

Wisconsin School Finance Equity Revisited

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July 2005

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The research reported in this paper was supported by grants from the U.S. Department of Education, Office of Educational Research and Improvement, National Institute on Educational Governance, Finance, Policymaking and Management, to the Consortium for Policy Research in Education (CPRE) (Grant No. OERI-R308A60003), the Rockefeller Foundation, New York, NY (Grant No. 2005 WC 029) and the Wisconsin Center for Education Research, School of Education, University of Wisconsin-Madison. The opinions expressed are those of the authors and do not necessarily reflect the view of the National Institute on Educational Governance, Finance, Policymaking and Management, Office of Educational Research and Improvement, U.S. Department of Education, the institutional partners of CPRE, the Rockefeller Foundation, or the Wisconsin Center for Education Research.

Wisconsin School Finance Equity Revisited

During the 1970s the concerns of school finance policy, those addressed both by policy makers and school finance litigants, concerned equity, or the “fair” distribution of education resources across districts and students. During this time, the resources available to school districts relied heavily on local property wealth, and property wealth per pupil varied greatly, as it continues to do so in many states today. As states, like Wisconsin, took a greater role in financing public education in the 1970s and 1980s, they generally used increased resources to counteract disparate property wealth, strengthening the equalizing aspect of their school finance system by allocating new state resources inversely to measures of local property wealth per pupil.

Wisconsin not only followed this general course, but in the early 1990s pledged to increase its role in financing education to an even higher goal of two-thirds state funding. Though the state has been unable to afford the two-thirds commitment for the past couple of years, it still supports K-12 education at a high level. When state revenues for various property tax relief programs tied to education are excluded, the state role is about 62% of the local-state shared costs, still one of the highest state roles in the country. Further, the increased state role helped on the equity side. In its 2000 decision in *Vincent v. Voight*, a suit that challenged the constitutionality of the school finance system on the basis of equity, the Wisconsin Supreme Court upheld the Wisconsin school finance system claiming that it was as equal as “practicable.”

This paper takes a more current look at whether Wisconsin continues to fund its educational system in a fair and equitable manner. Technically, this paper is an ex post examination of the local and state revenues for the Wisconsin public school funding

system. The analysis uses district level, 2001-04 financial data available in the “Factor Files” from the Wisconsin Department of Public Instruction (DPI) website (<http://www.dpi.state.wi.us/dfm/sfms/genaid.html>), as well as 1996-97, 1998-99, 1999-00 and 2004-05, unaudited data generously made available to us by DPI. Using statistics commonly accepted as indicators of equity, this analysis reviews how the allocation of resources, specifically state equalizing aids and local revenues (i.e., operating revenues excluding state and federal categorical aid), meet standard equity benchmarks (Odden & Picus, 2002). As is usual today, this analysis weights statistics by the student population (ADM) in the district, giving, for example, Milwaukee, with a 2004-05 membership of 98,338, a proportionally larger influence on the equity statistics than Washington, a district that served just 104 students.

The Wisconsin School Finance System

In 2004–05, Wisconsin public schools educated 880,000 students in 425 districts. Wisconsin schools were funded with \$7.9 billion from local and state sources (Wisconsin Department of Public Instruction [WDPI], 2005).

The state used a three-tiered guaranteed tax base (GTB) system of school finance. For the **first tier** of the system, the primary aid level, the state guaranteed a tax base of \$1.93 million to all districts, allowing them to tax themselves as if their tax base were \$1.93 million for revenues up to \$1,000 per pupil. Just about every public school received some aid because the \$1.93 million level was above just about every district’s property valuation per pupil. This tier required a local property tax rate of 0.52 mills.

The **second tier**, the secondary aid level, provided a GTB of \$1,006,510, called the secondary guarantee, for spending from \$1,000 to \$7,782, the latter called the

secondary cost ceiling. Fully accessing the \$7,782 per pupil required an additional local property tax rate of 6.74 mills, for a Tier 1 plus Tier 2 tax rate of 7.26 mills.

For the **third tier** or tertiary level, the state guaranteed the statewide average property value per pupil, or \$407,300. Districts with a tax base at or lower than this guarantee could use the guarantee to spend at any higher level they chose and still receive positive state aid. Districts with a tax base above this level could also spend at a higher level, but their state aid would be a negative number, and that number would be subtracted from their Tier 2 aid until that tier was reduced to zero. This tier was designed to discourage spending above the secondary cost ceiling for high-wealth districts (WDPI, 2005).

In 1993, the Wisconsin Legislature enacted a revenue cap on spending to thwart the continuous increases in education spending that had occurred during the previous decade. Allowed to increase generally at a rate of inflation, the revenue limit recently has been set at a fixed level; in 2004–05, the limit was \$241 per pupil (Reschovsky, 2002; WDPI, 2005). Districts can exceed the revenue caps through a local referendum. And, there is no cap on the top amount a district can choose to spend.

Simultaneously, the state also eliminated binding arbitration, made teacher strikes illegal, and adopted the Qualified Economic Offer (QEO). The QEO was adopted to ensure that bargained agreements could be financed within the allowable cost increases. Districts can bargain with unions over salaries and benefits, but if the two sides cannot agree, the district can impose a settlement if it offers a QEO, which is defined as an offer that increases salaries and benefits by at least 3.8%. Over the past several years, we

conclude that the QEO has been responsible at least in part for reducing the rate of teacher salary increases.

Additionally, in fiscal year 1997, the state made a commitment to pay two thirds of school funding—a figure that does not include federal revenue but does include \$469 million in property tax relief each year (Norman, 2002). In 2003–04, state funds, excluding the property tax relief, accounted for about 61.6% of district revenues, and during the 2003 legislative session, the two-thirds guarantee was reduced to 65%.

Though there are restrictions – the revenue caps, referenda to exceed the revenue caps, and the QEO – the Wisconsin school finance system is largely a “locally controlled” system – each local district can decide how much it wants to spend for education. And, on average, the state picks up 65%, or 61.6%, of what local districts decide to spend. In part because education is a valued commodity, this system has been a stimulus to local spending, and in recent years, the state has had difficulty fully funding it.

Several issues can be raised about this school finance system. Is it equitable, the focus of this paper? Is it adequate – the focus of our overall initiative? And over time, how long can the state afford to pick up 65-67% of the expenditures that local governments – school districts – decide to spend? And, is there another way to structure the school finance system, so that the state picks up its fair share – perhaps two-thirds – of an “adequate” spending level, again the focus of this initiative?

Equity Analysis Results

Table 1 shows the results of this system for the 2004-05 school year, the last year for which we have data. The data are presented by deciles, each of which represents

about 10 percent of the student enrollment. The data are ranked by shared cost per pupil, with the lowest shared cost districts being in decile 1 and the highest shared cost districts in decile 10.

**Table 1
Wisconsin School Finance in 2004-05**

Decile	Average number of pupils per district (deciles)	Average property value per pupil (\$)	Average property tax rate (mills)	Average Local Revenue Per Pupil (\$)	Average state revenue per pupil (\$)	Average total revenue per pupil (\$)	Number of districts (deciles)
1	1,996	409,766	7.07	2,851	4,868	7,720	41
2	98,338	219,109	7.49	1,641	6,229	7,870	1
3	4,219	370,551	7.41	2,720	5,213	7,932	19
4	2,427	389,036	8.00	3,051	5,086	8,137	36
5	1,717	366,628	8.58	3,054	5,250	8,304	46
6	2,573	400,000	8.85	3,523	4,928	8,451	37
7	1,584	441,977	9.11	3,640	5,021	8,661	54
8	1,523	458,640	9.90	4,383	4,556	8,939	58
9	1,558	491,944	10.27	4,849	4,392	9,241	56
10	1,144	798,840	10.62	6,843	3,130	9,973	77
Weighted average		433,276	8.74	3,651	4,876	8,527	
Weighted std. dev.		324,034	1.65	1,880	1,427	706	
Median district		356,900	8.67	3,108	5,190	8,408	

Totals		
	Amount	Percent
Local revenue	3,180,487,047	42.8%
State revenue	4,247,967,027	57.2%
Total revenue	7,428,454,074	

Table 1 reveals several aspects of Wisconsin school finance. First, there are variations in property wealth per pupil, tax rates, and spending per pupil. Second, the data reflect what we call the “new” school finance problem. Higher wealth districts have not only higher state and local revenues per pupil but also higher tax rates, whereas lower

wealth districts have both lower revenues per pupil and lower tax rates. The fact is that local tax rate effort for schools is the prime determinant of spending differences, not property wealth per pupil. Indeed, the ratio of the average local tax rate in the highest spending decile to that in the lowest spending decile is greater than the ratio of the revenues per pupil in those two deciles.

In assessing equity, two aspects of equity can be analyzed. The first is the degree to which revenues per pupil are distributed equally across school districts. Even though the Wisconsin school finance system allows for local control over how much to spend for education, many in Wisconsin still want to know how much inequity in spending per pupil is created by this local control. The second equity issue, called fiscal neutrality, is the degree to which spending differences are linked statistically to local property wealth per pupil, a factor that should not be linked to local spending differences.

As it has for the past decade, Wisconsin meets all of the standard benchmarks for the expenditure equality version of equity. Table 2 shows the statistical indicators for equal revenues per pupil for the 2001-02 to 2004-05 school years as well those for the 1996-97 and 1998-99 school years, which were used by the Supreme Court in the *Vincent v. Voight* decision. The two indicators that are most often used to make conclusions about expenditure equality are the *coefficient of variation (CV)* and the *McLoone index*. The coefficient of variation indicates the percent variation about the average – a CV of 10% would indicate that two-thirds of all districts spend within one standard deviation of the average. Indeed, the standard equity benchmark for the CV is less than or equal to 10%. Table 2 shows that for the 2004-05 school year, the CV was 0.083 or 8.3%, under

the 10% benchmark, and lower than the 10% and 9.3% during the time the *Vincent v. Voight* case was litigated.

Table 2
Wisconsin School Finance Equity Statistics¹

Indicator	1996-97 (<i>Vincent</i>)	1998-99 (<i>Vincent</i>)	2001-02	2002-03	2003-04	2004-05
Equal Revenues Per pupil						
Range	\$6430	\$7016	\$6735	\$7533	\$8471	\$8563
Restricted Range (5 th and 95 th percentiles)	\$2007	\$2043	\$1977	\$2090	\$1986	\$1947
Federal Range Ratio	0.370	0.339	0.288	0.288	0.263	0.251
Coefficient of Variation	0.103	0.104	0.089	0.087	0.085	0.083
McLoone Index	0.954	0.945	0.961	0.953	0.960	0.952
Versteegen Index	1.109	1.107	1.095	1.084	1.087	1.017
Median	\$5918	\$6597	\$7413	\$7900	\$8176	\$8409
Fiscal Neutrality						
Correlation Coefficient	0.565	0.574	0.552	0.563	0.565	0.532
Elasticity	0.081	0.083	0.091	0.047	0.048	0.051

The *McLoone Index* is an equity statistic that focuses on the bottom-half of all districts. It compares the revenues per pupil in the districts that spend below the median to the revenues if those districts were spending at the median. The standard benchmark for the McLoone index is greater than or equal to 95%, which would indicate that the revenues in the bottom half of the districts were at least 95% of those at the median.

¹ All statistics are weighted by district membership. Norris District has been excluded, as it is an extreme outlier in per pupil expenditures, enrollment, and property wealth. Statistics and values represent local and state resources, excluding state and federal categorical revenues. 2004-05 data are unaudited. See Appendix A for definitions of each of the fiscal neutrality and equity indicators.

Table 2 shows that for the 2004-05 school year, the McLoone was 0.952 or 95.2%, just above the benchmark, and was at that level in the late 1990s as well.²

Indeed, the numbers in Table 2 show that for the past four years, Wisconsin has met the CV and McLoone Index equity benchmarks every year. Moreover, this has been the case virtually for the past decade as well (Odden & Picus, 2002). Though there is variation in revenues per pupil across districts, as Table 1 showed, the system nevertheless meets standard equity benchmarks, one major reason for why the state's top court claimed that the system was as equal as "practical." Indeed, Table 2 illustrates that the system has become *more* equitable in terms of the coefficient of variation, and even the elasticity that is discussed below, than it was in 1996-97 and 1998-99, the school years most often cited in *Vincent v. Voight* decision.

Though the standard benchmark for the CV is less than or equal to 10%, a tougher standard, say 5%, could be proposed given the higher and higher levels of spending per pupil. For example, at a median revenues per pupil of \$7900, a CV of 8.7% allows for a difference in revenues per pupil of over \$1580 just for the middle two thirds of districts. With a 2002-03 average Wisconsin teacher salary of \$41,617 and a 25% benefit rate (see <http://www.aft.org/salary/2003/download/2003Table1.pdf>), the revenue per pupil variation allowed by this CV could fund the difference of class sizes of 25 in the higher spending district compared to 15 in the lower spending district. Thus, even though the Wisconsin school finance system meets the standard equity benchmarks, it could be argued that the revenue per pupil variations allowed are significant and should be

² It is important to note that a determination of an equitable system of funding does not mean that the funds available to a district are distributed to schools and students in an equitable manner, especially considering the diversity of student and school needs. Also, it does not mean that districts and schools are using resources in a way that educates students effectively (Odden & Picus, 2004).

reduced, or that the revenues per pupil for all districts at least have to be at or above some “adequate” level, again the focus of this particular initiative.

Wisconsin also meets equity benchmarks for fiscal neutrality, or the statistical relationship between revenues per pupil and property wealth per pupil. The key fiscal neutrality statistic here is the wealth elasticity. This statistic indicates the percent increase in revenues per pupil that is associated with a percent increase in property wealth per pupil. The equity benchmark is less than or equal to 10%, which means that as property wealth per pupil increases, revenues per pupil increase by at most 10 percent of the rate of increase of property wealth per pupil, so if property wealth per pupil increases 100%, revenues per pupil would increase by less than or equal to 10%. Table 2 shows that the wealth elasticity for Wisconsin was just 0.051 or 5.1%, about half the benchmark. What this indicates is that while revenues per pupil do increase with property wealth per pupil, the increase is not that linked to the size of the property wealth per pupil differences. This further supports our conclusion from Table 1 that the major factor producing differences in revenues per pupil in Wisconsin school districts is differences in local school tax rates; by a large, higher spending districts have higher school tax rates.

Astute readers will note that the above analyses made no accounting for differences in pupil need. We have conducted these analyses and when we add proxies for student need by weighting all students eligible for free and reduced price lunch by an extra 0.25, all English language learning students by an extra 0.20, and all disabled students by an extra weight of 0.90, standard weights used in school finance analyses (Odden & Picus, 2002), the equity statistics worsen.

In addition, when we adjust for variations in the purchasing power of the education dollar, using the Geographic Cost of Education Index (GCEI) developed for each district in the country by the National Center for Education Statistics, the equity statistics also worsen.

Moreover, when we use both weights to indicate extra student need and the GCEI, the CV increases to 0.115 or 11.5% percent – above the 10% benchmark.

These findings suggests that equity issues should always be included in school finance analyses, and that variation in both student needs and the purchasing power of the education dollar should be recognized in the school finance system, or conclusions about equity – and undoubtedly adequacy, too – could be incorrect. Further, these issues need to be centrally involved in an adequacy analysis, and as we will show, these issues will be included in our analyses of what it will take to provide an adequate education program in Wisconsin, so as to produce a proposal that recognizes variation in student, school and district characteristics.

Conclusion

This paper has described the current Wisconsin school finance system and analyzed the equity of the system – the degree to which revenues per pupil are equal across school districts and the degree to which differences in revenues per pupil are linked to differences in property wealth per pupil. We found that the system does meet standard equity benchmarks measuring both issues. But, further analyses also found that when measures of student need and the purchasing power of the education dollar are included in the analyses, the equity benchmarks decline, and that when both are included, some important equity benchmarks are not met. The results suggest that our adequacy

analyses need to make accommodations for both student and district need, and that whatever new school finance system is proposed, the impact on equity also needs to be assessed.

References

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Appendix A

Coefficient of Variation A measure of horizontal equity, the coefficient of variation expresses how much per pupil expenditures vary from the mean expenditures. The coefficient of variation is calculated by dividing the standard deviation by the mean per pupil expenditures. Goal: $\leq .1$

Correlation Coefficient A measure of fiscal neutrality, the correlation coefficient makes explicit the linear relationship between per pupil expenditures and property wealth per pupil. Goal: $\leq .5$

Elasticity A measure of fiscal neutrality, elasticity exhibits the policy importance of the correlation between per pupil expenditures and property wealth per pupil. Elasticity measures the percent change in per pupil expenditures given the percent change in property wealth. Goal: $\leq .1$

Federal Range Ratio A measure of horizontal equity, the federal range ratio is a statistic computed by dividing the restricted range by the per pupil expenditures at the 5th percentile.

McLoone Index A measure of horizontal equity, the McLoone index is a measure of the bottom half of expenditures. It is the sum of the bottom half of expenditures divided by the sum if they had all been at the median expenditure. Goal $\geq .95$

Range A measure of horizontal equity, the range of per pupil expenditures is the difference between the lowest spending and highest spending districts.

Restricted Range A measure of horizontal equity, the restrict range of per pupil expenditures is the range of the expenditures, excluding the expenditures in the top and bottom 5% of occurrences.

Verstegen Index A measure of horizontal equity, the Verstegen index is a measure of the top half of expenditures. It is the sum of the top half of expenditures divided by the sum if they had all been at the median expenditure.