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SCHOOL FINANCE POLICY AND THE EQUITY DILEMMA IN INDIANA: A Case Analysis

Marilyn A. Hirth

School finance reform and litigation are prevalent in many states across the nation. Many times reform occurs in response to litigation, or in other situations to thwart potential litigation. Indiana provides an excellent case example of how school finance policy impacts equity and how the governor and state legislature respond to the threat of litigation. In the field of school finance, horizontal equity measurements are utilized to expose problems with the existing system of funding schools.

Indiana is in the midst of a school finance reform controversy. On July 31, 1992, a coalition of 43 school districts that filed a lawsuit challenging the constitutionality of the school finance formula agreed to the governors' request to dismiss the suit. The agreement permitted them to refile the case if they were not satisfied with the efforts of the state legislature to reform the formula during the 1993 legislative session. After much argument, and a special session, the "new formula" the legislature passed includes an average 3.3 percent increase in state money, with the ultimate goal of equalizing funding among districts over a six year period. The equalization is based on tax rates and actual increases in state aid depends on the property tax base of the district. The coalition of plaintiff school districts decided to drop the case, but they are still closely monitoring the equity situation. The coalition, Schools Allied for Funding Equity (SAFE), contends that the school finance formula still requires substantial revision to eliminate disparities in per pupil expenditures, inequities in the funding of facilities and equipment, and unfair property tax assessments.[1] Although the state legislature modified the existing school finance formula to equalize tax rates, the question of equity in terms of revenue and expenditures continues to dominate discussions between educators and policymakers in Indiana.

Consequently, many avenues of the equity question warrant exploration (i.e., horizontal equity, fiscal neutrality, equal opportunity, vertical equity, etc.); however, only school corporation expenditure data for the past three years was available from the Indiana State Department of Education. This analysis will investigate horizontal equity, which is defined as equal treatment of equals.[2] Accordingly, the principle states that students who are alike should receive equal shares. Berne and Stiefel assert that equity is assessed by measuring the dispersion, or inequality, in the distribution of objects; no dispersion indicates perfect equity.[3] Therefore, it is the purpose of this paper to measure horizontal equity for current expenditures,[4] all expenditures[5] and instructional expenditures[6] for three academic years (1989–90, 1990–91, and 1991–92) to determine the extent of equity and examine trends. For this purpose, a variety of horizontal equity measures are employed in the analysis: the range, restricted range, federal range ratio, McLoone index, and Gini coefficient. In addition, comparative data from a previous fiscal equity study[7] allows comparison of horizontal equity measures for current expenditures with 1972–73 and 1985–86.

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Formula Funding In Indiana: An Historical Perspective

Indiana's school finance formula is categorized as a foundation type formula, but has a number of categorical programs that are non-formula based and for which school corporations must apply or qualify to receive. Like many states the primary source of local revenue to fund education in Indiana is property tax. Other local revenue is derived from auto excise and financial institutions taxes. Consequently, property wealth and tax rates determine the ability of each school corporation to fund education.

During the early 1970's many states addressed property tax revolts by instituting reforms similar to Proposition 13 in California. A major change in local financing of education occurred in 1973 when the Indiana legislature undertook property tax reform. Indiana joined the ranks of the reformers and froze property tax levies (for the general fund) at 1973 rates. When this occurred the state, rather than local school corporations assumed the major role in funding education. According to Wood, et. al., after the property tax freeze state aid increased from 34.4 percent of revenues in 1973 to 62.2 percent in 1986.[8] In 1990–91, the state's share of all public school General Fund revenues was 58.5%.[9] This figure reflects a 3.7% decrease since 1986 in the state's share of general fund revenue.

Johnson and Lehnen[10] provide a detailed explanation of the property tax reform era. In summary, from 1973–1978 the state provided funds to local schools in the form of a flat grant per pupil. School corporation wealth was not a consideration and all corporations received the same amount per pupil regardless of its wealth or level of expenditures. In 1979 the state was running short of money so it allowed the property tax to increase, but subtracted the property tax increase from the amount of the state's share. Since 1982 the legislature has allowed expenditures to increase by some uniform per-pupil amount plus a small percentage increase in the general fund budget, as well as allowing the property tax rate to increase by a statutorily mandated percentage. Then, in 1986 a "target equalization factor" and minimum guarantee per pupil were added to the formula. State funding was increased if the corporation's expenditures were below the targeted amount. A grandfather clause guaranteed that those schools above the targeted amount would not have their state allocations reduced.

What was the effect of the property tax freeze and formula revisions? A previous study[11] examined the fiscal equity of Indiana's public school operating expenditures for the 1972–73 (the year before the freeze) and the 1985–86 school year. The horizontal equity measures employed were the boxplot, Lorenz curve, federal range ratio, variance, coefficient of variation, McLoone index, and the Gini index. The results indicate that the only measure indicating increased equity for 1985–86 in comparison to 1972–73 was the McLoone index. For all the other measures 1972–73 was more equitable than 1985–86. Therefore, the conclusion drawn was that fiscal inequity among school corporations widened after the tax levy

freeze. The increase in the McLoone index demonstrates improvement only for those districts below the median per pupil expenditure level.

The Current Situation

In 1987, in response to the inequities that exist between property rich and property poor school corporations, a coalition of poor school corporations filed a lawsuit against the state of Indiana claiming the current system of funding schools unconstitutional. One of the major issues the plaintiffs cited in their argument was that the same tax rate produces different revenue in different districts. Property poor districts have higher tax rates than property rich districts, but generate fewer dollars per pupil. When the property tax levies were frozen in 1973 some corporations had extremely high tax levies while others were relatively low. Those districts with the higher rates have a distinct advantage and are able to generate more dollars per pupil when percentage increases are permitted. Although the lawsuit is now history, it is more than likely that the plaintiffs will formulate a new lawsuit when the legislature's revisions do not produce the intended equity outcomes. The 1993 General Assembly developed a "reward for effort" formula that establishes a new funding formula. The "reward for effort" principle dictates that all districts that impose the same property tax rate will have the same amount of money to spend per pupil, and that a higher local effort could be used to generate additional revenues.[12] The legislature intends to phase the new formula in over a six-year period; however, the details and funding for implementation are only figured out through 1995. Therefore, in order to establish a statistical basis for comparison of equity gains in the future and examine the consequences of previous legislative formula revisions, the following questions are addressed in this research:

- What have been the consequences of previous formula revisions (i.e., target equalization factor and minimum guarantee) on horizontal equity.
- What has been the long-term effect of the property tax freeze on total current expenditures? Has equity improved or worsened?

The next section attempts to answer these questions.

The Status of Horizontal Equity in Indiana

In the following analysis horizontal equity is explored and each category (current, all, and instructional expenditures) is addressed within the measurement section. Also, related figures and tables are coordinated in the same manner.

Range and Restricted Range

The range and restricted range are univariate dispersion measures that indicate in dollar value the difference between the highest and lowest spending districts in the distribution of per-pupil expenditures. The range ranks all school districts in ascending order based on per-pupil expenditures to calculate the difference. The restricted range attempts to account for the possibility of outliers, and therefore, five percent of the total student population (Average Daily Attendance) is taken off the top and bottom of the distribution to make the calculation. The range and restricted range do not take inflation into consideration, therefore the Consumer Price Index (CPI) is utilized to adjust the current dollar figures to constant dollars based on the 1991–92 school year. Figure 1 presents a graphic illustration of the range and restricted range data for total current expenditures contained in Table 1.

The 1972–73 and 1985–86 data are based on a previous study and allow a long-term comparison of variations in **current expenditures**.[13] The range has increased almost 137% since 1972–73 and since then has remained fairly stable, although high at over $3,400. In contrast, the restricted

Table 1. Range & restricted range data** for total current expenditures.

	School Year				
	72–73	85–86	89–90	90–91	91–92
Range	$2,493 ($772)*	$3,497 ($2,753)*	$3,771 ($3,465)	$3,470 ($3,362)	$3,415
Rest. Range	$1,072 ($332)*	$2,568 ($2,022)*	$2,559 ($2,352)	$2,487 ($2,410)	$2,561

* Source: Wood, et. al. (1990).
** Unadjusted values appear in parenthesis.

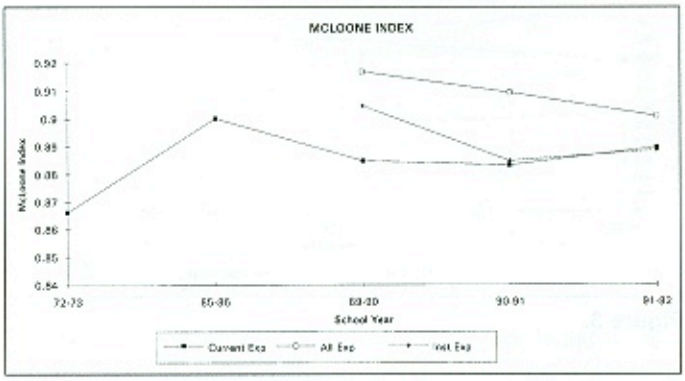

Figure 1.

range has increased almost 239% since 1972–73 and has hovered around $2,500 since 1985–86.

The range and restricted range for **all expenditures** (this includes capital outlay and debt service) is also found in Table 2 and illustrated in Figure 2. It is evident that when adjusting for inflation the difference between high and low spending districts, as reflected by the range and restricted range, have grown smaller over the past three years.

Since **instructional expenditures** give an indication of dollar differences in the amount allocated to instruction, this expenditure was included in the investigation (see Table 3 and

Table 2. Range & restricted range data** for all expenditures.

	School Year		
	89–90	90–91	91–92
Range	$7,906 ($7,265)	$6,620 ($6,414)	$6,213
Restricted Range	$2,972 ($2,731)	$2,827 ($2,739)	$2,668

** Unadjusted values appear in parenthesis.

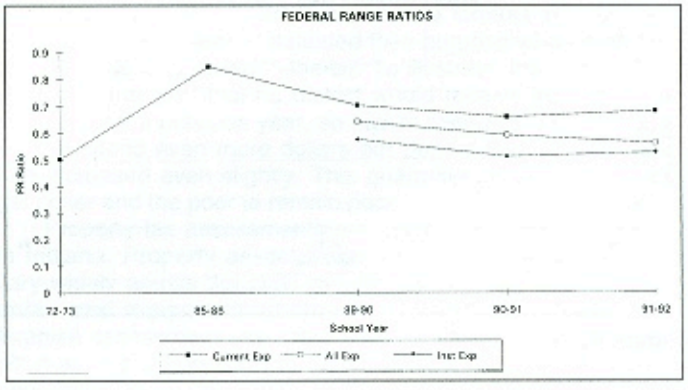

Figure 2.

Table 3. Range and restricted range data** for instructional expenditures.

	School Year		
	89–90	90–91	91–92
Range	$1,762 ($1,619)	$2,029 ($1,966)	$1,865
Restricted Range	$1,147 ($1,054)	$1,034 ($1,002)	$1,065

** Unadjusted values appear in parenthesis.

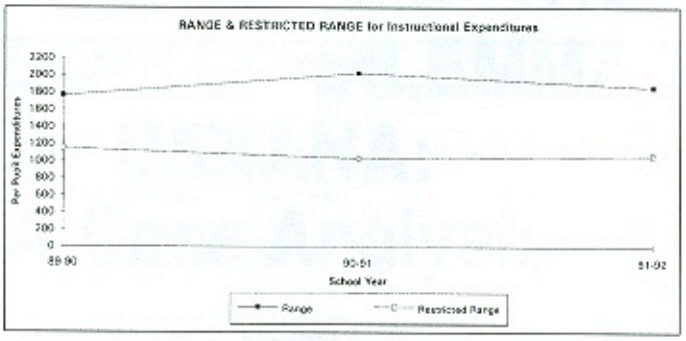

Figure 3.

Figure 3). Other than an increase in the range during the 1990–91 school year, variations have been minimal. However, a range of over $1,800 and a restricted range of over $1,000 in expenditures indicates considerable variation in expenditures for instruction across school districts.

Federal Range Ratio

The federal range ratio is a more accurate range statistic than the range and restricted range since it is insensitive to equal proportional changes and as a result is an inflation proof measure. In simple terms the federal range ratio develops a factor which expresses in a standard way the difference between the value at the 95th percentile to the value at the 5th percentile.

Table 4. Range & restricted range data** for total current expenditures.

	School Year				
	72–73	85–86	89–90	90–91	91–92
Current	.5021*	.8471*	.7021	.6579	.6797
All			.6417	.5896	.5591
Inst			.5748	.5102	.5251

*Source: Wood, et. al. (1990)

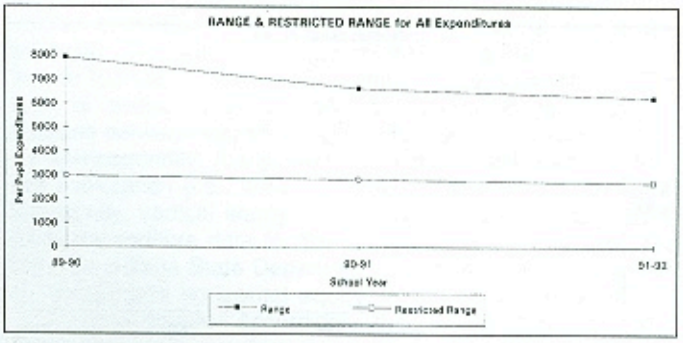

Figure 4.

The federal range ratios for current expenditures, all expenditures, and instructional expenditures are graphically displayed in the charts contained in Figure 4 and the statistical data recorded in Table 4.

Again for total **current expenditures** the 1972–73 and 1985–86 data are available for comparison.[14] As Figure 4 illustrates the federal range ratio was a little over 50% in 1972–73 and jumped to almost 85% in 1985–86. By 1989–90 the federal range ratio dropped to 70%, and then decreased slightly more in 1990–91 to almost 66%, but now it shows an increase to almost 68% in 1991–92. It is notable that prior to the property tax freeze there was more horizontal equity as measured by the federal range ratio than has been measured since that time. A federal range ratio of almost 85% in 1985–86 was a signal that most likely resulted in the passage of the target equalization factor and minimum guarantee. Although these formula revisions have somewhat improved the situation, the level of equity present in 1972–73 (50%) has not been realized since.

An investigation of the federal range ratio for **all expenditures** from school years spanning 1989–1992 shows a reduction in the ratio (see Table 4 and Figure 4). However, one must keep in mind that this particular expenditure figure includes facilities acquisition/capital outlay and debt service. Many school corporations (rich and poor) are undertaking building projects which may explain the reduction in the ratio. The addition of these categories tends to disequalize the expenditure picture in terms of what is spent on students.

The federal range ratio for **instructional expenditures** was highest in 1989–90 when it was over 57% (see Table 4 and Figure 4). The ratio dropped to 51% in 1990–91, but then rose again to almost 53% in 1991–92. The question that must be asked is whether there should be over a 50% difference in expenditures for instruction between the students at the 95th percentile and 5th percentile in the distribution of per pupil objects.

McLoone Index

The McLoone Index is another statistical measurement that is inflation proof. The McLoone index varies between zero and one and is the only horizontal equity measure that gets larger as equity increases; hence, a value of one is perfect equity. The purpose of the McLoone index is to measure the degree of equality only for observations below the 50th percentile or median per pupil object. Therefore, this measurement will indicate whether the target equalization factor implemented in 1986 has had any impact on equality for corporations below the median.

The McLoone Index for current expenditures, all expenditures, and instructional expenditures is visually depicted in the charts contained in Figure 5 and the statistical data is reported in Table 5. The **current expenditures** category again includes the data compiled from the earlier study[15] and Figure 5 illustrates a drastic increase in the McLoone Index in 1985–86 to .9001, but a drop in 1989–90 and 1990–91 with a rebound to .8895 in 1991–92. Although there have been some fluctuations, the value of the index indicates that there has been significant progress toward equity for students in the lower half of the distribution since the target equalization factor was added.

The McLoone Index for **all expenditures** (see Table 5 and Figure 5) is the highest of all the categories of expenditures examined. However, the index has been on a slow decline since the 1989–90 school year. Although a standard has not been set values in the .9 range however are more than acceptable.

The McLoone index for **instructional expenditures** (see Table 5 and Figure 5) shows that it was highest during the 1989–90 school year (.9046), declining in 1990–91 to .8846, but recovering in 1991–92 to .8884.

Table 5. McLoone Indexes for current, all, and instructional expenditures.

	School Year				
	72–73	85–86	89–90	90–91	91–92
Current	.8662*	.9001*	.8847	.8831	.8895
All			.9168	.9092	.9006
Inst			.9046	.8846	.8884

*Source: Wood, et. al. (1990)

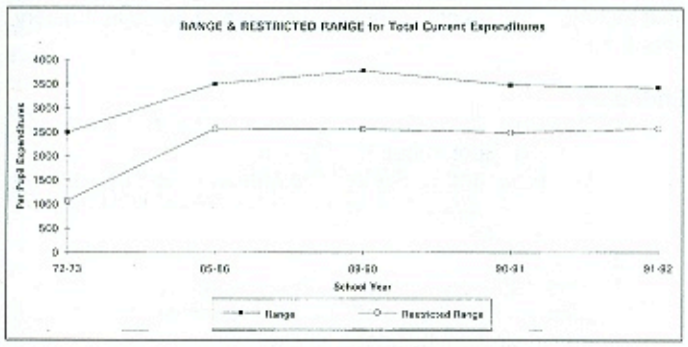

Figure 5.

Although the McLoone index for the expenditures examined appear to be high, values for most school finance data sets is in the .7 to .95 range.[16] Consequently, the indexes found in this study are within the normal range.

Gini Coefficient

The Gini coefficient is used to assess per pupil object inequality. Berne and Stiefel define the Gini coefficient as showing how far the distribution of per-pupil object is from providing each percentage of pupil (e.g., 5 percent of pupils) with an equal percentage of object (e.g., 5 percent of objects); based on the Lorenz curve.[17] The smaller the Gini coefficient the more equal the distribution of the object. Values for the gini coefficient range from 0 to 1, with 0 indicating perfect equity. The values of the Gini coefficient and graphic representation of the results for current expenditures, all expenditures, and instructional expenditures are found in Figure 6 and Table 6.

Again for **current expenditures** the data from the Wood, et. al., research are included for comparison.[18] The lowest value (greatest equity) (see Table 6 and Figure 6) for the Gini coefficient was before the property tax freeze in 1973. Since then it rose dramatically in 1985–86 to .089, dropped in 1989–90 to .084, rose again to .089 in 1990–91 and 1991–92.

The Gini coefficient for **all expenditures** also shows some fluctuations (see Table 6 and Figure 6) starting at .083 in 1989–90, dropping to .081 in 1990–91, and then increasing to .085 in 1991–92. Again, additional funding for capital outlay and debt service could account for some of the fluctuations.

The category of **instructional expenditures** (see Table 6 and Figure 6) shows the same Gini coefficient for 1989–90 and 1990–91 (.085) and then an increase in equity for 1991–92 when it dropped to .0795. Instructional expenditures is the only area where the Gini coefficient improved for the 1991–92 school year.

A standard has not been set for the Gini coefficient, but a value below .1 is desirable.[19] The values found in this research then indicate that the Gini coefficient is in a desirable range. However, Odden and Picus caution against making equity conclusions based on the Gini coefficient. They state, "even in a system with what most would call large differences in expenditures or revenues per pupil, the Gini coefficient could be .1 or close to zero. A value close to zero suggests equality, but the system may, in school finance terms, be quite unequal".[20]

Table 6. Gini Coefficients for current, all, and instructional expendtures.

	School Year				
	72–73	85–86	89–90	90–91	91–92
Current	.079*	.089*	.084	.089	.089
All			.083	.081	.085
Inst			.085	.085	.080

*Source: Wood, et. al. (1990)

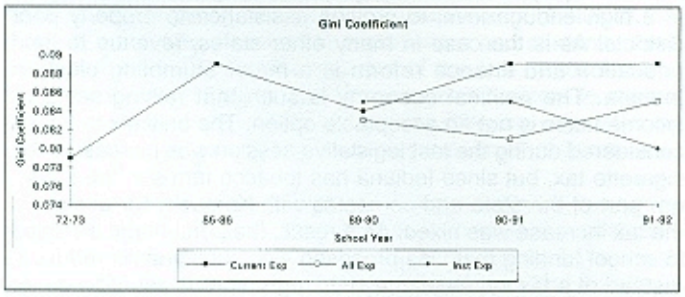

Figure 6.

Therefore, the unusually small Gini coefficients found in this research are not necessarily in indication that the system of financing schools in Indiana is equitable.

Analysis and Discussion

It is evident that in general, expenditures for school districts below the median have improved since 1986 as reflected by a slight improvement in the McLoone index, but the degree of improvement is not extraordinary. Second, the long term effect of the property tax freeze (1972–73) on total current expenditures has not improved horizontal equity, but instead the equity measurements reflected by the range, restricted range, federal range ratio, and gini coefficient were more equitable in 1972–73. So, the answer to the question of whether equity has improved or worsened is that it has worsened for the category of current expenditures since 1973. In general terms, when comparing horizontal equity measures for all three categories explored for the school years 1989–90, 1990–91, and 1991–92, there was some fluctuation in equity both ways, but not enough to say that equity significantly improved or worsened.

The obvious question to ask is, "why has equity not improved?" If there had been significant improvement in equity over the last several years, the coalition of small school districts would not have filed a lawsuit against the state asserting the current system of funding education unconstitutional. The state legislature has revised the finance formula several times to supposedly make it more equitable. A target equalization factor and a minimum guarantee were added to the formula in 1986, but the legislature somewhat defeated their purpose when a grandfather clause was added to the bill. To illustrate, the grandfather clause guaranteed that no district would receive less revenue than it had the previous year, so higher spending districts were able to spend even more dollars per pupil if their property tax rate increased even slightly. This guarantee allows the rich to get richer and the poor to remain poor.

Property tax assessments are another controversial issue in Indiana. Property assessments and assessment practices vary widely across the state resulting in property tax being an unfair and inequitable source of revenue for schools. Differential assessment practices make it difficult to compare tax effort among school districts, which is a primary element in the new formula. In response to this problem the legislature commissioned a study of assessment practices, including a

comparison of current assessed values with market-based assessments. It is likely that any funding formula based on comparative tax efforts will require changes in assessment practices.[21]

Taking the above mentioned factors into consideration we might ask, "Can equity be realized in Indiana?" The answer is maybe, but only if steps are taken to reform property tax assessment practices and tax rates are actually equalized across the state. Also, implementation of a combination foundation and guaranteed tax base finance formula would definitely improve equity; however, the guaranteed tax base must be set at a high enough level to provide assistance to property poor districts. As is the case in many other states, revenue to fund education and finance reform is a major stumbling block in Indiana. The political economy is such that raising sales or income taxes is not an acceptable option. The only tax increase considered during the last legislative session was increasing the cigarette tax, but since Indiana has tobacco farms in the southern part of the state and competes with Kentucky for business, the tax increase was nixed. As a result, the percentage increase in school funding that was proposed was substantially reduced. Instead of a tax increase, the state legislature is counting on an improved economy to generate more money for the upcoming biennium (1994–1996). However, in order to successfully achieve the intended tax equity, significantly more state monies are needed than are currently available.

Consequently, another policy consideration to improve equity would be removing the property tax freeze that was imposed over 20 years ago. Districts that had low tax rates were frozen with low rates, and since only uniform percentage increases have been permitted, they continue to have low rates when compared to districts that had high tax rates when the freeze was instituted. If low property tax rate districts also have low assessed valuations they suffer even more, since the small percentage increases yield only a minimal increase in dollars per pupil. However, some districts with high assessed valuations have low property tax rates, so the same percentage increase yields hundreds of dollars more per pupil than the district with lower assessed valuations. Removing the freeze, especially on the low property tax rate and low assessed valuation districts would give them an opportunity to come closer in equalizing the local revenue per pupil that is available for schools. However, a cap on tax rates for the high tax rate districts and high assessed valuation districts should be imposed so that the vast disparities are not permitted to escalate even further.

Conclusion

In summary, the Indiana school funding formula creates inequities in expenditures across school districts. In order to develop the total picture, revenue data and property tax assessments must be analyzed. Also, at issue is the fact that in Indiana, politics is playing a major role in the school finance reform controversy. For example, in 1990 a task force on financing public education in the state of Indiana formulated by the elected, republican state superintendent, developed seven recommendations and proposed a new power equalization formula structure.[22] This model is similar to the combination formula discussed above, and would go a long way in the effort to improve equity, but to date none of the task force recommendations have been implemented by the democratic governor. One possible reason for ignoring the recommendations is that new or increased taxes would be necessary to fund the new formula suggested by the task force. Again, in the November 1992 election the democratic governor was re-elected and a new republican state superintendent was elected. So, the impasse continues!

It is likely that the only "solution" to Indiana's equity dilemma is the courts. Many coalitions of poor schools in other states have launched successful litigation against their respective states and reformed school finance. Kentucky is a prime example of a state that not only reformed school finance, but the entire system of education throughout the state. Perhaps, the Indiana governor and state legislature should put politics aside and reconsider taxes and school finance reform in their next biennium, or the courts may force them to do so in the very near future.

Endnotes

1. "Schools Drop Funding Lawsuit." *The Times* (Frankfort, IN), September 18, 1993, p. 1.
2. R. Berne, and L. Stiefel, *The Measurement of Equity in School Finance* (Baltimore: Johns Hopkins University Press, 1984): 19.
3. Ibid. at 13.
4. This category includes expenditures for instruction, pupils, instruction staff, general administration, school administration, business, central, and other.
5. This category includes current expenditures plus facilities acquisition/capital outlay, debt service, textbooks, food service, community service, and non-programmed expenditures.
6. A component of current expenditures.
7. R. C. Wood, D.S. Honeyman, and V. Bryers, "Equity in Indiana School Finance: A Decade of Local Levy Property Tax Restrictions," *Journal of Education Finance 16*, no. 2 (1990): 83–92.
8. Ibid.
9. E.R. Adams, R. Lehnen, and C. Johnson, "Indiana." in Gold, Smith, Lawton, and Hyary, eds., *Public School Finance Programs of the United Stated and Canada 1990–91* (New York: Nelson A. Rockefeller Institute of Government), 209–218.
10. C.E. Johnson and R.G. Lehnen, "Reforming Indiana's School Finance Formula, 1973–1990: A Case of Unanticipated Outcomes," *Journal of Education Finance, 18*, no. 3 (1993): 264–280.
11. Wood, et. al., "Equity in Indiana School Finance."
12. C.E. Johnson, *School Funding Equity: An Implied Promise* (Policy Report). Indianapolis, IN: School of Public and Environmental Affairs, Indiana University, (October, 1993).
13. Wood, et. al., "Equity in Indiana School Finance."
14. Ibid.
15. Ibid.
16. A.R. Odden, and L.O. Picus, *School Finance: A Policy Perspective* (New York: McGraw Hill, 1992).
17. R. Berne, and L. Stiefel, *The Measurement of Equity in School Finance, 19.*
18. Wood, et. al., "Equity in Indiana School Finance."
19. Odden and Picus, *School Finance: A Policy Perspective.*
20. Ibid at 61.
21. M.A. Hirth and D.E. Broomhall, "*School Finance in Indiana: Past, Present, and Future.*" Paper presented at the American Education Finance Association Annual Conference, Nashville, TN (March, 1994).
22. *Task Force Report on Financing Public Education in the State of Indiana.* Prepared for H. Dean Evans, State Superintendent. (1990).