Indiana's Formula Revisions and Bonner v. Daniels: An Analysis of Equity and Implications for School Funding

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Indiana has a long history of school funding issues and distribution formula revisions. The most recent modifications to the formula were made between 2005 and 2009. One of the more controversial revisions was the removal of the minimum guarantee from the formula. As a result of these changes, three school districts filed a lawsuit challenging the adequacy of school funding in the state.[1] The purpose of this article is to analyze the impact of changes in the state's distribution formula, review the 2009 ruling of the Indiana Supreme Court in the case of *Bonner ex rel. Bonner v. Daniels*,[2] and assess their significance for the future of public school funding in Indiana.

In order to examine the impact of these formula changes and litigation, this study sought to answer the following questions:

(1) What impact have recent formula changes had on the horizontal and vertical equity of Indiana's distribution formula?
(2) How effective is the use of the free and reduced-price lunch count as a proxy for other factors previously included in the complexity index?
(3) What is the impact on horizontal and vertical equity when selected additional state and local funds are considered in addition to the funds distributed through the state tuition support formula?
(4) How might the *Bonner* decision impact future adequacy and funding arguments?

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The article is divided into four sections. The first provides background on Indiana's distribution formula and a history of school finance litigation while the second presents an analysis of the distribution formula using traditional school finance equity statistics. In the third section, the implications of the 2009 *Bonner* decision for Indiana school funding are discussed. The fourth, and final, section presents conclusions drawn from the study and legal analysis.

Background on the Distribution Formula and School Finance Litigation

Since 1949, Indiana's school funding has been based on a minimum foundation program. The legislature has enacted many modifications to the basic foundation formula since its inception, significantly reducing the amount of required local revenue and increasing state contributions. Toutkoushian and Michael offered four reasons for these changes: (1) to eliminate reliance on property wealth in per-pupil funding; (2) to reduce variability in per-pupil funding across districts; (3) to increase per-pupil funding; and (4) to reduce variability in property tax rates across districts.[3] Over time, these changes have transformed the school funding formula and have been positive in direction. However, as Michael, Spradlin, and Carson pointed out, even though progress has been documented on the more equitable distribution of funds over time, school leaders still criticize the funding system.[4] As a consequence, several growing suburban school corporations[5] filed a law suit in 2010.[6]

The Foundation Formula

Although there are several elements included in the formula calculation, the three essential elements of the foundation program are student count or average daily membership (ADM); the "complexity index," which is based on the percentage of students receiving free or reduced-price lunch in a district; and the foundation level.[7] The foundation level, which represents the minimum amount of revenue that can be generated for each student, is established by the Indiana General Assembly during their biennial budget sessions. In turn, the complexity index, designed to provide vertical equity, may adjust the foundation level higher depending on the number of students in the district receiving free or reduced-price lunch.[8] In 2009, foundation level funding increased for 292 of 293 school corporations due to the complexity index.

Although there is a long history of Indiana formula revisions and studies of their consequences, for the purpose of this article, the review will begin with changes made beginning in 1993. These changes were the result of school finance litigation initiated in 1987 by Lake Central School District based on the inequities in funding being unconstitutional.[9] In 1993, an agreement was reached between the plaintiffs and the governor who promised to have the state legislature make changes to the funding formula if they dropped the litigation. As a result, what has been termed the "reward-for-effort" formula was phased in over a six year period.

Several researchers have evaluated the equity and adequacy of the reward-for-effort formula revisions. In 2001, Theobald and Taylor concluded that horizontal equity showed marginal improvement and vertical equity continued to gain strength.[10] Their analysis also concluded that the formula revisions substantially improved adequacy. In 2005, Hirth and Eiler evaluated the 2001 reward-for-effort formula concluding that revisions to the school finance formula improved equity overall.[11] They examined English limited language and at-risk students as a measure of vertical equity, and found that changes in

the 2002 distribution formula allowed greater disparities. Some districts gained revenues to address vertical equity issues while others received very little or no additional funding. They concluded the formula revisions did not adequately address vertical equity.

In 2006, the legislature adopted a "money follows the child" formula. This meant the amount of state money available for each regular education student would be the same, and the school corporation educating the student would receive the money for that student. Prior to 2006, the formula had contained a minimum guarantee, where a school district was assured of receiving at least the amount of money distributed through the formula the previous year, plus a fixed percentage increase of that amount. The new formula eliminated the minimum guarantee. Lawmakers believed the formula needed to be changed because school districts that were experiencing declines in enrollment continued to be paid for students who were no longer there, i.e., "ghost" students. Prior to and after this change, the formula contained what was termed a "deghoster," whose purpose was to phase out over a four year period payments for students no longer in attendance. The elimination of the minimum guarantee provisions in the formula resulted in an increasing downward trend in revenue for school corporations with declining enrollments.[12]

One of the most recent changes occurred in 2008 when the legislature passed Public Law 146, which eliminated property tax levies as a general fund revenue source for school districts.[13] Instead, sales tax revenue is now the principal source of funding for schools. When this legislation was being considered, school officials expressed several concerns: The volatility of the sales tax; the need for the stability of the property tax; the fact that the property tax relief was aimed solely at the school corporation's general fund which provides funding for teachers and educational programming; and the lack of a reserve for an extended economic downturn. In response to the last concern, the legislature created a reserve equal to approximate 4.5% of state tuition support, but school officials expressed concern that the amount was inadequate. With the national economic crisis in the fall of 2008, the reasons for these concerns were underscored. Due to the economic recession and lower-than-projected sales tax revenues in 2010, the state cut $300 million from public education, and school corporations were forced to make significant reductions in force and cuts in other areas of their budgets.[14]

At the same time the property tax was eliminated as a general fund revenue source, a change was made in the manner in which the complexity index was calculated. Prior to 2008, the complexity index was based upon five factors: (1) the percentage of the school corporation population 25 years old with less than a 12th grade education per the 2000 U.S. Census; (2) the percentage of students receiving a free lunch in the school year three years previous; (3) the percentage of limited English proficient students in the school year three years previous; (4) the percentage of families with a single parent counted per the 2000 U.S. Census; and (5) the percentage of families in the school corporation with children under 18 years of age who lived with a single parent per the 2000 U.S. Census. Beginning with the 2008 distribution, the complexity index consisted of only one factor--the percentage of students who received free and reduced-price lunch—which was to serve as a proxy for the other factors.[15] In addition, the use of a single factor simplified the calculation of the index. This series of formula changes led to legal challenges of the constitutionality of the school finance system, one of which went to the Indiana Supreme Court.

History of School Finance Litigation in Indiana

In 2007, Indiana was one of only seven states without a court ruling on the constitutionality of school funding.[16] That distinction changed in 2009 when the Indiana Supreme Court issued their ruling in *Bonner et al. v. Daniels et al.* where the Court granted the defendants' motion to dismiss the case.[17] The plaintiffs had argued that the finance system provided an adequate education to some students and denied it to others, violating the Equal Privileges and Immunities Clause, Article 1, Section 23 of the state constitution.[18] They based their argument on the premise that the state guarantees the right to an adequate education, but the Court found that "... absent such a constitutional right, these other constitutional claims lack merit."[19]

In February 2010, another school funding lawsuit, *Hamilton Southeastern et al. v. Daniels*,[20] was filed by three suburban school corporations on the grounds that the state system of funding disproportionately affected their school corporations and favored urban districts, thereby denying students a uniform education as required by the state constitution.[21] In November 2010, a Hamilton County judge denied a motion to dismiss. In a January 2011 update on school funding litigation, the National Access Network reported on the status of *Hamilton*, as follows:

> The court's decision focuses on the justiciability of the current case in relation to *Bonner v. Daniels*. The decision by Superior Court Judge Steven Nation states that in Bonner, "the Supreme Court did not have before it whether the same Constitutional language... the issue in this case is not equality of educational outcomes, as it was in Bonner. The issue here is uniformity of funding."
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> Before the judge could determine the merits of the case, however, the plaintiff school districts dropped the lawsuit in May 2011. They decided to do so in response to changes in the school funding formula made by the state legislature. The new changes adjust the formula by paying schools only for students actually enrolled, eliminating the phase-out of funding received by districts with declining enrollments.[22]

The next section describes the methods, data, and results of the analysis.

Analysis of Indiana's Distribution Formula

In order to examine the effects of the elimination of the minimum guarantee and the use of the free and reduced-price lunch proxy on the formula distribution, 2009 formula data from the Indiana Department of Education were used. Until 2010, school corporations had the following funds: general, debt service, capital projects, transportation, school bus fund, pension/severance fund, and preschool special education. The state distribution formula addressed only the general fund. This study examined the equity of funding with the inclusion of all state and local funds, not just the district's general fund. In order to complete this portion of the analysis, 2007 funding levels, the most recent year for which data for all funds were available, were used.[23] Traditional horizontal equity measures and vertical equity statistics[24] were calculated using the data described in the previous section. Comparisons of results were made to those of Hirth and Eiler's 2001 findings,[25] where appropriate.

Table 1
Regular Distribution Formula Equity Statistics Comparisons

Statistic	*Year*		
	2001	*2009*	
		Nominal $	*Constant $*
Mean	$4,988	$5,810	$4,962
Median	4,830	5,607	4,789
Range	6,440 2,540[a]	8,364 3,996[b]	7,144 3,413[c]
Restricted Range	1,153	1,485	1,268
Federal Range Ratio	0.2497	0.2722	
Coefficient of Variation	0.1106	0.1392 0.1068[c]	
Gini Coefficient	0.0992	0.0606	
McLoone Index	0.9769	0.9350	

[a] Without Prairie Township Schools.
[b] Without Prairie, Dewey, and LaCrosse Township Schools.
[c] Without two outliers, Dewey and LaCrosse Township Schools.

Table 1 presents horizontal equity statistics for the regular distribution formula in 2001 and 2009, the latter in both nominal and constant 2001 dollars. The regular distribution formula, which is intended to serve as foundation funding for all students, is the state distribution formula in support of the general fund and excludes categorical funding such as that for special and vocational programs. After being adjusted to 2001 dollars, the mean and median per pupil distribution were very similar. In 2001, the mean was $4,988 while in 2009 it was $4,962. The median was $4,830 in 2001, and $4,789 in 2009. However, the range, restricted range, and the federal range ratio all increased over this time period. The range increased from $2,540 to $3,431 while the restricted range rose from $1,153 to $1,268. The federal range ratio increased from .2497 to .2722.

With the exclusion of outliers, the coefficient of variation for per-pupil revenues decreased from 0.1106 in 2001 to 0.1068 in 2009. A coefficient of variation below 10% (0.10) is generally accepted as a difficult standard to meet. In Indiana's case, the changes in the formula appeared to move the state closer to meeting that standard. The Gini coefficient is another commonly used horizontal equity statistic in school finance that measures inequalities in the distribution of education funding. The Gini coefficient decreased from 0.0992 in 2001 to 0.0606 in 2009. A Gini coefficient of less than 0.10 is considered desirable. In both years, the Gini coefficient met this standard, and it improved in 2009. The McLoone Index takes a slightly different approach in that it measures equity in the bottom half of the distribution. Because Indiana's formula changes attempted to establish the same amount of funding for each student, one could hypothesize that these changes should have had the effect of providing a more equitable distribution of revenues in the bottom half. Between 2001 and 2009, the McLoone Index decreased from 0.9769 to 0.953. A McLoone index value of greater than 0.90 is considered desirable. In both years, the McLoone Index met this standard although it decreased somewhat in 2009.[26]

Table 2
2007 Equity Statistics All Funds

Coefficient of Variation	0.1356 0.1230[a]
Gini Coefficient	0.0668
McLoone Index	0.9302
Fiscal Neutrality	0.1857 0.1888[b]
Elasticity	0.0215 0.0213[b]

[a] Without two outliers: Dewey and Prairie Township School Districts.
[b] Excludes seven districts where data were reconstructed using 2008 assessed valuations.

To answer second research question, a correlation coefficient was calculated for the relationship between the pre-2008 and post-2008 complexity indices to determine whether free and reduced-price lunch counts represented an adequate proxy for the pre-2008 complexity index which included additional student and demographic factors. The complexity index represents a measure of vertical equity. The correlation between the pre-2008 and post-2008 complexity indices was 0.9506, indicating the proxy was a very similar measure.[27]

To answer the third research question, 2007 data for all state and local funds were used. The results of the horizontal equity analysis are found in Table 2. Excluding outliers, the coefficient of variation was 0.1230. The Gini coefficient was .0668, and the McLoone index was 0.9302. These results demonstrated that even when all funds were considered, horizontal equity as measured by the Gini coefficient and McLoone index still fared well.

Table 2 also contains two results for fiscal neutrality and elasticity, where each result represents a different method of addressing missing data. The first result includes all school districts, but seven of them used 2008 assessed valuation because 2007 data were unavailable. The second result excludes these districts from the analysis. The results for fiscal neutrality, expressed as correlation coefficients, were very similar, 0.1857 and 0.1888, respectively. Fiscal neutrality is a common school finance equity statistic that refers to the magnitude of the relationship between school district wealth (or fiscal capacity) and per-pupil expenditure. Ideally, there should be no relationship between wealth and expenditure. The modest positive correlations indicate the relationship between capacity, here defined as per-pupil property value, and per-pupil operating expenditures was fairly neutral. Elasticity is also a traditional school finance equity statistic that measures the percent change in per-pupil expenditures relative to the percent change in property value per student by means of simple linear regression. The results for elasticity were 0.0215 and 0.0213. Elasticity values under 0.05 normally indicate property wealth is not a major factor in spending differences. However, Indiana's results for elasticity may be due to state-imposed tax caps and state control of major portions of the funding.

The final set of observations deals with the complexity index. Using 2009 data for the regular distribution formula, the correlation between the complexity index and revenue per student was .7001.

Using the 2007 data for all funds, the correlation was .2211.[28] This suggests that while total funding was equitable, communities with higher complexity indexes did not fare as well as they did under the state distribution.

In summation, the distribution formula, before and after changes, fared well using traditional statistical measures of horizontal and vertical equity. In contrast, Toutkoushian and Michael took a different or "alternative" approach to the measurement of horizontal and vertical equity using multivariate statistical analysis.[29] Their results also showed gains in horizontal equity, and were larger than the ones reported here. For vertical equity, their results also indicated only modest gains.

Implications of *Bonner v. Daniels* for Indiana School Funding

The fourth research question asks how the *Bonner* decision might impact future adequacy and funding arguments in the state? In 2009, the Indiana Supreme Court made a ruling in a suit filed on behalf of several Indiana public school students that argued "...[T]he Indiana Constitution imposes an enforceable duty on state government to provide a standard of quality education to public school students and that such duty is not being satisfied."[30] The Court ruled the plaintiffs/appellants were not entitled to relief.

Justice Dickson wrote the majority opinion which reads as follows [italics are added for emphasis unless otherwise noted; underlining is from the original]:

> Although recognizing the Indiana Constitution directs the General Assembly to establish a general and uniform system of public schools, we hold that it does not mandate any judicially enforceable standard of quality, and to *the extent that an individual student has a right, entitlement, or privilege to pursue public education, this derives from the enactments of the General Assembly, not from the Indiana Constitution.*[31]
>
> The plaintiffs' complaint, and their appellants' brief do not allege violation of the "general and uniform system" or the "equally open to all" requirements, nor of any other specific provision of the Education Clause.[32]
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> ...[T]he education Clause expresses two duties of the General Assembly. The first is the duty to *encourage* [Italics in original] moral, intellectual, scientific, and agricultural improvement. The second is the duty to *provide* [Italics in original] for a general and uniform system of open common schools without tuition. The first is general and aspirational; the second is more concrete–the assessment of a specific task with performance standards ("general and uniform," "tuition without charge," and "equally open to all"). *Judicial enforceability is more plausible as to the second duty than the first.*[33]
>
> Determining the components of a *public education is left within the authority of the legislative branch* of government. Article 8, Section 1 imperatively places upon the legislature, "by all suitable means...to provide, by law, for a general and uniform system of Common Schools." But this imperative leaves to *that branch considerable discretion in determining what will and what will not come within the meaning of a public education system.* The duty rests on the legislature to adopt the best [school] system that can be framed; but they, and not the courts, are to judge what is the best system. *There is this limitation on legislative power: the system must be "a general and uniform one," and tuition must be free and open to all; but the extent of this limitation is this, and nothing more.*[34]
>
> ...[A]rguments that Indiana's public school financing system violates the Indiana Constitution's Equal Privileges and Immunities Clause and its Due Course of Law Clause...are predicated on the plaintiffs assertion the Indiana Constitution grants them a fundamental constitutional right to receive an adequate public education. ...Absent such a constitutional right, these other constitutional claims of the plaintiffs lack merit.[35]
>
> Significantly, the drafters of our Constitution did not include any reference to education in Article 1, the Bill of Rights, which declares the rights of individuals in relation to government. ...Education is not among the enumerated individual rights. To the extent that an individual student may have a right, entitlement, or privilege to pursue public education, any such right derives from the enactments of the General Assembly, not from the Indiana Constitution.[36]
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> The last sentence is restated in the opinion:
>
> We conclude that the framers and ratifiers certainly sought to establish a state system of free common schools but not to create a constitutional right to be educated to a certain quality or other output standard. In the absence of such a constitutional right to receive an adequate public education, the plaintiffs are not entitled to the declaratory relief sought...[37]

The Court made it clear that education is not a right under the Indiana constitution. The Court also made it quite clear that education is a duty of the legislature, and, in exercising that duty, the legislature has considerable discretion in how it carries out that duty. The Court restricts its role to enforcing a general and uniform system of schools equally open to all and free of tuition.

The degree of control granted to the state and the current uniformity of state funding would seem to preclude future legal challenges. The results of the research presented in this article affirm that Indiana's present system of education funding satisfies or comes very close to satisfying current equity measures. Furthermore, under current state law, Indiana schools appear to be equally open to all, and tuition is not charged. If inequities exist for a specific, identified group such as special education, minority, or limited English language students, perhaps a challenge could be made to the federal courts. However, a word of caution may need to be expressed to those considering such a course. The federal courts could enter a favorable decision, but such a ruling would not necessarily result in additional state funding. Given the Indiana Supreme Court decision, state legislators might take the position that local school corporations merely needed to reallocate existing funds.

Conclusion

The results of this study, when added to the weight of the ruling by the Indiana Supreme Court in *Bonner v. Daniels*, lead to four conclusions:

- Indiana's current system of funding education satisfies or comes very close to satisfying traditional, statistical measures of equity.

- Education is not a fundamental right in Indiana.
- The Court has determined that the legislature has great latitude in carrying out the duty to provide a general and uniform system of schools.
- Under the current system of funding schools, there is likely little basis for legal action challenging the adequacy or distribution of funding.

One possible exception is charter school funding. Indiana charter schools appear to receive approximately 16% more funding per pupil than schools in reorganized school districts. However, as the legislature has considerable latitude in carrying out their constitutional duty, such variance may still be within what is viewed as general and uniform. Nonetheless, charter school funding in Indiana is an area which needs further analysis.

The remaining issue which bears examination is the issue of traditional tools in the statistical analysis of funding equity. If one were to discuss the issue of funding equity with school superintendents, school business officials, and school boards in Indiana and ask if the current system of funding is equitable, one would hear a resounding, "No." While much of the disgruntlement might be removed with a higher foundation amount and a bottom-up equalization effort, those measures, at least in part, are arguments about adequacy which are now closed to judicial review. Toutkoushian and Michael offered an alternative, multivariate approach to measuring horizontal and vertical equity, using Indiana data to analyze the relationship between a school district's per pupil revenues and the various factors the state uses to determine per-pupil funding.[38] While acknowledging the use of multiple regression analysis will increase the difficulty in explaining findings to a general audience, they argued such an approach would provide for a better analysis of the issues involved in determining equity.

Still, there is clearly a gap between the statistical analysis of the data and the perceptions of Indiana school personnel and lawmakers. We agree with Toutkoushian and Michael that other methods need to be found to examine the critical question of equity in school funding.[39] In addition to quantitative measures, perhaps qualitative measures should also be considered. In sum, greater effort needs to be made to develop measures that are more easily understood and accepted by policymakers and school personnel.

Endnotes

[1] *Hamilton Southeastern Schools et al. v. Daniels*, Hamilton Superior Court. Cause No. 29 D01 1002 PL 198, filed February 10, 2010.

[2] *Bonner ex. Rel. Bonner v. Daniels* 907 N.E. 2d 516 (Ind. 2009).

[3] Robert K. Toutkoushian and Robert A. Michael, "Demystifying School Funding in Indiana," *Education Policy Brief* 3 (Winter 2005): 1-17 (Bloomington, IN: Center for Evaluation and Education Policy).

[4] Robert S. Michael, Terry E. Spradlin, and Fatima R. Carson, *Study of Educational Adequacy: How Much Money is Enough?* (Bloomington, IN: Center for Evaluation and Education Policy, 2010).

[5] In Indiana, schools districts are referred to as "school corporations."

[6] *Hamilton*, *supra* note 1.

[7] Robert, S. Michael,, Terry E. Spradlin, and Fatima R. Carson, "Changes in Indiana School Funding," *Education Policy Brief* 7:2:1 (Bloomington, IN: Center for Evaluation and Education Policy, 2009).

[8] The formula contains additional funding specifically for special education and vocational education.

[9] *Lake Central School District et al. v. State of Indiana et al.*, Newton County Circuit Court, Indiana Cause No. 56 Col-8703-CP-81

[10] Neil Theobald and Laura Taylor, "Indiana Public School Finance Programs," in *Public School Finance Programs of the United States and Canada 1998-99*, edited by Catherine Sielke, John Dayton, C. Thomas Holmes, and Anne L. Jefferson (Washington, D.C.: U.S. Department of Education, 2001).

[11] Marilyn A. Hirth and Edward Eiler, "Horizontal and Vertical Equity Analysis of Indiana's 2001 Reward-For-Effort Formula," *Journal of Education Finance* 30 (Spring 2005): 382-398.

[12] Michael et al. (2009) tracked ADM changes 1993-2009 using 1990 census demographic groupings and found a large, negative percentage change in student count in urban districts of 10.1%. Rural districts experienced a slight increase of 1.7%, while towns had an increase of 11.5%, the largest cumulative percentage increase, and suburban districts, 39.5%. Based on this analysis, they predicted that if these trends continued, urban districts would lose funding while suburban districts would experience increases.

[13] Ibid.

[14] This topic is the subject of another study yet to be completed

[15] In a 2006 report to the K-12 subcommittee of the Indiana Government Efficiency Commission, Toutkoushian and Michael reported free and reduced-price lunch count accounted for close to 57% of the variation in student performance across school districts. They also found that the poverty indicator was strongly correlated with free lunch count, at 0.81 (p. 5). They concluded that free and reduced-price lunch count was the most important of the five previous complexity index factors and, hence, an appropriate measure to adopt. See, Robert, K. Toutkoushian and Robert A. Michael, *Effects of Background and Policy Variables on School Performance in Indiana*, prepared for the K-12 Education Subcommittee (Indianapolis, IN: Indiana Government Efficiency Commission, 2006), as cited in Michael et al., "Changes in Indiana School Funding," 4.

[16] Michael et al., *Study of Educational Adequacy*.

[17] *Bonner ex. Rel. Bonner v. Daniels*.

[18] Michael et al., "Changes in Indiana School Funding."

[19] *Bonner ex. Rel. Bonner v. Daniels*, as quoted in Michael et al., "Changes in Indiana School Funding," 10.

[20] *Hamilton Southeastern Schools et al. v. Daniels*.

[21] Michael et al., *Study of Educational Adequacy*.

[22] National Access Network, "Indiana: Recent Events," January 2011, http://www.schoolfunding.info/states/in/lit_in.php3.

[23] The data selected for use were those from reorganized public school districts, and charter school data were not included. See the Appendix for a detailed description of the data.

[24] Robert Berne and Leanna Stiefel, *The Measurement of Equity in School Finance: Conceptual, Methodological and Empirical Dimensions* (Baltimore, MD: Johns Hopkins University Press, 1984).

[25] Hirth and Eiler, "Horizontal and Vertical Equity Analysis."

[26] Initially, the formula contained a calculation that provided a transition to the foundation. This could possibly help explain the slight decline in the index.

[27] Some have wondered about the nature of the correlation if free lunch count alone were used as a proxy. The result is a slightly higher correlation of .9621. The small difference in the degree of correlation is most likely due to the fact that the free lunch count made up 79.2% of the total free and reduced price lunch count in the state.

[28] If Perry Township is excluded as an outlier, the correlation is somewhat higher, .2551.

[29] Toutkoushian and Michael's alternative assessment of vertical equity was based on how close the partial linear relationships between per-pupil funding and vertical equity factors were to the weights used by the state. They used the same regression model to measure horizontal equity by looking at the variation in per-pupil funding that was not explained by the state's vertical equity and cost-related factors such as district size and geographic location. A multivariate model removes the effects of student and district characteristics often used to determine per-pupil funding in a given state. Their alternative measures of horizontal and vertical equity resulted in an improved measurement of the equal treatment of equals without the assumption that all school districts have comparable funding needs. See, Robert, K. Toutkoushian and Robert A. Michael, "An Alternative Approach to Measuring Horizontal and Vertical Equity in School Funding," *Journal of Education Finance*, 32 (Spring 2007): 399.

[30] *Bonner ex rel. Bonner v. Daniels*, 2.

[31] *Id*.

[32] *Id*., p. 5.

[33] *Id*.

[34] *Nagy*, 844 N.E.2d at 491 (quoting Robinson v. Schenck, 102 Ind. 307, 318, 1 N.E. 698, 705 (1885)), cited in *Bonner, supra* note 30, p. 7.

[35] *Bonner, supra* note 30, p. 8.

[36] *Id*.

[37] *Bonner ex rel. Bonner v. Daniels*, p. 8.

[38] Toutkoushian and Michael, "An Alternative Approach to Measuring Horizontal and Vertical Equity in School Funding."

[39] Ibid.

Appendix
Further Information on Data Used in the Study

Prior to the School Reorganization Act of 1959, Indiana had a system of schools organized through the township trustees. This system was replaced by a system of reorganized school districts under the control of a local school board. However, communities varied in the extent to which schools were consolidated, with a few communities choosing to remain township schools, e.g. Prairie Township (enrollment = 36.5) and Dewey Township (enrollment = 126). Because these two districts were considered outliers for the purposes of the study, the 2009 range in constant dollars in Table 1 was reported with and without them. These two districts were also excluded in the calculation of coefficient of variation in Table 1, and in the examination of the correlation between the complexity index and the dollars available per student in the 2009 regular formula distribution. Prairie Township was excluded in the examination of the same correlation used to examine all 2007 funds because of what appeared to be an irregularity in the computation of the complexity index. In the examination of 2009 data, LaCrosse Township School District (enrollment = 168) was not included because data were not available.

For 2007, data were either unavailable or incomplete for Brown County Community Schools (enrollment = 2,130); Cannelton City (enrollment = 25); and Union County/College Corner Joint Schools (enrollment = 1,543). Efforts made to contact Brown County Schools for data were unsuccessful, and there was no way to construct the data. Data for Union County/College Corner Joint Schools were incomplete.

There was also a problem of reassessment in Marion and Posey Counties. As a result, complete data were not available for 14 school districts. As the school districts contained nearly 20% of students in the state, an effort was made to secure the missing data. All school districts were contacted. Seven of the 14 districts provided the information requested. Enrollment in the seven districts that did not respond totaled 43,338 or 4.1% of Indiana's 2008-2009 total enrollment of 1,046,263. For these seven districts, it was possible to reconstruct data with the exception that for calculation of fiscal neutrality and elasticity, 2008 assessed valuations were used instead of 2007 assessed valuations. The results are reported using reconstructed data for these seven school districts.