

ASSESSING CHARTER SCHOOL PERFORMANCE IN ILLINOIS: A PILOT STUDY USING ERROR-BAND ANALYSIS

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Assessing Charter School Performance in Illinois: A Pilot Study Using an Error-Band Analysis

Adopting the “error band” approach introduced by Standard and Poor’s, this paper conducts a pilot evaluation on charter school performance in Illinois over the last five years. This research project not only addresses the substantive issue of charter school performance, it also establishes a strong partnership between researchers and charter practitioners. By bridging the research-practice divide, this paper provides a useful perspective for policymakers in the statehouse and charter practitioners at the schoolhouse. Our primary findings related to charter school performance in Illinois are:

- Charter elementary performance improves over time, with longer running charters beating statistical expectations for their value-added to student achievement.
- Charter high school performance is distributed roughly the same as traditional public schools, with most charters neither above nor below statistical expectations.
- Charter school performance varies significantly by school, subject matter, and grade level. Charters generally perform better in reading, than in math.
- Charter school science achievement in both elementary and secondary grades remains low, relative to other subject matters.

As the national charter school movement nears its fifteenth anniversary, there appears to be a growing consensus amongst charter school researchers that evaluation of the charter movement is best carried out by analyzing the performance of individual

charter schools. Buddin & Zimmer (2005) are echoing many when they conclude that, “it may be very difficult to develop universal conclusions about charter schools nationally as charter school performance varies from state-to-state, charter type to charter type, and even charter school to charter school.”¹ Rather than asking, “Are charter schools working?” the better question is: *Which* charter schools are effective, which charter schools are not, and what explains the differences between the two?

At the same time as charter school researchers are focusing their attention on school-level success and failure, charter school *operators* continue to search for better ways to effectively use the mountains of data provided by their state and district accountability offices. For many years, policy experts have suggested strategies that provide roadmaps for charter schools to use statewide accountability data in their operations.² With limited resources, however, charter schools often do not have the resources to carry out the types of data analysis that are required to sort through the many layers of performance data. To use an analogy, in the charter school “marketplace” individual charter schools often do not have adequate information about their disaggregated performance in individual sectors (e.g. grade levels and subject matter). Similarly, charter schools do not have suitable internal tools for evaluating value-added over time.

Recognizing charter operator’s need for better school-level performance evaluation, as well as the research trend toward school-level analysis, we believe the time

¹ Buddin, Richard and Ron Zimmer. 2005. “A Closer Look at Charter School Student Achievement,” *Journal of Policy Analysis and Management*, Vol. 24, No. 2, Spring 2005, p. 369.

² Early examples include: Hassell, Bryan and Paul Herdman. 2000. *Charter School Accountability: A Guide to Issues and Options for Charter Authorizers*, Annie E. Casey Foundation; and, Nahas, Jennifer & Roblyn Bringham. 2000. *Charter School Accountability Action Guide*, Massachusetts Charter School Resource Center.

is right for increased partnership between researchers and charter practitioners. As this paper will illustrate, such partnerships can be of great benefit to both parties. Charter school operators can gain a better understanding of how the various segments of their operations are performing, and how this performance has changed over time. Researchers can look to the expanded analysis on overall charter school performance to see how charters as a whole are performing.

We hope that charter schools in Illinois will be interested in receiving Error Band School Summaries, and that other states will see the value of using the error band approach to better understand charter school performance. Partnership with the research team in additional states and with additional charter schools can serve to expand the analysis in this paper and produce a more comprehensive national charter school evaluation.

The paper is organized into four sections. We first provide a brief review of current research on charter schools and student achievement. We then discuss the error band methodology in the context of Illinois' charter schools. We analyze charter school achievement levels in five school years, spanning 2001 to 2005. We analyze both the overall charter school performance levels, as well as discussing the achievement of the Chicago International Charter School (CICS). In the final section of the paper, we discuss how the error band approach can be expanded, and how additional case-studies of best practices can be used complementarily with the error band approach. It is our hope that this paper will serve as a catalyst for additional research, as well as a framework for other states and schools to adopt in order to improve their assessment and accountability routines.

I. Background on Charter School Achievement

Research on charter school achievement is increasingly recognizing that achievement will vary across charter schools.³ Even longtime charter advocate Chester Finn recognizes that not all charter schools are going to succeed: “Putting the word “charter” over a schoolhouse door assures neither success nor failure. These schools are astoundingly diverse. Some are the highest-performing schools in town. Others are total messes.”⁴ The recognition that some charters outperform others has important implications for charter research. Researchers have a renewed imperative to provide policymakers with neutral, objective evaluation of charter schools.

Policymakers recognize that with divergent charter school outcomes, one can find evidence on both sides of the debate. A look at some representative policymaker publications illustrates this. The *School Planning & Management* magazine is intended for school district decision makers, to “help provide solutions to problems you face each and every day.”⁵ In a March 2005 article titled, “Dueling Charter School Research,” the magazine notes that “even experienced researchers can have trouble summarizing the results of dozens of studies attempting to quantify results in this politically charged undertaking,” and that “most discussions of charter school performance feature political undercurrents.”⁶ More than just recognizing charter school policy as political charged, the article is noting that charter school *research* is politically charged as well. The

³ Two good summaries of the charter school achievement literature are: “Charter School Achievement: What We Know”, Bryan C. Hassel, Charter School Leadership Council, 6/16/2005; and Vanourek, Gregg. 2005. *State of the Charter School Movement 2005: Trends, Issues, and Indicators*. Online: <http://www.publiccharters.org/content/publication/detail/543/>.

⁴ “Judging Charter Schools.” by Chester E. Finn Jr., *Hoover Institution Weekly Essay*, March 30, 2005. <http://www-hoover.stanford.edu/pubaffairs/we/2005/finn03.html>

⁵ See: <http://www.peterli.com/spm/about/aboutspm.shtm>. (Accessed June 2005).

⁶ Fickes, Michael. (2005). “Dueling Charter School Research,” *School Planning & Management*, March 2005, 44 (3), p20-23.

American School Boards Journal ran a similar article in October 2004, entitled, “The controversy over charter school scores reinforces a partisan split.”⁷ Toward the end of the article, they quoted their in-house analyst Marc Egan, who observed that, “the reaction of the education and policy world has been as big a story as the initial story itself.”

That research agendas are political is not news.⁸ But that front-line practitioners are now being informed so directly about the partisan nature of the research is an important development. Perhaps the most overlooked victim in the politicization of charter school research are charter operators themselves. Charter practitioners are in need of legitimate research that they can trust – research that can help them provide better teaching and learning for the students they serve. Without legitimacy, the risk is that we will end up with more “bad apple” charter school operators such as C. Steven Cox of the California Charter Academy (CCA).⁹

Legitimacy is also important for improving public awareness about public schools. Although this may come as a surprise to charter advocates who have been working for years in the field, the public at large today remains relatively unaware about what charter schools are. In a poll that the Charter School Leadership Council commissioned in March and April 2005, they found that only 12% of registered voters knew a great deal or quite a bit about charters. A super-majority, 65%, knew very little or nothing at all about charter schools.¹⁰ When registered voters were informed about what charter schools were, support was approximately 60% (with 30% opposed). But without

⁷ “The controversy over charter school scores reinforces a partisan split.” *American School Boards Journal*, October 2004.

⁸ See: Smith, Kevin. (2005). “Data Don't Matter? Academic Research and School Choice,” *Perspectives on Politics*, 3 (2), pp. 285-299.

⁹ See the Press Release and full audit report at: <http://www.cde.ca.gov/nr/ne/yr05/yr05rel43.asp> (Accessed June 2005).

¹⁰ Vanourek (2005), p. 36.

the extra information provided by the interviewer, only 37% of registered voters supported charters (with 17% opposed and 47% uncertain).¹¹ This lack of knowledge about charter schools mirrors results from a poll commissioned by the Center for Education Reform in January 2005. In that poll, a majority of respondents did not know what a charter school was.¹²

This knowledge deficit regarding charter schools suggests that the public presentation of charter school achievement data will become increasingly important. As the public encounters charter schools for the first time, how will they be exposed to the concept? How will charter schools be discussed in the popular press, and in professional circles? The questions are even more acute when we take into consideration William Howell's (2004) findings that the way the education issues were framed had a significant impact on parental support for the issue.¹³

In light of all these challenges, how should charter researchers proceed? In this study, we adopt several principles to guide our research:

- **Partnership.** One of the hallmarks of this paper is that it has developed out of partnership between the research team and charter school operators. Researchers can help schools understand what the range of possible analyses are, and charter operators can articulate the types of analysis that would be most useful “on the ground”.

¹¹ Ibid.

¹² See: Center for Education Reform, “Survey Reveals Public Information Gap on Charters; Public Awareness Not Keeping Pace with Growth,” Available on-line at: <http://www.edreform.com/index.cfm?fuseAction=document&documentID=2038>.

¹³ Howell, William. (2003). “Parents, Choice, and Some Foundations for Education Reform in Massachusetts,” Pioneer Institute for Public Policy Research, White Paper #22.

- **Accessible.** We want both researchers and practitioners to be able to understand the substance of the paper. Consequently, we have chosen the error band methodology because it blends quantitative and visual presentation of results, making the results more accessible to a wider audience. Our School Summary tool is also designed to provide operators with an easy way to quickly assess their school's performance relative to other similarly positioned schools.
- **Comprehensive.** Rather than a single-year snapshot or focus on a single subject matter, we want to provide detailed analysis over multiple years and across a broad range of indicators. Such an approach allows us to identify performance differences across sectors and across time in the charter school marketplace.
- **Control for Socio-Economic Status (SES).** The centrality of student socio-economic status in determining student achievement has been well documented. The error-band approach recognizes the importance of SES, and all of our achievement analysis consequently controls for schools' low income student populations.

Guided by the principles just noted, we now present the details of our analytic approach.

II. Methodology: Utilizing the error band approach

In this paper, we adopt a modified version of the “Error Band Approach” as introduced by Standard & Poors in 2004.¹⁴ The Error Band approach is designed to identify under- and over-performing districts or schools, relative to state averages and statistical expectations based on variations in economically disadvantaged student

¹⁴ Gazzoero, Paul & Martin Hampel. 2004. “Identifying outperforming and underperforming schools: Introducing the SES “Error Band” method,” *Standard & Poors School Evaluation Services*, No. 1, May 2004. Online: <http://www.schoolmatters.com>.

populations. While Standard & Poors has focused their attention on analysis at the district level, in our evaluation we focus on *school* level variations.¹⁵ We consider not only achievement in single years, but measure of value-added over different periods of years. Our analysis is also distinct in that we place special emphasis on identification of charter school performance, relative to other schools in the state.

The statistical mechanics of the error band approach are relatively straightforward. The approach, which includes four steps, is carried out for each achievement indicator, separately for each subject, and for each grade tested. First, we determine average school achievement levels and average school percentage enrollments of students eligible for free or reduced priced lunch.¹⁶ These two values are used to determine the two thick maroon lines on the graph. The thick horizontal maroon line is the average achievement level, and the thick vertical maroon line is the average percentage of low-income students enrolled in the schools. We shade in light blue the upper-right quadrant of the graph. S&P calls this region the “Beating the Odds” region because schools in this quadrant have above-average achievement even with above-average percentages of low-income students.

The second step is to plot all of the schools on the graph, and determine the relationship between the outcome measure and the percentage of low-income students in the school. Since the findings of James Coleman (1965) over forty years ago, social scientists have found that student socio-economic status (SES) is one of the most

¹⁵ S&P has, for instance, published an error-band analysis of Illinois school districts. See: <INSERT URL>

¹⁶ Following the S&P approach, these are unweighted averages. Thus, they may vary slightly from a state aggregate measure of achievement or percentage of low-income students.

important factors in determining academic success.¹⁷ On the graphs, each school is a single black dot.

We use ordinary least squares (OLS) regression to determine the statistical relationship between school achievement levels and school low-income student populations.¹⁸ Based on this OLS regression, we are able to plot the thin maroon regression line. This line represents the statistical prediction of school achievement, based on the school's level of economically disadvantaged students.

For a given year and achievement outcome, a consistent relationship emerges: schools with greater percentages of economically disadvantaged students have, on average, lower student performance (Figures A1-01 through A5-13). When we examine our “value-added” measure, the change in student achievement from one year to the next, we do not generally find a statistically significant relationship between a school's percentage of low-income students and its corresponding change in achievement (Figures B1-01 through B4-01).

The reason for this lack of a relationship is likely due to a combination of two factors. First, because of a phenomenon known as “regression to the mean,” schools that are doing very poorly in one year (i.e. those schools like to have higher low-income student populations) are bound to improve the next year; at the other end, schools that are doing very well one year (i.e. those schools with smaller percentages of low-income students) are more likely to drop a bit. At the extremes, a school with 100% proficiency in Year 1 cannot possibly have a positive gain in Year 2 because it's impossible to score

¹⁷ Coleman, J.S., E.Q. Campbell, C.J. Hobson, J. McPartland, A.M. Mood, F.D. Weinfield, and L.R. York. 1965. *Equality of Educational Opportunity*. Washington, DC: U.S. Government Printing Office.

¹⁸ All data analysis was carried out in the statistical program, Stata.

more than 100%. At the same time, a school with 0% proficiency cannot possibly have a negative gain because it cannot fall any lower.

Second, year-to-year test score fluctuations may be the result of many confounding factors we cannot account for in this analysis. In particular, our data is school-level and not student-level data. Thus, we are comparing two different groups of students when we compare third grade in Year 1 to third grade in Year 2. Differences in the make-up of the student body (beyond simply the percentage of low-income students) are factors that will affect the value-added measure we use.

The third step is to create the “error band”. The error band represents the uncertainty around the estimates on the thin maroon regression line. While the error band can be defined to meet any level of uncertainty, we follow the S&P approach and demarcate one standard deviation above and below the regression line as the error band.¹⁹ Schools that perform above the error band can be understood as outperformers because they are doing better than statistical predictions thought they would. Schools that perform below the error band are the opposite: they are performing worse than statistical expectations. Schools within the error band are performing roughly in accordance with statistical expectations.

The final step in our analysis is to identify charter school performance. We identify charter schools with large red diamonds. We also highlight the performance of the Chicago International Charter School (CICS) with a gold plus sign within the red diamond. We note that this approach can be used by any charter school that wishes to visually see its performance relative to public and charter school peers in the state.

¹⁹ When data is normally distributed, as our data generally is, the statistical expectation is that 68.3% of the data will be within one standard deviation of the mean. (i.e., in the range $X_{\text{avg}} \pm \sigma$).

While the methodological approach remains the same for each graph, we are changing the outcome of interest. As we will discuss, charter performance varies across subject matter and across grade levels tested. It is thus important to perform disaggregated analysis that looks not only at composite school performance, but also at the individual components of overall performance. Because this involved many graphs, we use summary tables to consolidate the results. The data sources for all analysis were the Illinois State Board of Education (ISBE) school report cards.²⁰

III. Analysis: Charter school performance in Illinois

Consistent with the recent syntheses of literature noted in the first section of this paper, our error band analysis suggests that charter performance varies across subject matter and grade level, and charter achievement varies significantly by school. This variation reinforces the need for school-level analysis. In addition, we note a trend of lower charter school performance in upper grades' science and math, as compared with reading. When we focus specifically on the performance of the Chicago International Charter School (CICS), we find that while in any individual year the CICS performs roughly in accordance with statistical expectations, the CICS gains over time are virtually all above average.

Charter School Elementary Performance. Although the pattern does not hold for every grade level and every subject matter, it seems to be generally true that charter school elementary level performance in Illinois is improving over time. Examining

²⁰ See: http://www.isbe.state.il.us/research/htmls/report_card.htm. Because of irregularities in the data, we imputed the 2003 measure of percentage low income in schools by averaging the 2002 and 2004 values. We do not expect this to substantively affect the results because year-to-year in the data there is very little change in the percentage of school students who are low income. The bi-variate correlations are .97 with $p < .000$.

composite ISAT scores in 2001 (Figure 1) and 2005 (Figure 2), we can see a rise in the number of overperforming charter schools. In 2001, only 8% of charters were overperforming, and 46% were underperforming (Table 1). Four years later, in 2005, we see that 24% of charters are overperforming, with only 24% underperforming (Table 1). The importance of charter school longevity is seen confirmed in our analysis of value-added achievement gains (summarized in Table 2). While the recent one-year change (2004 to 2005) finds one-half of the charters underperforming, the four-year change (2001 to 2005) finds nearly 80% overperforming and only 20% underperforming. These findings, consistent with other charter achievement studies, suggests that it may take charter schools a few years to produce significant student achievement gains.

Charter School Secondary Performance. While a majority of Illinois charter schools appear to be performing strongly at the elementary level, the same conclusion cannot be reached when evaluating performance at the secondary level. In 2005 our analysis finds that three of the nine charter schools reporting 11th grade PSAE results were underperforming, another three were in the middle of the pack, and two were overperforming. Put another way, the achievement results of charter high schools are roughly distributed the same way as traditional public schools: most in the middle, with some in the top and some in the bottom. When we examine the disaggregated reading, math, and science results we see the same picture. Six of nine charter high schools in reading and science, and seven of nine in math are all performing according to statistical expectations (Table 2). Figure 3, showing Grade 11 Math performance for 2005, shows how most charters are located in the middle of the error band. We do not see the same sort of clear improvement over time as we do at the elementary level. These high school

findings remind us that the challenges of turning around urban high school performance are greater than those at the elementary level.

Differences in Grade 8 Reading and Math. In Grade 8 our error band analysis finds that charter schools are performing better in reading than in math achievement (Table 1). Figure 4 and Figure 5 present Grade 8 reading and math achievement for 2005. While 50% of the charter schools are performing above-average in reading, the number is only 18% for math (Table 1). The percentage of underachieving schools for grade 8 math is three times the number for reading (Table 1). We do not see a similar pattern in grades 3, 5, or 11, and it is not immediately clear why such a difference persists in grade eight over the years.

Underperformance in Science. Our error band analysis finds that charter schools, while often outperforming in reading and math, are not making similar gains in science. Figure 6 presents grade 4 science results for 2005, and it can be seen that no charter schools are outperforming, and a third of the nine schools are under statistical expectations. Charters have also not outperformed in grades 7 or 11 science (Table 1). A look at Figure 7, displaying grade 11 PSAE 2005 science results, shows how charter schools are performing low relative to statistical expectations. This finding is consistent with national calls for improved science and mathematics education. Eight years ago, a 1998 report by the National Science Board issued a broad call for reform in a statement titled, “Failing Our Children.”²¹ Since then the National Science Foundation (NSF) has devoted significant funding to improvements in math and science education. Notable is the Math and Science Partnership (MSP) developed to improve teaching and learning

²¹ National Science Board, *Failing Our Children: Implications of the Third International Mathematics and Science Study*, July 31, 1998, NSB-98-154.

across the nation.²² Our analysis suggests a need for continued improvement in science education, and raises questions about charter schools' ability to turn around science performance on their own.

Chicago International Charter School Performance. When we focus on the performance of the Chicago International Charter School (CICS) we find that in each year the CICS has consistently been in the error band region (aligned with statistical expectations). In 2005, the CICS showed signs of increase outperformance as it outperformed in overall PSAE composite, grade 8 reading, grade 11 reading, and grade 11 science (CICS Error Band Summary). When looking at value-added over time, the CICS has consistently outperformed, especially in the four-year gain scores (2001 to 2005, Error Band Summary). As we discuss in the final section of the paper, identifying these positive outcomes leads naturally to the question: what is it that successful charter schools are doing that less successful counterparts are not?

IV. Implications for policy and research

This pilot study has sought to adopt a new method, the error band approach, to evaluation of charter school performance in Illinois. Certainly the error band approach is not the only way to evaluate charter school performance. It can serve, however, as a useful complement to existing studies. Especially noteworthy is the ability to communicate data graphically, synthesize a large number of findings into a single table, and produce for charter operators a one-page deliverable that provides a barometer of school performance across time, grade levels, and subject matters. The paper has also

²² See: <http://www.nsf.gov/ehr/MSP/>.

endeavored to demonstrate that when researchers collaborate with charter schools, the result is a product useful to both the research and practitioners alike.

For researchers, our analysis has offered further support for the conclusion that charter school performance should be evaluated on a school-by-school basis. We find significant variation across schools, grade levels, and subject matter. This variation suggests that the question is not “are charter schools succeeding?” but rather “*when and where* are charter schools succeeding?” and where are they more limited in their success? For practitioners, our analysis invites a similar closer inspection of school performance broken down by subject matter and grade level.

Our analysis also contributes to the policy concern over science education in the country. Charter schools, based on our error band analysis, struggle to produce the same gains in science that they may be able to bring about in reading or math. At the national level, support for NSF and related programs is important. At the local level, charter school operators may need to reexamine their science curriculum and teaching methods.

This paper is meant not only to evaluate past performance, but to open doors to new research questions. In particular, now that we have identified outperforming and underperforming schools, it is important to know what factors are related to charter school success and failure. What elements of curriculum, management, student population, and family support are different between outperformers and underperformers? Providing more detailed answers to these questions will help charter schools improve their performance.

Future research can also explore a number of different outcome measures that we did not consider here. These outcomes include a focus on the achievement of student sub-

populations, parental satisfaction, graduation rates, student safety, and student satisfaction. Charter schools may be performing well on these very important measures of school success, and it is important to look beyond simply the ISAT and PSAE results we have examined in this paper.

Table 1. Percentage of Illinois Charter School "Over-Performers" and "Under-Performers" on IL State Achievement Tests, as determined by Error Band Analysis, by Grade and Subject Matter, 2001-2005

ISAT Composite	# Charters	% Over	% Under	% Mid	PSAE Composite	# Charters	% Over	% Under	% Mid
2005	17	24	24	53	2005	9	22	33	44
2004	17	24	24	53	2004	10	10	40	50
2003	17	6	35	59	2003	8	13	13	75
2002	18	6	33	61	2002	8	13	25	63
2001	13	8	46	46	2001
Gr. 3 Reading	# Charters	% Over	% Under	% Mid	Gr. 3 Math	# Charters	% Over	% Under	% Mid
2005	11	45	18	36	2005	11	45	9	45
2004	10	10	20	70	2004	10	0	20	80
2003	11	9	9	82	2003	11	9	36	55
2002	13	23	31	46	2002	13	23	23	54
2001	9	22	22	56	2001	9	11	44	44
Gr. 5 Reading	# Charters	% Over	% Under	% Mid	Gr. 5 Math	# Charters	% Over	% Under	% Mid
2005	12	25	17	58	2005	12	42	25	33
2004	11	0	18	82	2004	11	18	18	64
2003	9	11	22	67	2003	9	11	33	56
2002	8	13	25	63	2002	8	13	38	50
2001	7	0	29	71	2001	7	0	29	71
Gr. 8 Reading	# Charters	% Over	% Under	% Mid	Gr. 8 Math	# Charters	% Over	% Under	% Mid
2005	12	50	8	42	2005	11	18	27	55
2004	12	17	17	67	2004	12	17	42	42
2003	9	44	22	33	2003	9	11	33	56
2002	10	10	40	50	2002	10	10	20	70
2001	7	0	43	57	2001	7	0	29	71

Table 1. Percentage of Illinois Charter School "Over-Performers" and "Under-Performers" on IL State Achievement Tests, as determined by Error Band Analysis, by Grade and Subject Matter, 2001-2005

Gr. 11 Reading	# Charters	% Over	% Under	% Mid	Gr. 11 Math	# Charters	% Over	% Under	% Mid
2005	9	22	11	67	2005	9	11	11	78
2004	10	10	40	50	2004	10	10	30	60
2003	8	25	25	50	2003	8	13	25	63
2002	8	25	25	50	2002	8	13	38	50
2001	7	0	43	57	2001	7	0	14	86
Gr. 4 Science	# Charters	% Over	% Under	% Mid	Gr. 7 Science	# Charters	% Over	% Under	% Mid
2005	9	0	33	67	2005	13	15	15	69
2004	11	9	36	55	2004	11	9	18	73
2003	11	9	36	55	2003	13	15	23	62
2002	12	50	42	8	2002	11	9	36	55
2001	6	0	50	50	2001	8	13	38	50
Gr. 11 Science	# Charters	% Over	% Under	% Mid					
2005	9	22	22	56					
2004	10	0	30	70					
2003	8	0	13	88					
2002	8	0	13	88					
2001	7	0	14	86					

NOTES: The number of charter schools in this table is the number of charter schools with achievement data in a given year and subject matter. "Over-performing" and "Under-performing" charters were determined using the Error Band methodology which calculates a predicted achievement level based on each school's percentage enrollment of low income students. Data Source: School achievement and demographic data obtained online from the Illinois Department of Education School Report Card website: http://www.isbe.state.il.us/research/htmls/report_card.htm.

Table 2. Percentage of Illinois Charter Schools "Over-Performers" and "Under-Performers" on Improvement in State Achievement Tests, as determined by Error Band Analysis, by Grade and Subject

ISAT Composite	# Charters	% Over	% Under	% Mid	PSAE Composite	# Charters	% Over	% Under	% Mid
1 year chg (04 to 05)	15	47	47	7	1 year chg (04 to 05)	9	44	22	33
2 year chg (03 to 05)	12	50	50	0	2 year chg (03 to 05)	8	38	50	13
3 year chg (02 to 05)	12	75	25	0	3 year chg (02 to 05)	7	43	14	43
4 year chg (01 to 05)	9	78	22	0	4 year chg (01 to 05)
Gr. 3 Reading	# Charters	% Over	% Under	% Mid	Gr. 3 Math	# Charters	% Over	% Under	% Mid
1 year chg (04 to 05)	9	78	22	0	1 year chg (04 to 05)	9	78	11	11
2 year chg (03 to 05)	9	67	22	11	2 year chg (03 to 05)	9	56	22	22
3 year chg (02 to 05)	9	78	22	0	3 year chg (02 to 05)	9	78	22	0
4 year chg (01 to 05)	7	57	43	0	4 year chg (01 to 05)	7	86	14	0
Gr. 5 Reading	# Charters	% Over	% Under	% Mid	Gr. 5 Math	# Charters	% Over	% Under	% Mid
1 year chg (04 to 05)	10	80	10	10	1 year chg (04 to 05)	10	60	30	10
2 year chg (03 to 05)	8	50	50	0	2 year chg (03 to 05)	8	63	38	0
3 year chg (02 to 05)	7	71	14	14	3 year chg (02 to 05)	7	71	29	0
4 year chg (01 to 05)	6	67	33	0	4 year chg (01 to 05)	6	83	17	0
Gr. 8 Reading	# Charters	% Over	% Under	% Mid	Gr. 8 Math	# Charters	% Over	% Under	% Mid
1 year chg (04 to 05)	11	73	27	0	1 year chg (04 to 05)	10	40	50	10
2 year chg (03 to 05)	8	63	38	0	2 year chg (03 to 05)	7	29	57	14
3 year chg (02 to 05)	8	100	0	0	3 year chg (02 to 05)	7	57	43	0
4 year chg (01 to 05)	6	100	0	0	4 year chg (01 to 05)	5	80	0	20

Table 2. Percentage of Illinois Charter Schools "Over-Performers" and "Under-Performers" on Improvement in State Achievement Tests, as determined by Error Band Analysis, by Grade and Subject

Gr. 11 Reading	# Charters	% Over	% Under	% Mid	Gr. 11 Math	# Charters	% Over	% Under	% Mid
1 year chg (04 to 05)	9	44	22	33	1 year chg (04 to 05)	9	22	33	44
2 year chg (03 to 05)	8	63	25	13	2 year chg (03 to 05)	8	50	50	0
3 year chg (02 to 05)	7	57	29	14	3 year chg (02 to 05)	7	71	14	14
4 year chg (01 to 05)	6	83	17	0	4 year chg (01 to 05)	6	50	33	17
Gr. 4 Science	# Charters	% Over	% Under	% Mid	Gr. 7 Science	# Charters	% Over	% Under	% Mid
1 year chg (04 to 05)	8	50	50	0	1 year chg (04 to 05)	10	50	40	10
2 year chg (03 to 05)	7	57	43	0	2 year chg (03 to 05)	10	50	40	10
3 year chg (02 to 05)	7	71	29	0	3 year chg (02 to 05)	9	56	44	0
4 year chg (01 to 05)	5	60	40	0	4 year chg (01 to 05)	7	57	43	0
Gr. 11 Science	# Charters	% Over	% Under	% Mid					
1 year chg (04 to 05)	9	33	11	56					
2 year chg (03 to 05)	8	50	38	13					
3 year chg (02 to 05)	7	43	29	29					
4 year chg (01 to 05)	6	33	67	0					

NOTES: Year-to-year changes calculated as the difference between 2005 school achievement and school achievement in previous years (04, 03, 02, and 01). The number of charter schools in this table is the number of charter schools with achievement data in both of the years measured by the change score. "Over-performing" and "Under-performing" charters were determined using the Error Band methodology which calculates a predicted achievement gain based on each school's percentage enrollment of low income students. Data Source: School achievement and demographic data obtained online from the Illinois Department of Education School Report Card website: http://www.isbe.state.il.us/research/htmls/report_card.htm.

**ERROR BAND SCHOOL SUMMARY for:
Chicago International Charter School (CICS), 2001 to 2005**

How to interpret this summary: Blue "+" indicates school is overperforming; Red "-" indicates school is underperforming; (Mid) indicates school is in the middle of the error band

Outcome Measure	<i>Achievement by Year</i>					<i>Achievement Gains</i>			
	2005	2004	2003	2002	2001	1 year (2004 to 2005)	2 year (2003 to 2005)	3 year (2002 to 2005)	4 year (2001 to 2005)
ISAT Composite	(Mid)	(Mid)	(Mid)	(Mid)	(Mid)	+	-	+	+
PSAE Composite	+	(Mid)	(Mid)	(Mid)	(Mid)	+	+	+	+
Gr. 3 Read	(Mid)	(Mid)	(Mid)	(Mid)	(Mid)	+	(Mid)	+	+
Gr. 3 Math	(Mid)	(Mid)	(Mid)	(Mid)	(Mid)	(Mid)	(Mid)	-	+
Gr. 4 Science	(Mid)	(Mid)	(Mid)	(Mid)	(Mid)	+	+	+	+
Gr. 5 Read	(Mid)	(Mid)	(Mid)	(Mid)	(Mid)	+	+	(Mid)	+
Gr. 5 Math	(Mid)	(Mid)	(Mid)	(Mid)	(Mid)	+	+	-	+
Gr. 7 Science	(Mid)	(Mid)	(Mid)	(Mid)	(Mid)	-	+	+	+
Gr. 8 Read	+	(Mid)	+	(Mid)	(Mid)	+	-	+	+
Gr. 8 Math	(Mid)	(Mid)	+	(Mid)	(Mid)	+	-	+	+
Gr. 11 Read	+	(Mid)	+	(Mid)	(Mid)	+	+	+	+
Gr. 11 Math	(Mid)	(Mid)	(Mid)	(Mid)	(Mid)	+	+	+	+
Gr. 11 Science	+	(Mid)	(Mid)	(Mid)	-	+	+	+	+

NOTES: School achievement measured on the Illinois Standards Achievement Test (ISAT). See report text for details of the Error Band methodology.

Figure 1. Error Band Analysis of 2001 Composite ISAT, All Grades, All Subjects

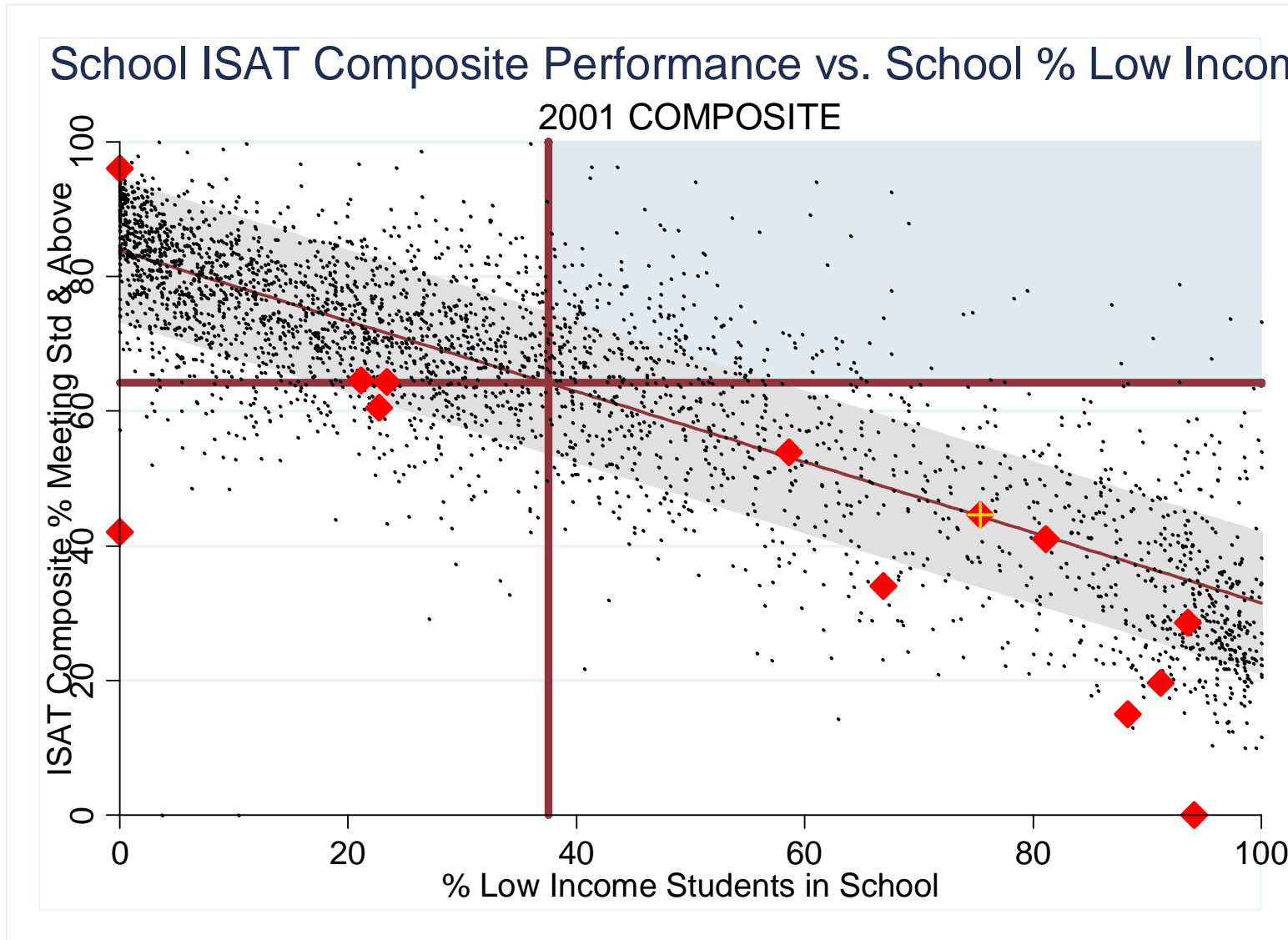


Figure 2. Error Band Analysis of 2005 Composite ISAT, All Grades, All Subjects

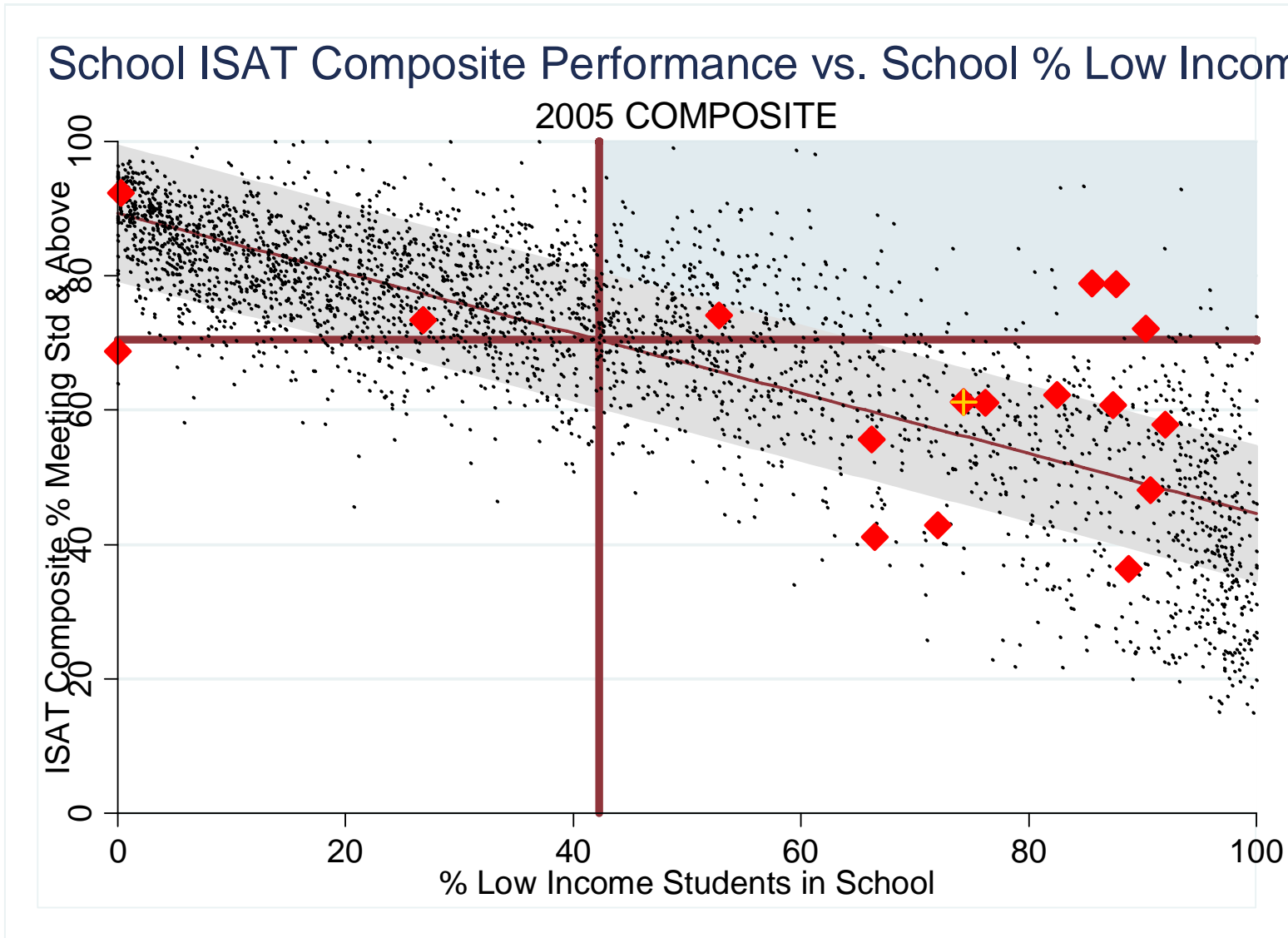


Figure 3. Error Band Analysis of 2005 Grade 11 PSAE Math

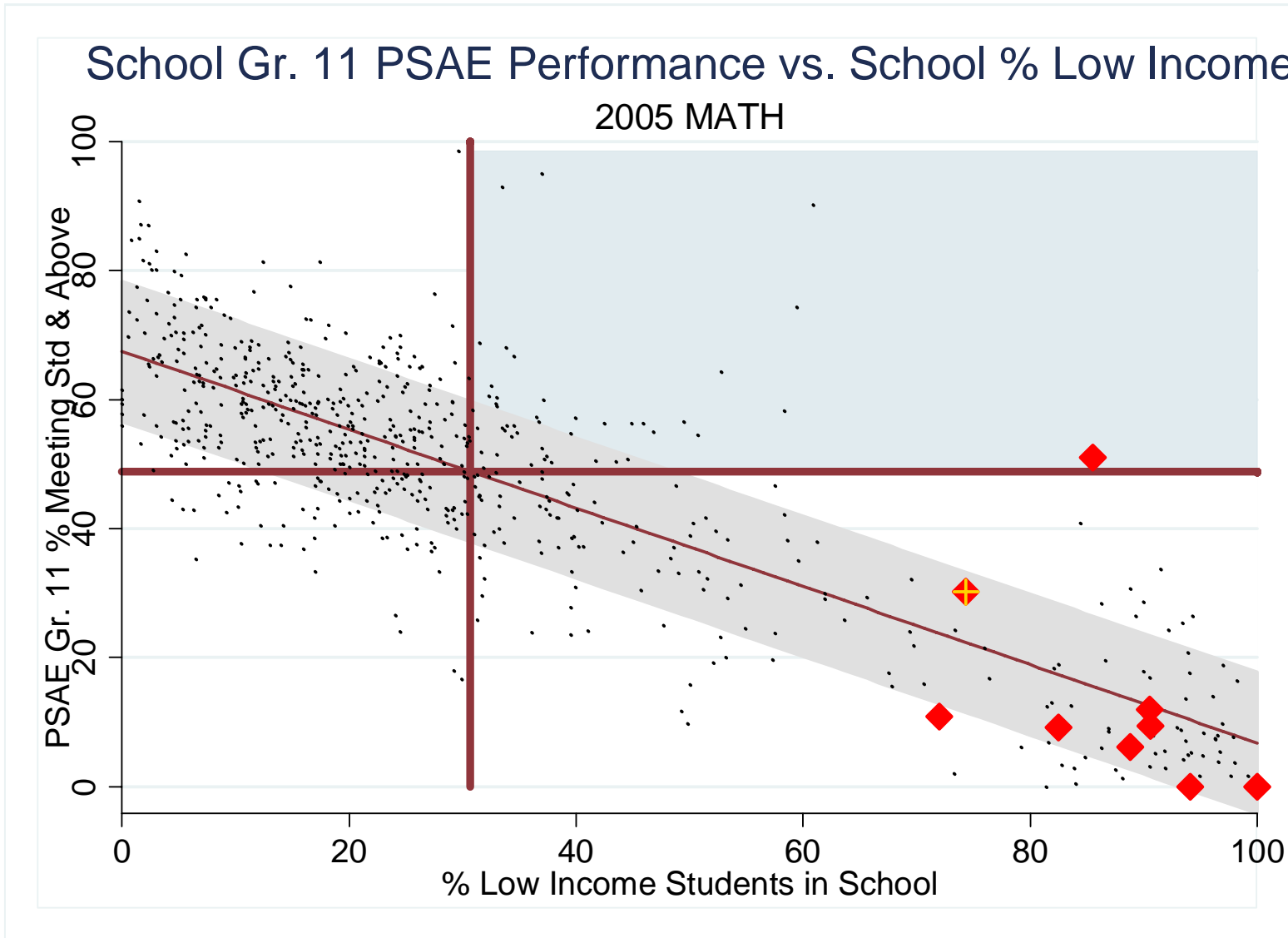


Figure 4. Error Band Analysis of 2005 Grade 8 ISAT Reading

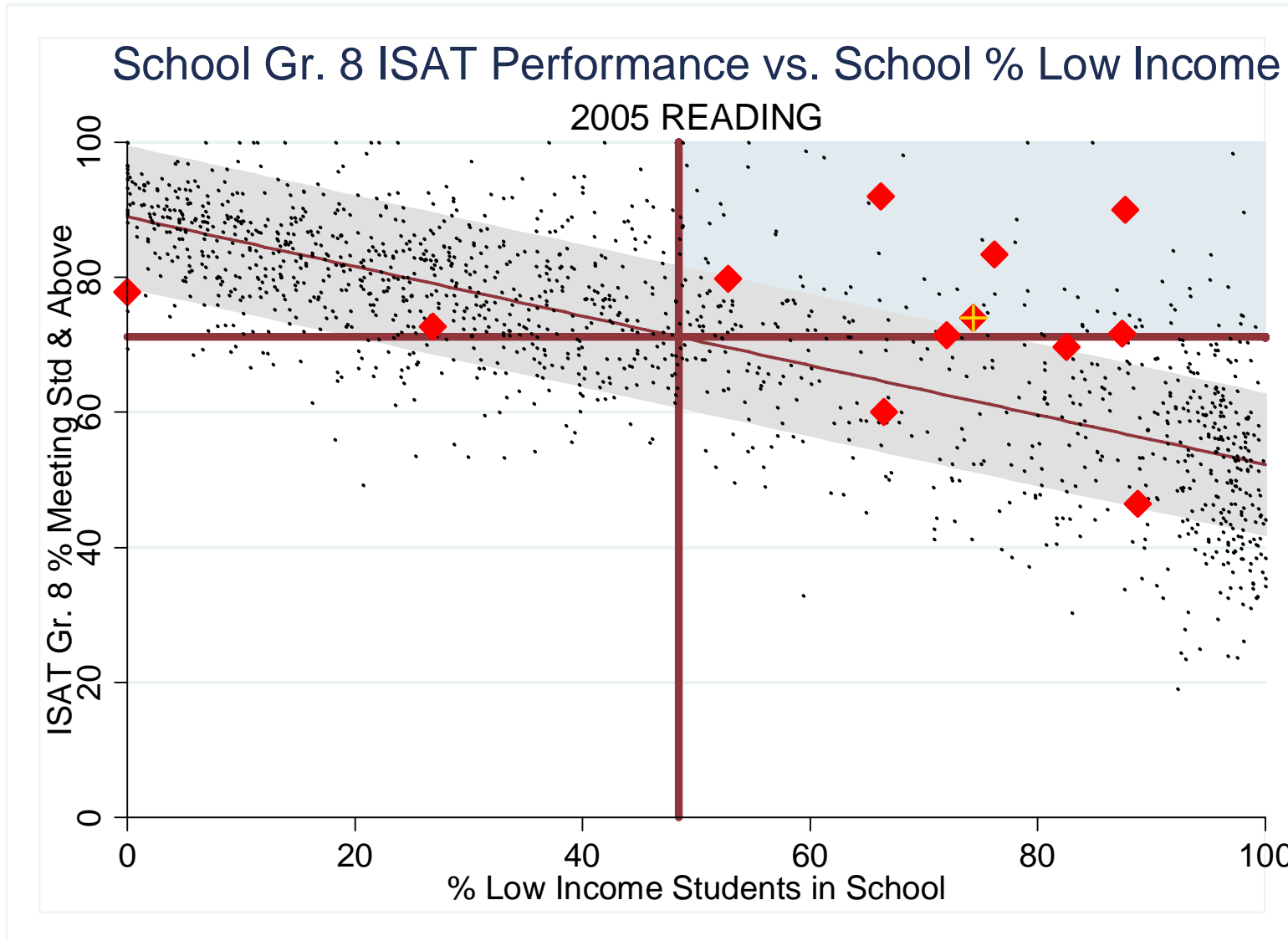


Figure 5. Error Band Analysis of 2005 Grade 8 ISAT Math

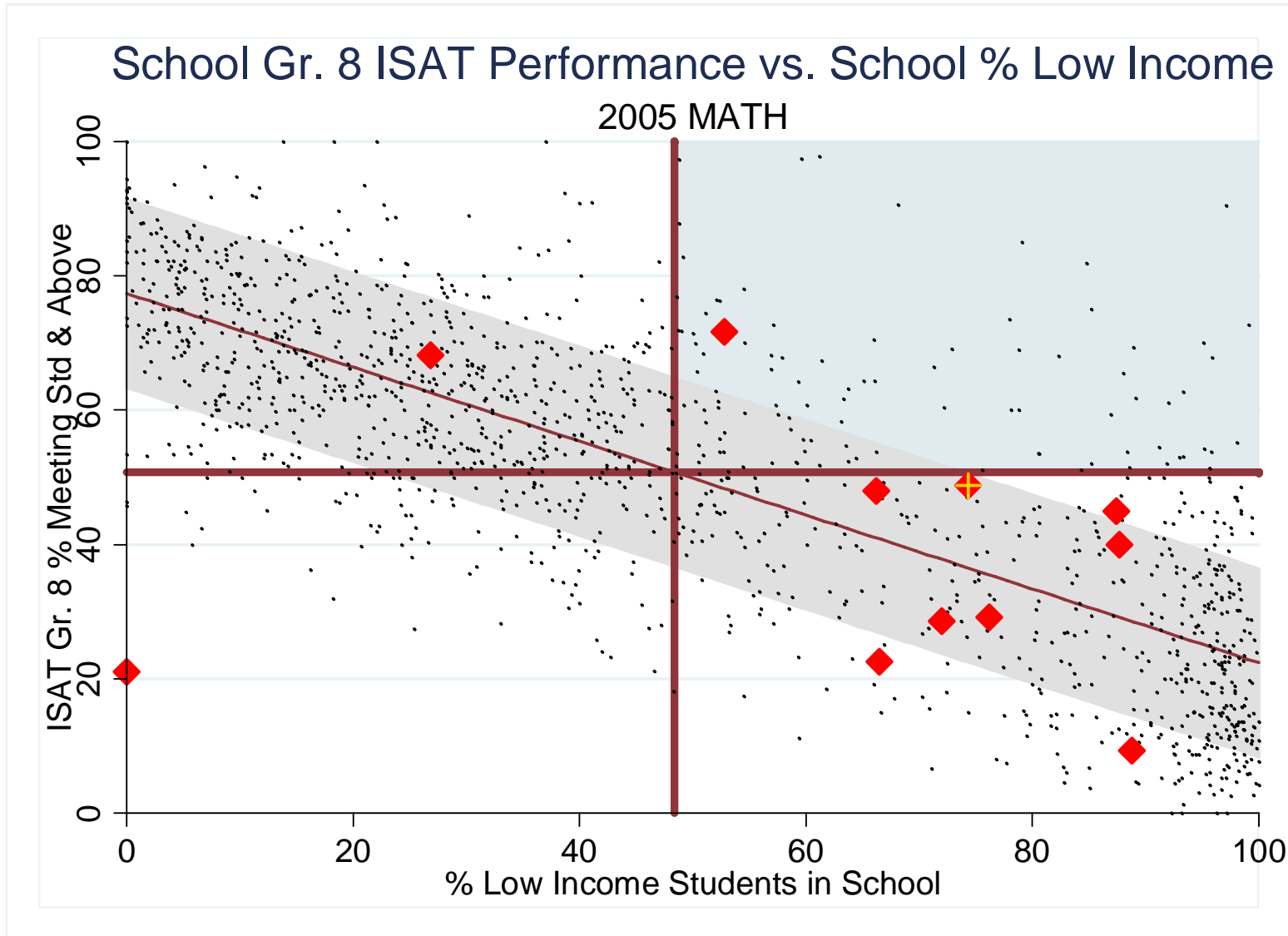


Figure 6. Error Band Analysis of 2005 Grade 4 ISAT Science

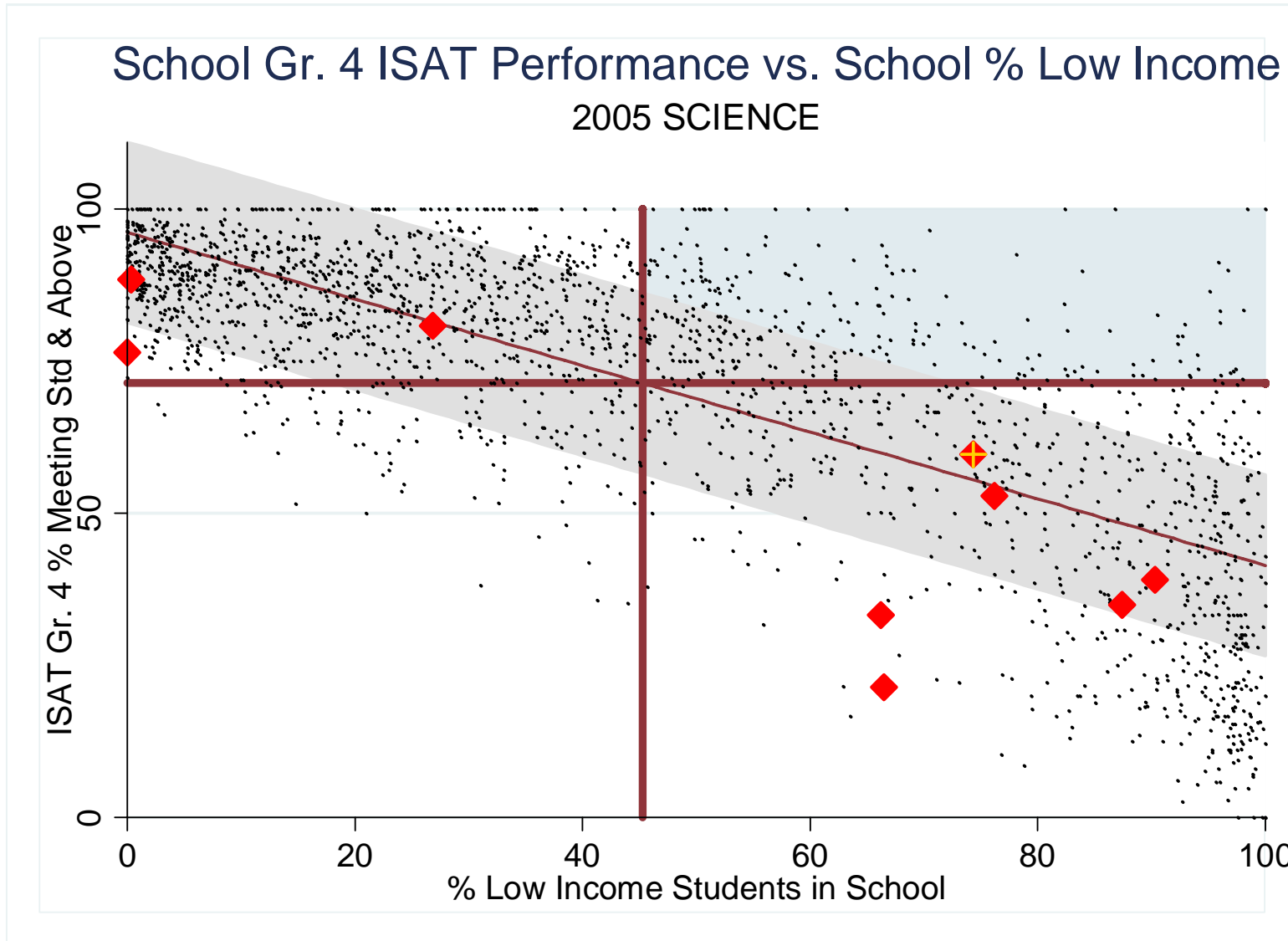


Figure 7. Error Band Analysis of 2005 Grade 11 PSAE Science

