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ABSTRACT

Findings of a study that incorporated a method for measuring the economic efficiency of K-8 school districts in Illinois are presented in this paper. The quadriform concept was used to identify four categories, or quadrants, for identifying school districts--technically efficient, low service, high service, and technically inefficient. The method also utilized composite state standardized test scores rather than composite ACT scores. The main variables for classifying schools included composite 11th-grade reading and mathematics scores and district operating expenditures per pupil for the 1990-91 school year. A comparison of the quadriform formula with the former method indicates that the new technique resulted in changed school district classifications. Small, rural school districts were identified as technically efficient, and large central city and suburban districts were generally categorized as technically inefficient. A conclusion is that the quadriform concept is a useful tool for identifying technically efficient school districts. Seven figures are included. The appendix contains eight statistical tables (Contains 84 suggested readings.) (LMI)

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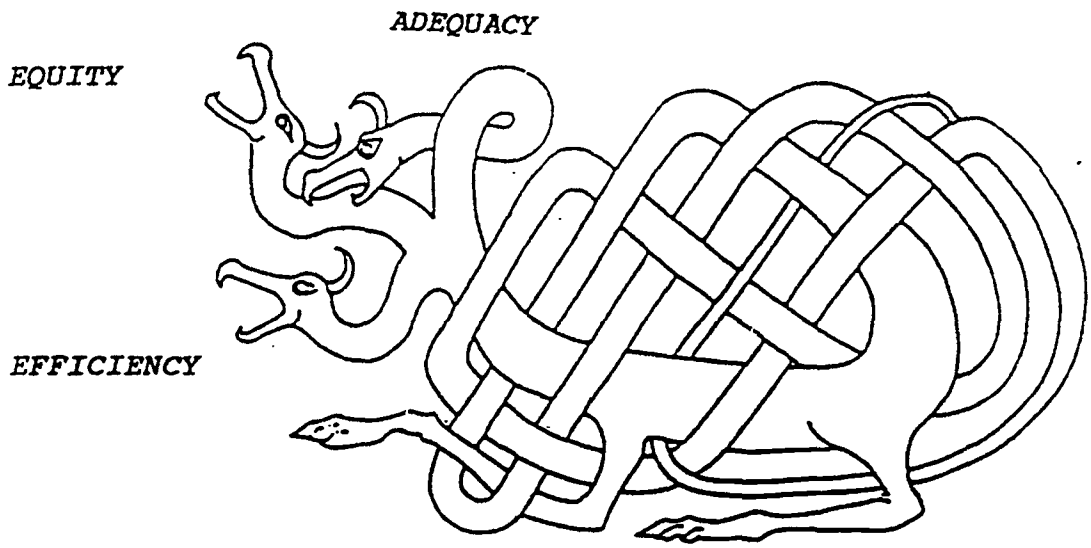
Assessing Inefficiencies in Illinois School Districts



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ABSTRACT

This study incorporated a method for placing school districts of a state in one of four categories measuring economic efficiency. Unit school districts in Illinois were used. The main variables used in classifying the schools were composite eleventh grade reading and math scores recorded from the Illinois goals assessment tests and district operating expenditure per pupil for the 1990-91 school year. Once the school districts were located in their respective quadrants the geographic and community types of each district were compared with the four quadrants. An analysis of variance was conducted using district attendance and mobility as well as other student centered variables. Finally the current quadrants and their populations were compared with the four quadrants and their populations as computed for monograph number sixteen of the MacArthur/Spencer special series on Illinois school finance.

Economically-efficient schools are identified as schools which attain higher than expected test scores at lower than expected costs. Expectation is based upon the socioeconomic status of the school districts and the property wealth of the school districts.

The study in question was performed in conjunction with the Center for the Study of Educational Finance at Illinois State University which is headed by Distinguished Professor Dr. G. Alan Hickrod.

Introduction

The purpose of this study was the further explication of a new approach to the study of economic efficiency in the K-12 schools in the United States. The procedures outlined here further applies an investigative technique which was first reported in monograph number eleven, and further refined in monograph number sixteen of the MacArthur/Spencer special series on Illinois school finance as presented by the Center for the Study of Educational Finance at Illinois State University. Each of these documents report the findings of particular doctoral dissertations completed at Illinois State University in addition to several scholarly works contributed by particular scholars in the field of school finance and law.

This study attempts to use the positioning of the unit school districts in the state of Illinois as developed in monograph sixteen and then go one step further. It will implement the Illinois General Achievement scores in reading in the formulation of a new quadriform. Multiple regressions will once again be used to construct the quadriform. Districts falling in each of the four

areas will be identified. Crosstabs analysis will the be used comparing the members of the current quadrants and both the geographic region of the state and the community type in which the district is located. An analysis of variance using student population variables will be run. Finally, the original quadriform with its occupants and the occupants of the newly constructed quadriform will be compared. It is hoped that there will be no change in the location of the districts. All unit school districts of the state of Illinois are to be used in the study.

The Concept of a Quadriform

The quadriform, in and of itself is nothing more than a tool devised so that an abstract situation can be portrayed in a somewhat understandable way. In the using the quadriform two related sets of data, pertinent to the cases in question, are employed in locating a particular case in relation to the other cases being investigated.

The concept of the quadriform begins with the same structural equations used in other econometric studies of school finance. Both cost and short-form production functions are used.

Figure 1 shows the interesting design that emerges when the residuals from the two equations are paired. It looks very much like an ancient heraldic shield with a so-called "first charge" (a cross) upon it. In the upper left hand corner are found districts with the desired higher than expected test scores, and lower than expected costs. These are considered to be economically-efficient. In the upper right hand corner are districts with both higher than expected test scores and higher than expected costs. Since it cannot be assumed that all output has been captured by the test scores, these districts are designated as "high service level districts." In the lower left quadrant are the lower than expected test score districts and the lower than expected cost districts. By the same assumptions, these are designated as "low service level districts." The districts in the lower left part of the design are frugal districts, but they are not very productive districts--not at least as they have been measured by productivity (from state wide standardized test scores). Finally, in the lower right hand corner of the design, in an area of the shield that ancient heraldry would have called the "sinister base" (sometimes history does come to the aid of the quantitative researchers), there are districts that have lower than expected test scores and also higher than expected costs. These districts are termed economically inefficient, if the empirical definitions are accepted.

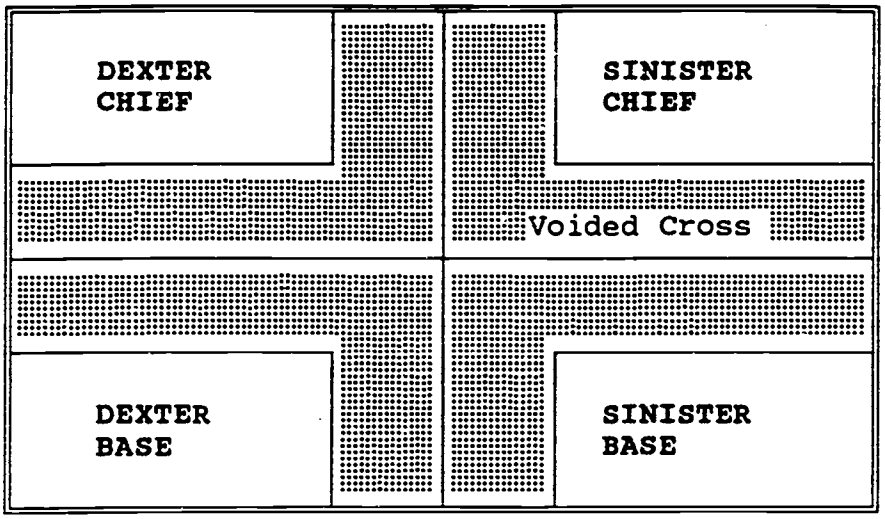


Figure 1. *Heraldic Representation, Educational Finance Quadriform*

But, what about the "first charge," the cross in the design? Technically, heraldry would hold that area to be a "voided" cross since it is empty of information. Again, that is an appropriate term, since it is the area of the design that is established by the error of estimate in the two structural equations that is established by the error of estimate in the two structural equations that created the residuals. This much of the space is considered to be filled with error variance or "noise." This cross can be large or small depending on whether a full standard error of estimate is selected or whether a part of a standard error of estimate is selected. After some ad hoc experimentation, one-half of a standard error of estimate was selected as being sufficient to guard against random error in the residuals. That is arbitrary, but there is a second procedure which, hopefully, will also help to rule out random error or "noise" in the residuals.

It is assumed that there will be a great deal of random error in these residuals from year-to-year. The unit district in question might possibly remain at a particular position relative to other districts and the regression equations might possibly change. The change in the regression line would then give a misleading idea that the district is now located in a different quadrant when, in actuality, its position relative to other districts really should not have changed. Therefore, in the original study, a four-year average of each individual variable used was calculated. The resulting average values were used in the computation of the desired statistics. Consequently, <u>all</u> unit districts in the state

would be included in the study; the sample becomes the entire population. In the case of this study, only single year values were used for the variables in question. For the construction of the quadriform rather than use the ACT composite scores the Illinois State Goals Assessment Test (IGAP) scores were used. It is suggested that if any attempt to incorporate the quadriform techniques is made with more than one years data then and average of the pertinent variables should be used.

The great advantage of the quadriform is that it forces one to make a conscious and deliberate distinction between "professional effectiveness" and "economic efficiency." This is its principal strength, and, from the point of view of many professional educators, it is very probably its principal weakness as well, as will be detailed below. In a sense, any public school with an average test score greater than expected, based on factors not under the immediate control of the administration of the district--these are usually socioeconomic characteristics of the district--could be considered an "effective" school. Such school districts are simply doing better than any one has any right to expect them to do, given the socioeconomic characteristics of their students. But, these may be "effective" schools at costs which are not acceptable to the majority of the taxpayers. They may be acceptable to professional educators, but to no one else.

The quadriform separates "effective" schools, so defined, into two groups: (a) districts that are effective at higher than expected costs, and (b) districts that are effective at lower than expected costs. That is to say, the quadriform enforces the ancient Scottish virtue of frugality upon the design. The schools in the desired quadrant are not only "effective," but also, they are spending less than they really could actually spend, given the wealth of the district as measured in terms of property valuation per pupil. So, a basic theoretical and normative position has been established by the quadriform: to be "effective" in the public schools is a necessary, but it is not automatically also a sufficient condition. The charge given to public school administrators is certainly to be professionally effective, but that charge includes being effective at an acceptable cost.

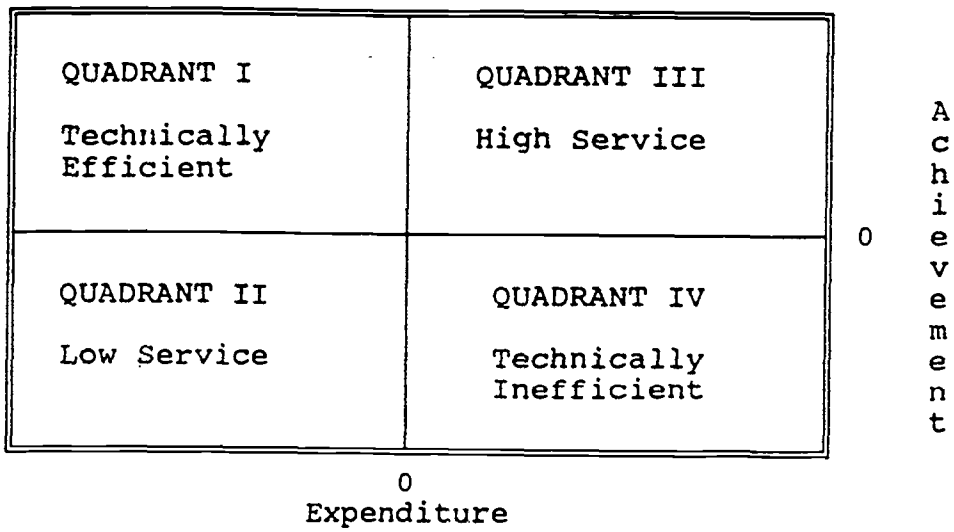


Figure 2. Quadriform of Educational Production

Horizontal Axis: Standardized Deviation from the Expected District Operating Expenditure Per Pupil

Vertical Axis : Standardized Deviation from the Composite IGAP Score

Quadrant I : Lower than expected operating expenditure per pupil
Higher than expected IGAP composite scores

Quadrant II : Lower than expected operating expenditure per pupil
Lower than expected IGAP composite scores

Quadrant III: Higher than expected operating expenditure per pupil
Higher than expected IGAP composite scores

Quadrant IV : Higher than expected operating expenditure per pupil
Lower than expected IGAP composite scores

The regression equations arrived at for the 90-91 school year are as follows:

IGAP Composite

$Y = -11.27 + .66x_1 + .001x_2 + .26x_3 - .50x_4 - .02x_5 + .59x_6 + 4.84x_7 - .13x_8$

	Beta
x_1 = Percent of all in District taking test	.1751
x_2 = Number of test takers in whole District	.0124
x_3 = Percent of District in Vocational Education	.0632
x_4 = Percent Mobility in the District	-.0607
x_5 = Percent Low Income Squared	-.2998
x_6 = Percent of District's high school in college prep	.1730
x_7 = Percent District Attendance	.0971
x_8 = Percent Low Income Enrollment in District	-.0353

R^2 = 0.34542 F = 25.65932 SIGNIF F = 0.0000

District Operating Expenditure Per Pupil

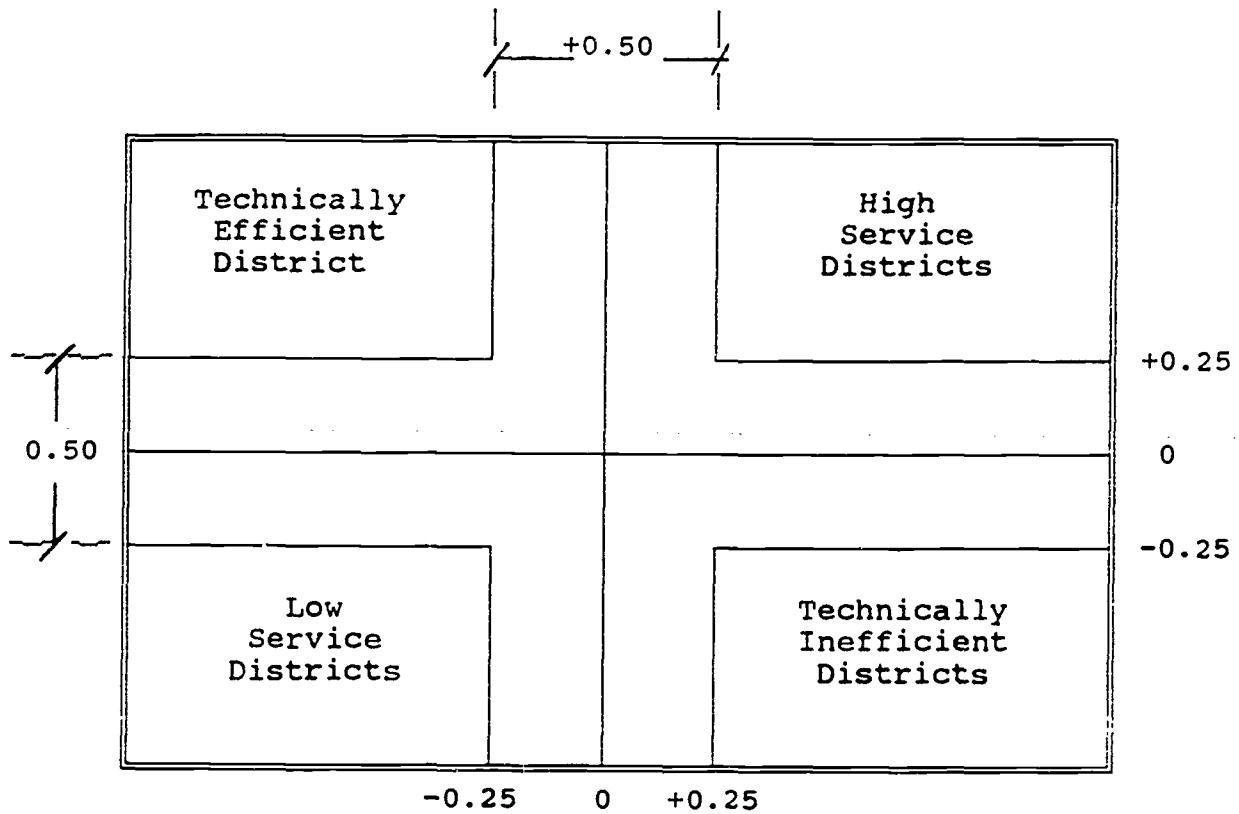
$Y = 3098.87 - 3.28\ E\text{-}04x_1 + 21.80x_2 + 0.01x_3$

	Beta
x_1 = Interaction between Low Income and Equalized Assessed Value	-.5067
x_2 = Percent Low Income	.4821
x_3 = Equalized Assessed Value per Pupil	.9976

R^2 = 0.34717 F = 70.72984 SIGNIF F = 0.0000

Figure 3. Regression Equations

Quadrant	Standardized IGAP Composite Residual	Standardized Operating Expenditure Residual
1	GT +0.250	LT -0.250
2	LT -0.250	LT -0.250
3	GT +0.250	GT +0.250
4	LT -0.250	GT +0.250



Horizontal Axis: Regression Line for DOEPP
Vertical Axis : Regression Line for IGAP Composite

Maximum DCEPP = 7787 Std Dev = 602.23 Mean = 3790.12
Minimum DOEPP = 2764

Maximum IGAP Composite = 641 Std Dev = 49.08 Mean = 509.14
Minimum IGAP Composite = 274

Figure 4. Educational Finance Quadriform Numeric Values

Efficiency thinking need not always be carried out in terms of costs or dollars spent. Physicians think in terms of benefit/risk ratios all the time. Is the benefit of a surgical procedure worth the risk to the patient? The surgery may be expensive; it can go wrong; the surgery can require additional supportive medical work, etc. For that matter, is the benefit of a simple diet worth the hassle to stay on it for long periods of time? Unless the benefit is in terms of demonstrably increased health--and not in terms of merely cosmetics--the answer may be, "NO"--at least beyond a certain age where looks are less valued than at some prior point in life. There are also much more serious questions of an efficiency nature. Historically, the physician is dedicated to the continuation of life; but, if the quality of life of a patient degenerates beyond a certain level, it is difficult--perhaps it is impossible--to justify sustaining such an existence.

Educators in special education have faced those kinds of very difficult questions for generations. Is the amount spent on special education worth the benefits to the individual and to society? That last question is especially difficult. The calculation of individual benefit is difficult enough, but even more difficult is the estimate of whether or not the benefit to the larger society is sufficient to justify the expenditure. Often, the yield to the individual is sufficient to justify the expenditure from that individual's point-of-view, but what about the yield from the societal point-of-view? Efficiency thinking can bring one to a very ancient question of political economy, "Is it the greatest good for the greatest number for which we strive?" If that is so, then what about the good of any individuals who may have to be sacrificed in the process?

CLASSIFICATION RESULTS FOR ILLINOIS

The definition of technical economic efficiency as presented by the quadriform exerts the main influence on the findings and conclusions drawn in the current study.

The primary intent here was to create a new quadriform using composite IGAP test scores rather than composite ACT test scores. Having created the new quadrants using 1991 data a listing of the unit school districts was again tabulated for each of the quadrants.

Figure 5 describes the frequencies, totals and percentages by quadrant. The values from the previous study are contained in parentheses.

Value Label	Value	Frequency	Percent
Technically Efficient	1	87 (75)	21.6 (17.9)
Low Service	2	59 (76)	14.6 (18.1)
High Service	3	53 (62)	13.2 (14.8)
Technically Inefficient	4	57 (55)	14.1 (13.1)
Four Quadrant Total		256 (268)	
In "Voided Cross" (Eliminated)		147 (151)	36.5 (36.0)
		403 (419)	100.0

Figure 5. Frequency Count by Quadrant

CONCLUSIONS

The main purpose of the study was to determine if by changing the output portion of the quadriform there would be a change in the characteristics of the school districts found in the new quadrants and those determined in earlier quadriform studies using ACT scores.

The quadriform constructed in the present study compared the composite IGAP scores and district operating expenditure per pupil. Based on the findings presented here, the following specific conclusions can be drawn.

When considering geographic regions on the state, one would expect to find the following types of districts in the specific region cited:

Northern	===>	Technically Inefficient
Central	===>	Technically Efficient
Southern	===>	Technically Efficient

Taking into consideration the general economic makeup of the state, a somewhat logical pattern is presented here.

When considering the community type that the district is located in, we could expect the following type of dispersals in the quadrants:

Central City	===>	Technically Inefficient
Suburban	===>	High Service
		Technically Inefficient
Small City	===>	Technically Efficient
Rural	===>	Technically Efficient

If the size of the district is taken into consideration, one would expect to find the following types of districts in the size ranges listed:

		Liliput	<1000	===> Tech. Efficient
1000	≤	X-Small	< 2000	===> Tech. Efficient
2000	≤	Small	< 3000	===> Tech. Efficient
3000	≤	Medium	< 7000	===> High Service
7000	≤	Large	< 10,000	===> High Service
		Mega	≥ 10,000	===> Tech. Inefficient

Collectively the results of the Chi-square analysis might be used to categorically describe a typical school district as found in each of the four quadrants. It is important to remember that there are districts that appear in each of the quadrants for each of the areas. The following might be said of the unit school districts in Illinois based on the data used in the current study:

Technically Efficient districts tend to be located more in the central part of the state and are rural in nature with a student population of less than 3,000.

Low Service districts seem to be found also in the central part of the state and are usually rural.

High Service districts are mostly found in the north and tend to be rural in community type and a student population of between 3,000 and 100,000.

Technically Inefficient districts can usually be found in the northern part of the state and seem to be mostly of the central city and suburban community types. Due to the size classifications the highest percentage of these districts is classified as a **MEGA-District** (over 100,000 students). When checking the crosstabs tables we see that Technically Inefficient district rank either second or third for any of the district size ranges.

Any further inquires into the crosstabs should be direted to the Appendix numbers 8.5, 8.6 and 8.7.

When the locations of the districts in the old quadriform were compared with the locations in the new quadriform the following were found:

Previous Quadriform Location	Percent Districts Repeating
1	44.6
2	32.0
3	40.4
4	40.4

As an offshoot of the study the IGAP scores in reading and math were studied in terms of the district size range. It can clearly be seen in Figure 6 that the mean reading scores are higher than the mean math scores with the exception of the 7000-100000 range. The endpoints are lower than the middle groupings. This is magnified by using the Composite (sum of both the reading and math) IGAP score in Figure 7. Those districts in Range 3 and 4 are clearly higher than the others.

Literature abounds stating either the benefits of small districts vs large districts or that large districts are better than smaller districts. What we seem to be seeing here is that it is the mid-range size districts are those that produce the higher scores in both reading and math. In the previous two studies a shift to moderation also seemed to be indicated.

The variations in the reported scores present a number of possibilities for further investigation. These are listed in a following section.

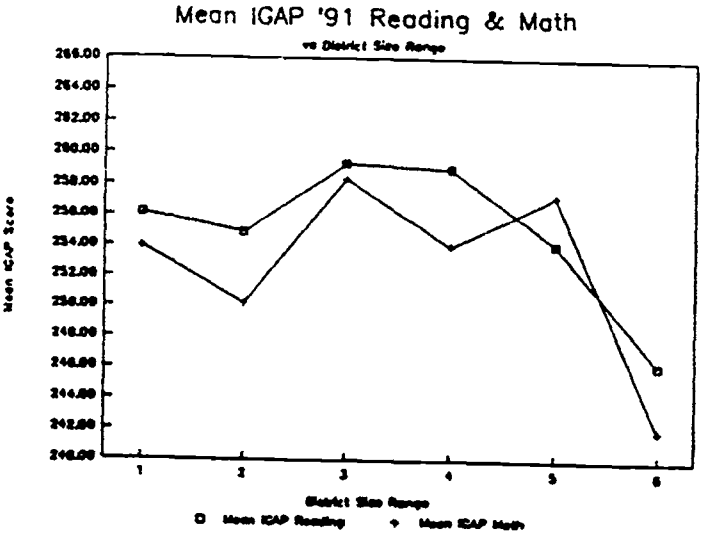


Figure 6. Mean IGAP Math and Reading vs.District Size

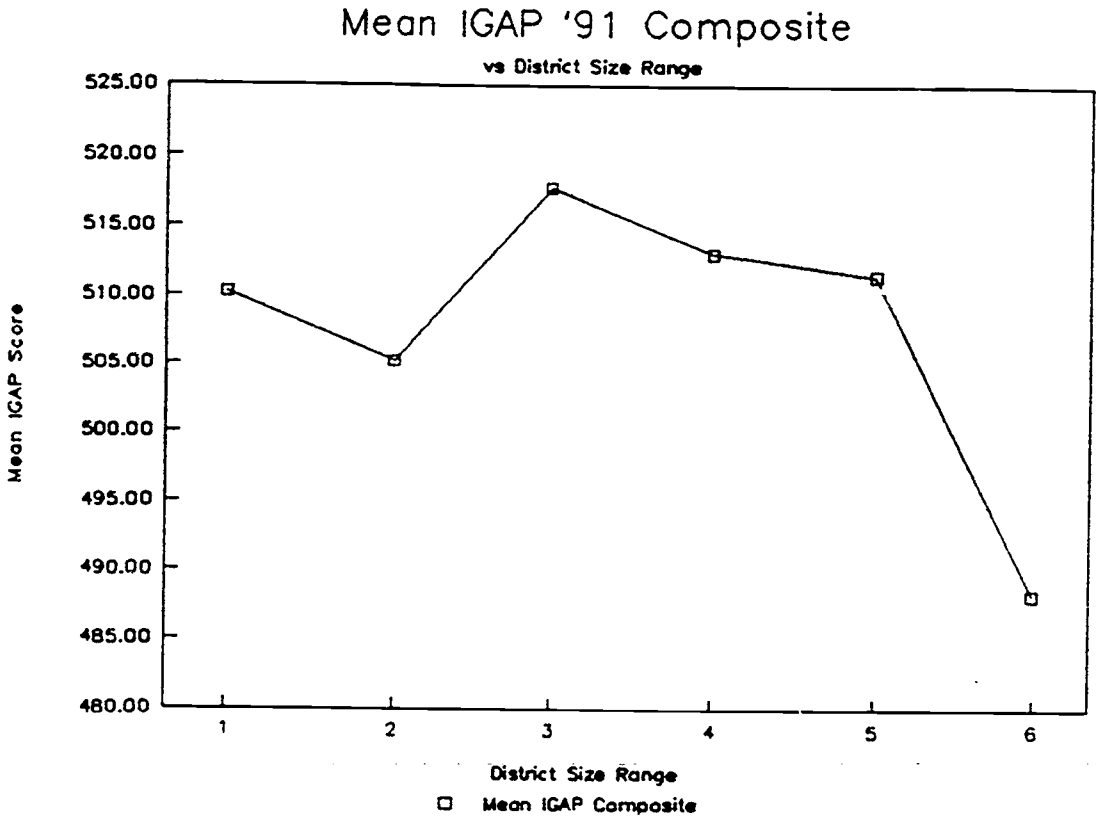


Figure 7. Mean Composite IGAP vs. District Size

LIMITATIONS ON THE PROCEDURE

It goes without saying that as in any research project there are limitations. The fact that the entire analysis is based on a state-wide standardized test is a major limiting factor. Unfortunately, so are most other procedures used in the study of economic efficiency. Test scores seldom if ever truly represent an accurate measurement of academic output. Add to this the fact that there has been extensive "creative management" when it comes to who and when the ACT tests are taken and the problem is magnified. Pointing out these obvious shortcomings does not justify abandoning attempts at discovering methodologies for studying economic

efficiency. One redeeming factor of the present study is that all students in the state, at the eleventh grade level, took the tests used. "Creative management" is thereby reduced, at least, if not eliminated completely. As more Goals Assessment Tests are added to the list of tests hopefully a more meaningful composite score will evolve and it should follow that an accurate measure of efficiency in the state will result.
Among other possibilities that could be considered would be a larger standard error estimate.

Economically efficient school districts should not be thought of as automatically being professionally effective. This presents an ethical dilemma for the professional education. Persons in the public sector are confronted with this on a regular basis. The educational community is becoming more aware of this situation. It might take some time for us to become familiar with that fact.

FURTHER RESEARCH

It is felt that with the conclusion of the present study the concept of the quadriform as a tool for the identification of Technically Efficient school districts has been established. Further, we feel that any quantitative variable, interval or discrete, as long as it is a characteristic of a school district can be investigated in terms of the quadriform.

After observing the differences in the IGAP scores when compared by district size other avenues of comparison become evident. Some possibilities for further investigation might be the differences in the IGAPs as compared to ethnic groupings, percent low income groupings, class size, pupil/teacher ratios, etc.

In our last work we made mention to an attempt at investigating the unit school districts in the state of Illinois in terms of the curriculum offered. Rather than pursuing that avenue the present study was conducted. It is hoped that the curriculum of the districts in relation to the quadriform can now be attempted.

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8.10 Variable Descriptives

Variable Descriptives (ALL as averages)			
Variable	**Overall Means**	**Maximum**	**Minimum**
IGAP Math Scores 1991	253.09	342.00	137.00
IGAP Reading Scores 1991	255.96	319.00	137.00
IGAP Composite Score 1991	509.14	641.00	274.00
IGAP Reading Scores 1990	251.28	320.00	170.00
District Enrollment	2797	401554	144
% District Attendance Rate	95.22	98.00	89.80
% District Mobility Rate	14.38	48.70	1.60
% District Low Income	20.20	96.50	.40
Assessed Value 1991	151935152	2.43 E +10	4579930
Assessed Value per Pupil	55230.67	917544.60	9364.39
Operating Expenditure / Pupil	3790.12	7787.00	2764.00
% Students in College Prep	55.15	100.00	20.80
% Students in General Educ	18.79	61.50	.0
% Students in Vocational Educ	26.06	60.3	.0
% of Class Taking the Test	58.14	11.80	100.00
% in College Prep Taking Test	30.09	1286	0
Total Number Taking the Test	87	9059	2

8.20 Table of Means

Variable Means by Quadrant					
Variable	**Tech. Effic. Quad=1**	**Low Service Quad=2**	**High Service Quad=3**	**Tech. Ineffic. Quad=4**	**Overall Means**
IGAP Math 91	271.60	232.68	274.47	233.25	253.09
IGAP Reading 91	272.49	238.90	271.75	231.53	255.96
IGAP Comp 91	544.09	471.58	546.23	464.77	509.14
IGAP Reading 90	255.43	244.69	257.04	243.93	251.28
Dist. Enrollment	1389.56	1183.59	2730.81	9097.21	2797.82
% Attendance Rate	95.40	95.38	94.92	95.00	95.22
% Dist. Mobility	13.15	13.92	15.62	15.35	14.38
% Low Income	20.31	21.92	19.85	21.82	20.20
Equal Ass. Val.91	68111323	56663333	168409546	531330519	151935152
EAV per Pupil	54047.11	46197.88	62506.03	66104.63	55230.670
Operat Exp/Pupil	3398.54	3372.54	4384.15	4401.65	3790.12
% College Prep	53.31	55.46	58.49	54.50	55.15
% General Educ.	20.15	16.74	16.82	18.33	18.79
% Vocational Educ	26.54	27.80	24.69	27.18	26.06
% Class Tested	59.26	57.13	58.68	56.46	58.14
# Col Prep Tested	17.94	13.49	52.02	52.77	30.09
# Total Tested	52.97	42.73	108.23	224.72	87.08

8.30 ANOVA Table

ANOVA Table of Variables		
Variable Title	**F-Ratio**	**F-Prob**
District Operating Expenditure / Pupil	85.1864	.0000
Assessed Value per Pupil 1991	.9171	.4332
District Low Income	.3142	.8151
District Low Income Squared	.5527	.6468
Interaction	.9237	.4299
District Attendance Rate	4.2841	.0057
District Mobility Rate	2.6668	.0483
Students in Vocational Education	.7232	.5390
Students in College Preparation	1.3997	.2434
Number of Students taking Test	1.3082	.2722
Students in General Education	1.2702	.2851
% All Students taking Test	.6782	.5661
# District Test Takers in College Prep	3.1984	.0240
IGAP Reading 1990	5.1281	.0019
IGAP Reading 1991	76.6979	.0000
IGAP Math 1991	60.3236	.0000
IGAP Composite 1991	83.4650	.0000

8.40 Follow-up Tests

Follow-up Tests (Difference between Quadrants)			
Variable	**Scheffe**	**Tukey-HSD**	**LSD**
Operating Expenditure per Pupil	3 & 2, 1 4 & 2, 1	3 & 2, 1 4 & 2, 1	3 & 2, 1 4 & 2, 1
District Attendance Rate	1 & 3	1 & 3	2 & 3, 4 1 & 3, 4
District Mobility Rate			4 & 1 3 & 1
District in College Preparation			3 & 1
IGAP Reading Score 1990	1 & 4 3 & 4	1 & 4, 2 3 & 4, 2	1 & 4, 2 3 & 4, 2
IGAP Reading Score 1991	3 & 4, 2 1 & 4, 2	3 & 4, 2 1 & 4, 2	2 & 4 3 & 4, 2 1 & 4, 2
IGAP Mathematics Score 1991	1 & 2, 4 3 & 2, 4	1 & 2, 4 3 & 2, 4	1 & 2, 4 3 & 2, 4
IGAP Composite Score 1991	1 & 4, 2 3 & 4, 2	1 & 4, 2 3 & 4, 2	1 & 4, 2 3 & 4, 2

8.50 Crosstabs Quadrant and Region

Count Row Pct Col Pct Tot Pct	Voided Cross	Technically Economically Efficient QUAD=1	Low Service QUAD=2	High Service QUAD=3	Technically Economically Inefficient QUAD=4	Row Total
NORTHERN REGION	48 39.3 32.7 11.9	15 12.3 17.2 3.7	8 6.6 13.6 2.0	24 19.7 45.3 6.0	27 22.1 47.4 6.7	122 30.3
CENTRAL REGION	66 38.6 44.9 16.4	38 22.2 43.7 9.4	28 16.4 47.5 6.9	19 11.1 35.8 35.1	20 11.7 35.1 5.0	171 42.4
SOUTHERN REGION	33 30.0 22.4 8.2	34 30.9 39.1 8.4	23 20.9 39.0 5.7	10 9.1 18.9 2.5	10 9.1 17.5 2.5	110 27.3
Column Total	147 36.5	87 21.6	59 14.6	53 13.2	57 14.1	403 100

8.60 Crosstabs Quadrant and Community

Count Row Pct Col Pct Tot Pct	Voided Cross	Technically Economically Efficient QUAD=1	Low Service QUAD=2	High Service QUAD=3	Technically Economically Inefficient QUAD=4	Row Total
Central City	6 46.2 4.1 1.5	2 15.4 2.3 .5		2 15.4 3.8 .5	3 23.1 5.3 .7	13 3.2
Suburaban	13 21.7 8.8 3.2	12 20.0 13.8 3.0	3 5.0 5.1 .7	16 26.7 30.2 4.0	16 26.7 28.1 4.0	60 14.9
Small City	23 33.3 15.6 5.7	25 36.2 28.7 6.2	11 15.9 18.6 2.7	5 7.2 9.4 1.2	5 7.2 8.8 1.2	69 17.1
Rural	105 40.2 71.4 26.1	48 18.4 55.2 11.9	45 17.2 76.3 11.2	30 11.5 56.6 7.4	33 12.6 57.9 8.2	261 64.8
Column Total	147 36.5	87 21.6	59 14.6	53 13.2	57 14.1	403 100

8.70 Crosstabs District Size Range

Count Row Pct Col Pct Tot Pct	Voided Cross	Technically Economically Efficient QUAD=1	Low Service QUAD=2	High Service QUAD=3	Technically Economically Inefficient QUAD=4	Row Total
Liliput	93 41.0 63.3 23.1	44 19.4 50.6 10.9	32 14.1 54.2 7.9	27 11.9 50.9 6.7	31 13.7 54.4 7.7	227 56.3
Ex-Small	27 28.4 18.4 6.7	31 32.6 35.6 7.7	19 20.0 32.2 4.7	6 6.3 11.3 1.5	12 12.6 21.1 3.0	95 23.6
Small	6 20.7 4.1 1.5	8 27.6 9.2 2.0	6 20.7 10.2 1.5	4 13.8 7.5 1.0	5 17.2 8.8 1.2	29 7.2
Medium	13 43.3 8.8 3.2	2 6.7 2.3 .5	2 6.7 3.4 .5	9 30.0 17.0 2.2	4 13.3 7.0 1.1	30 7.4
Large	2 20.0 1.4 .5	1 10.0 1.1 .2		4 40.0 7.5 1.0	3 30.0 5.3 .7	10 2.5
Mega-Districts	6 50.0 4.1 1.5	1 8.3 1.1 .2		3 25.0 5.7 .7	2 16.7 3.5 .5	12 3.0
Column Total	147 36.5	87 21.6	59 14.6	53 13.2	57 14.1	403 100