort (as reflected by the local tax rate) results in more state funding since it is used in computing entitlement in Line 1. In contrast, increased local wealth (as reflected by local assessed valuation) lowers state funding, since it is used in determining one of the deductions in Line 2.

Therefore, each district is entitled to a certain amount of funding from state and local sources **combined**. It is important to note carefully here that both the guaranteed tax base and the proration factor **are set** by the state. The local dimensions are based on the actual number of eligible pupils, the local tax levy, and the local tax base.

Funding is determined by student need represented by the number of eligible pupils (EP). Resources per EP are then factored in according to the local tax rate. This is the assessed valuation base that is “guaranteed.” And, finally, the portion of the entitlement that is actually funded through legislative action is set by the “proration” factor. As noted above these factors combine to produce overall “District Entitlement.” (Line 1).

From this total entitlement is subtracted the local resources provided for K–12 education (Lines 2–10). Curiously, lines 11–13 are missing. These lines involve transportation, special education, and gifted education funds and are handled elsewhere in DESE operations. Finally, an add-on is made for “Free & Reduced Lunch/At Risk” pupils (Line 14) and the hold harmless amount is applied if applicable to a district (Lines C–D).

The practical effect is that wealthier school districts, those with a higher tax base, receive less state aid. Low-and medium-wealth school districts therefore rely on state aid more than these districts. They

depend on the formula to make up for what they cannot raise in local taxes due to assessed valuation disparities.

Fiscal Crisis Affects Formula’s Purpose

Among local governments, Missouri school districts have been particularly hard-hit by the state budget crisis. Because Missouri school districts rely far more heavily on the state for revenue than other local government units in Missouri; state aid in the 2001-02 school year financed about 45 percent of K-12 public school spending in Missouri. And K-12 aid has been hard hit by the budget crunch. The state has reduced spending on elementary and secondary education by \$163 million over the last four years.

The impacts of the cuts have been particularly severe for less-wealthy school districts. As a result of the fiscal crisis Missouri has been “under-funding” the amount required by the Constitutional Formula since fiscal year 2001, culminating in the Foundation Formula being under-funded by \$610 million in Fiscal Year 2005. In other words, school districts in FY 2005 will receive \$610 million less than the state has deemed necessary through its funding formula. Schools districts statewide are suing the state for failure to fully fund the formula.

*Table 1:
Under-Funding of The Missouri Foundation Formula*

Fiscal Year	Funding Required by Formula	Actual Legislative Formula Funding	Amount of Under-funding
FY 2001	\$2.40 billion	\$2.380 billion	\$20 million
FY 2002	\$2.48 billion	\$2.454 billion	\$21 million
FY 2003	\$2.66 billion	\$2.616 billion	\$43 million
FY 2004	\$2.83 billion	\$2.464 billion	\$364 million
FY 2005	\$3.17 billion	\$2.562 billion	\$610 million

Source: Missouri Department of Elementary and Secondary Education

The state legislature has been directed to come up with a solution to the under-funding and legal challenges are on hold until that time. One proposed solution, although somewhat slight of hand, would remove the constitutional mandate that 25% of general revenue must be applied to the elementary and secondary public education system.

Under the current fiscal conditions it is clear that the Foundation Formula has not been able to maintain the equity and full funding required. At present there is no clear alternative to the formula but a solution must be forthcoming. Issues that are contributing to the formula’s inability to respond to K–12 educational needs are:

- ❖ its “needless” complexity (see Exhibit 1);
- ❖ the adequacy of funding;¹⁰
- ❖ the form and continuation of hold harmless; and
- ❖ the impact on equity of less than full funding due to a proration factor less than 1.0, i.e., legislative appropriations that are less than the full entitlement under the formula.

What the Foundation Formula Determines

In its least *fuzzy* and more or less mechanical operation, the Missouri Foundation Formula does four things. It:

- 1) computes an overall entitlement for funds in Line 1,
- 2) deducts local revenues to determine district apportionment in Lines 2–10,
- 3) adjusts for “low income” in Line 14, and

4) applies hold harmless in Line C.

Critically, however, what it no longer does is either provide equity for educational resources across Missouri's local school districts nor does it guarantee an adequate funding level for the state's K-12 school districts. Herein lies the challenge for the on-going deliberations. How to fund local education in an equitable manner? How to provide adequate funding from the state through the Foundation Formula? Neither is being done at this point in time? Judicial and/or legislative pressure and public opinion will mandate this be accomplished in the near future.

Hopefully, this brief has made the arithmetic of the Missouri Foundation Formula a bit less *Fuzzy*.

End Notes

¹ Missouri Constitution Article IX, Section 1(a).

² Missouri Constitution Article IX, Section 3(b).

³ See RSMo 163.031 for the specific statutory language on the formula.

⁴ See RSMo 163.011 for the definition of terms used in the formula.

⁵ All data are obtained from the Missouri Department of Elementary and Secondary Education web site, www.dese.state.mo.us.

⁶ There are many different tax rates used in school finance. The \$2.75 rate was set in SB380, The Outstanding Schools Act, in 1993 as a minimum to qualify for additional state funding. This provision has been relaxed somewhat since.

⁷ In SB380.

⁸ To add to the confusion, there are actually two "formula" forms. One for districts with an operating levy for school purposes equal to or less than \$2.75 (96 districts) and one for those with a levy greater than \$2.75. This is an artifact of the way the original legislation was written.

⁹ There are presently 51 districts under the hold harmless provision.

¹⁰ For a recent discussion of the adequacy issue see Augenblick & Myers, Inc., *Calculation of the Cost of an Adequate Education in Missouri Using the Professional Judgement [sic.] and the Successful School District Approach*, (prepared for the Missouri Education Coalition for Adequacy, February 2003).