DOCUMENT RESUME

ED 161 881 TM 007 149

TITLE Profiles of School District Performance 1976-77. A Guide to Interpretation.
INSTITUTION California State Dept. of Education, Sacramento. Office of Program Evaluation and Research.
PUB DATE 77
NOTE 36p.; For related documents, see ED 142 571, 007 143, 150, 151, and 152
AVAILABLE FROM Bureau of Publications, California State Department of Education, P.O. Box 271, Sacramento, California 95802

EDRS PRICE MF-$0.83 Plus Postage. HC Not Available from EDRS.
DESCRIPTORS Academic Achievement; Achievement Tests; Basic Skills; Elementary Secondary Education; *Norms; *School Districts; Scores; *State Programs; Student Characteristics; Student Testing; Test Construction; *Testing Programs; *Test Interpretation; Test Results
IDENTIFIERS California; *California Assessment Program

ABSTRACT

This document is designed to help the reader understand the district profiles of the California statewide testing program. These data assist the reader to compare a districts' performance with that of previous years and of other districts, especially those with similar characteristics. A brief description of the development and content of the tests and of the test administration is given. A sample profile of school district performance is given with fictional data used to exemplify how data may be interpreted. The form presents district mean scores for two or three years separately for reading in grades 2, 3, 6, and 12, and for written expression, spelling, and mathematics in grades 6 and 12. The next area presents district percentile ranks for the same mean scores together with a "comparison band" indicating the range for the middle 50 percent of districts with similar background characteristics based on entry level test scores and various socioeconomic indicators. A number of questions about the program and answers are presented as well as percentile distributions of district means for tests and background factors. (Author/CTM)

Profiles of School District Performance 1976-77

A Guide to Interpretation

California Assessment Program

CALIFORNIA STATE DEPARTMENT OF EDUCATION • Wilson Riles, Superintendent of Public Instruction • Sacramento, 1977

California Assessment Program

Profiles of School District Performance 1976-77

A Guide to Interpretation

Prepared Under the Direction of
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This publication, which was edited by the Bureau of Publications, California State Department of Education, and prepared by the Office of Program Evaluation and Research, was published by the Department, 721 Capitol Mall, Sacramento, CA 95814, and distributed under the provisions of the Library Distribution Act.

1977

Preface

Education Code Section 60660 requires the California State Department of Education to prepare an annual report of the district-by-district results of the statewide testing program. It further specifies that the testing results be analyzed in the light of other school factors which have a bearing on those results. The latest report, California Assessment Program, Profiles of School District Performance, 1976-77, is the eighth such report.

The purpose of this document, Profiles of School District Performance, 1976-77: A Guide to Interpretation, is to help the reader understand and interpret the district profiles. A companion document, Student Achievement in California Schools, 1976-77 Annual Report, presents the statewide findings.

A basis or standard of comparison is necessary for judging the adequacy of a district's pupil achievement level. The profiles allow the reader to compare a district's performance with that of previous years and with the performance of pupils in other districts, especially those of districts with similar characteristics and resources. The procedures used to prepare the scores and comparative indices were improved several times and are now basically stabilized, and this has increased the effectiveness of the profiles as a source of comparative information about school district performance.

The contents of the district profiles are identical to those of last year; this year, however, the format was changed to incorporate data from past years as well. Because the same Reading Test has been administered since 1974-75, three years of results appear for grades two and three. Both versions of the Survey of Basic Skills, the one for grade six and the one for grade twelve, are the same as those administered in 1975-76, so two years of data are presented for those grade levels.

The tests for 1976-77 are identical to those of the previous year, and the background factors used to calculate the comparison score bands are also the same. In making its calculations for all grade levels, the Department employed a previous measure of student achievement and a socioeconomic indicator, namely, the percent of students coming from homes receiving Aid to Families with Dependent Children (AFDC). As in last year's profiles, other available background factors related to pupil achievement in the elementary grades were also used to calculate the comparison score bands. Additional background factors not used to develop comparison score bands were again included as part of the profile.

This guide is designed to aid in the interpretation of the profile of school district performance, and we welcome your comments and suggestions to improve the guide.

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Contents

Introduction to the Guide

Far too often, judgments about the quality of education in a particular school or school district, or even an entire state, are made without objective information. A school can develop a reputation as a "good school" for what are undoubtedly not very sound reasons: It has an attractive building; it has a new building; local real estate salespersons say it is a good school; it has introduced the latest innovative programs; it spends the most money per pupil; it has a large percent of its graduates going on to college. The list of reasons seems almost endless.

In the absence of more significant information, any one or any combination of the reasons cited might have some value as an indicator of the quality of a school. On the other hand, every reason cited has its flaws. None addresses the fundamental question: "At what level are students achieving after X years of schooling?" The purpose of the California Assessment Program of the State Department of Education is to answer that question for each school district in the state and for the state as a whole.

Through the California Assessment Program, students are tested on the basic skills, and then each district is given a rank order according to the average scores of students in the district. The comparative data are then presented in a school district profile. In addition to comparing average student achievement in the district to the average achievements in all other districts in the state, the assessment program uses a statistical procedure through which various district background factors are analyzed. The product of the statistical procedure is a comparison score band, which indicates how other districts with similar background characteristics are scoring.

What Are Some of the Limitations of the School District Profile?

The chief limitation of a school district profile is that it presents and analyzes average student achievement in a limited number of cognitive content areas as measured by paper-and-pencil tests. Viewed separately, some of these limitations may be elaborated as follows:

1. The tests in the state assessment program are designed to measure achievement only in the areas of reading, written expression, spelling, and mathematics. Thus, many other subjects, such as history, geography, science, art, music, and social science, are not included in the assessment program; neither are such noncognitive areas as self-esteem, citizenship, or cultural appreciation. Districts emphasizing areas other than those examined in the assessment program have an obligation to present objective information about achievement in those areas.

2. The scores presented are the average scores for a district. Even the lowest-scoring district has some students achieving at a high level. Likewise, even the highest-scoring district has its share of low-achieving students.

3. Many factors might influence whether a student will succeed in school. For example, test results do not reveal anything about the discipline present, or absent, in a school or about other factors which affect the learning climate.

The goals of education are complex, and standardized tests are available to measure the degree of attainment of only a few of those goals. Standardized test scores should not be the only criteria used to evaluate a total educational program; but to the extent that the tests measure the achievement of program objectives, the test scores represent valid measures and are meaningful indicators.

Evaluation of a program implies more than measurement; it also implies looking at measurement in the light of objectives and costs and making decisions about the value of the outcomes obtained. In short, the reader must realize that only some of the information that is required for the total evaluation process is provided in the district profiles.

Why Was This Guide Prepared?

Each district profile consists of the test results in grades two, three, six, and twelve, plus a number of background factors for the district. Some of the background data were collected as part of or for the assessment program and have been used in the analysis of test results. The background factors employed in the calculation of the comparison score bands are listed on the profile in the lower left corner under the appropriate test heading. Seven background factors, in addition to those examined during the assessment process, are also listed on the profile in the lower right corner to give a more complete description of the district.

This interpretive guide explains how the tests were developed, what they measure, how they were administered, and how the results are displayed in the district profiles. The profiles contain names, numbers, and column headings but no explanations; this guide was designed to provide the explanations.

Development and Content of the Tests

All the tests now administered in the California Assessment Program have been developed by California educators for use in California schools. Four advisory committees assisted the Office of Program Evaluation and Research in developing the specifications for the test contents and in selecting or writing items for the tests. The advisory committees were composed of leading educational specialists from throughout the state of California.

The first task undertaken by the advisory committees was to review and outline (1) official California frameworks in reading, English, and mathematics; (2) state-adopted instructional materials; and (3) locally developed instructional objectives prepared by California school districts. The objectives selected for the assessment program were those that appeared to be common in most instructional materials and in the curricula of most school districts.

The objectives of the assessment program were arranged into content areas, and skills were defined for each content area. The final documents describing the test objectives were reviewed by personnel in 171 randomly selected school districts. The objectives selected for the assessment program were then published in three documents, which are listed below:

- Test Content Specifications for California State Reading Tests
- Test Content Specifications for the Survey of Basic Skills: Mathematics
- Test Content Specifications for the Survey of Basic Skills: Written Expression and Spelling

A set of the cited publications was mailed in 1975 to each school district in California and to selected libraries in the state. Additional copies may be purchased from the Bureau of Publications Sales, State Department of Education, P.O. Box 271, Sacramento, CA 95802. The cost of each document is 65 cents, plus sales tax for California residents.

The resulting test content specifications, or test objectives, were so lengthy that a test which measured even a major portion of them should have taken hours to administer. Yet, one of the goals of the assessment program was to shorten the testing time. Thus, a methodology had to be employed which would accomplish the goals of both shortening the testing time and providing a test which was comprehensive and relevant to California. Through the procedure adopted, which was matrix sampling, the long test was divided into a number of forms, with each student taking only one of the test forms. For example, the 250-item Reading Test is divided into ten forms so that

each pupil in the second and third grade takes only one-tenth (25 items) of the entire test. The matrix sampling procedure is employed in all tests administered for the California Assessment Program except the Entry Level Test.

Statistical calculations in the matrix sampling procedure enable preparation of a district profile corresponding to the profile that would be obtained if all students took all items in a long test. Matrix sampling is an efficient testing procedure when the purpose of the testing is to obtain information about the performance of groups of students.

The content and skill areas that were assessed are presented in Table 1. Also displayed in the table are the number of test items, the test format, the number of test forms, and the number of items per test form.

The Entry Level Test and Reading Test for 1976-77 are identical to those administered for the previous two years, so all results can be compared across the last three years for grades one, two, and three. Survey of Basic Skills: Grade 6 and Survey of Basic Skills: Grade 12 are identical to those administered in 1975-76, so two years of results are presented for these grade levels.

Table 1

Content and Format of Tests Administered in the California Assessment Program, 1975-76 and 1976-77

Grade	Name of Test and Content Areas	No. of Items	Matrix Sampling	No. of Forms	No. of Items Per Form	Skills Tested
One	Entry Level Test	35	No	1	35	Immediate recall, letter recognition, auditory discrimination, visual discrimination, language development
Two and Three	Reading Test	250	Yes	10	25	Word identification--phonetic analysis; vocabulary; comprehension--literal and interpretive; study-locational
Six	Survey of Basic Skills: Grade 6	480	Yes	16	30	
	Reading	128			8	Word identification; vocabulary; comprehension--literal, interpretive/critical; study-locational
	Written Expression	128			8	Sentence recognition, sentence manipulation, capitalization, punctuation, word forms, language choices, standard usage
	Spelling	64			4	Recognition of misspelled word in a set of words
	Mathematics	160			10	Arithmetic--number concepts, whole numbers, fractions, decimals; geometry; measurement and graphs; probability and statistics
Twelve	Survey of Basic Skills: Grade 12	558	Yes	18	31	
	Reading	144			8	Vocabulary; comprehension--literal, interpretive/critical; study-locational
	Written Expression	144			8	Sentence recognition, sentence manipulation, capitalization and punctuation, paragraphs, word forms, language choices
	Spelling	72			4	Recognition of a misspelled word in the context of a sentence
	Mathematics	198			11	Arithmetic--number concepts, whole numbers, fractions, decimals; algebra; geometry; measurement; probability and statistics

Administration Procedures for Testing

The 1976-77 tests for the California Assessment Program were administered according to the schedule in Table 2.

Table 2

Testing Schedule for the California Assessment Program, 1976-77

Date	Grade Level	Test
Eleventh through the 20th day of instruction	One	Entry Level Test
December 1--14, 1976	Twelve	Survey of Basic Skills: Grade 12
April 18--29, 1977*	Six	Survey of Basic Skills: Grade 6
April 25--May 20, 1977	Two and three	Reading Test

* Testing dates in year-round schools were extended to May 13, 1977.

Distribution of Test Materials

A few weeks prior to testing, the contractor who scores the tests mails the appropriate number of tests to each school district. Then the district test coordinator distributes the correct number of test packets to each school. Included in each packet is an examiner's manual, which outlines the administration procedures to be followed so as to standardize, as nearly as possible, testing conditions. Schools are urged to conduct testing in small, classroom-size groups; however, at the higher grade levels, schools are permitted to test in larger groups.

For the matrix sampling, which was discussed on page 4, tests are packaged in class packs. The Reading Test, for example, is divided into ten forms of 25 items each. The forms are arranged in sequence (Form 1, Form 2, . . ., Form 10), and the teacher gives out the tests in that order. Each form of the test is constructed so that each one contains about the same number of easy and difficult items.

Administration of Tests

The directions for taking the tests are read aloud to the students, who are instructed to mark their answers directly on the test booklets. Neither the Entry Level Test nor the Reading Test is timed.

To simplify the administrative procedures for the Survey of Basic Skills for grades six and twelve, a time limit of 30 minutes is included in the directions. However, in both grades these 30-minute time limits were chosen to be generous, and not restrictive--that is, almost every student can complete the test in the time allotted.

After the students have completed their tests (except for the Survey of Basic Skills: Grade 12), the teacher codes information about each student on the back of the student's test booklet. Some of these data are used in the school reports as background information with which to interpret the results for the school. Other information is collected only for analysis of statewide results or trends.

The principal of each school completes a School Information Form and also certifies that the tests were administered properly. The principal returns the form along with the completed tests to the district test coordinator.

California Assessment Program

PROFILE OF SCHOOL DISTRICT PERFORMANCE
1976-77

County—

School District— CALWEST UNIFIED SCHOOL DISTRICT

Grade and Content Area Tested	District Mean Score (A)			State Percentile Rank of the District Mean Score (B)			State Percentile Rank of the Comparison Score Band (C)	Percentile Ranks of the District Mean Score (X) and the Comparison Score Band (O) (1 25 50 75 99)
	1974-75	1975-76	1976-77	1974-75	1975-76	1976-77	1976-77	
Grade 2 Reading	76.3	76.4	76.7	79	77	75	61-78	00X0
Grade 3 Reading	87.8	88.4	88.3	73	77	72	60-75	00X0
Grade 6 Reading		70.1	70.6		64	68	68-80	00X0
Written Expression		67.3	67.9		70	66	66-78	00X0
Spelling		66.3	67.2		71	73	63-77	00X
Mathematics		59.9	60.4		63	64	64-81	00X0
Grade 12 Reading		65.6	64.5		66	62	63-77	00X
Written Expression		62.6	62.4		57	64	64-79	00X0
Spelling		68.2	68.4		59	62	49-81	00X00
Mathematics		66.9	67.3		56	65	63-82	00X0

Fig. 1. Sample profile of school district performance, 1976-77

Background Factors Used to Develop Comparison Score Bands (D)	District Value 1974-75	District Value 1975-76	District Value 1976-77	State Percentile Rank of District Value 1974-75	State Percentile Rank of District Value 1975-76	State Percentile Rank of District Value 1976-77
Grades 2 and 3						
Entry Level Test	28.69	28.64	28.66	65	68	65
Socioeconomic Index	2.27	2.30	2.30	74	75	75
Percent AFDC	—	6.2	5.1	—	26	23
Percent Bilingual	9.3	8.3	8.8	51	48	49
Pupil Mobility	33.8	37.8	34.5	26	40	46
Grade 6						
Grade 3 Achievement Index		88.0	88.7		74	73
Percent AFDC		5.3	4.5		24	22
Percent Bilingual		8.2	6.9		56	51
Grade 12						
Grade 6 Achievement Index		58.9	66.7		79	68
Percent AFDC		3.5	3.4		22	25

Additional Background Factors (Not Used to Develop Comparison Score Bands) (E)	District Value	State Percentile Rank
Percent minority pupils, total	14.3	50
Percent American Indian	0.2	47
Percent Asian American	3.1	88
Percent Black	1.0	68
Percent Spanish-surnamed	9.7	54
Average class size, elementary	28.5	82
Average class size, high school	28.2	83
Average daily attendance	31,312	99
Assessed valuation per unit of a.d.a.	$15,112	25 U
General purpose tax rate	$4.20	67 U
Expenditures per unit of a.d.a.	$1,129	7 U

Contents of a District Profile

The school district profile contains a summary of the district test results. For discussion purposes, the profile has been divided into six sections, as listed below and shown in Figure 1:

Section A: District Mean Score

Section B: State Percentile Rank of the District Mean Score

Section C: State Percentile Rank of the Comparison Score Band

Section D: Percentile Ranks of the District Mean Score and the Comparison Score Band

Section E: Background Factors Used to Develop Comparison Score Bands

Section F: Additional Background Factors (Not Used to Develop Comparison Score Bands)

Section A: District Mean Score

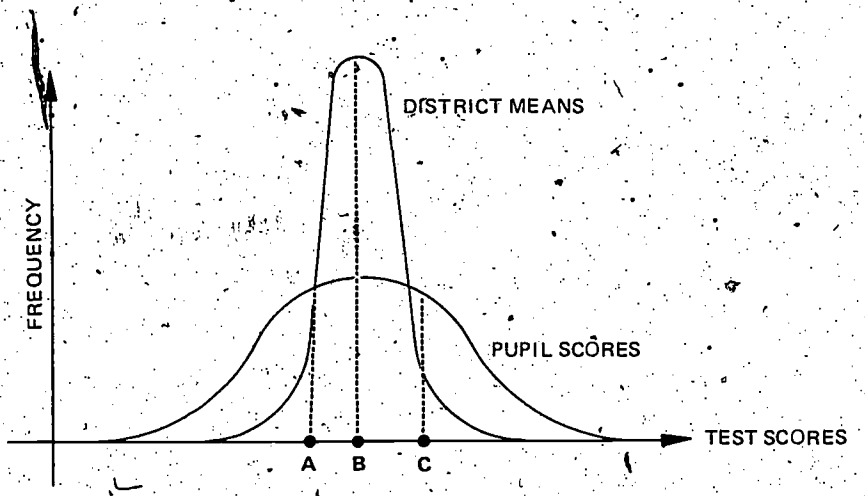
In the column for the district mean score, the information presented for each test is the percent of questions answered correctly by all the students in the district. Alternatively, this score can be viewed as the average (arithmetic mean) percent of the items answered correctly by all students. Scores are not presented for 1974-75 for grades six and twelve because different tests were used that year, and the raw scores are not comparable.

Example: In the sample profile for the fictional Calwest Unified School District in Figure 1, the district mean score for 1976-77 on the Reading Test in second grade was 76.7. This signifies that of all the test items presented to the grade two pupils, 76.7 percent of those items were answered correctly. Or, viewed another way, the average second-grade pupil answered 76.7 percent of the reading items correctly. In the previous year the average second-grade pupil answered 76.4 percent of the items correctly and in 1974-75, 76.3 percent. Thus, on an absolute basis, the performance of Calwest's second-grade pupils has increased yearly over the past three years.

Section B: State Percentile Rank of the District Mean Score

In evaluating the profiles most people confronted with a district mean score

(such as the 76.7 score for grade two reading in the sample profile) will ask, "How does this score (76.7) compare with . . . ?" While a number of comparisons are possible, the first comparison offered on the district profile is how the district mean score for a test area (in this case, 76.7) compares to the average scores of all other districts in the state for that test area. The district mean scores of all California school districts are rank ordered, making it possible to determine what percent of the districts have a mean score in a given test area lower than that of the district in question; this number (75 in the example given) is the state percentile rank for 1976-77. Sometimes, when comparing one district's mean test score with that of another district, an evaluator will notice that a small difference between district mean scores translates into a larger difference in percentile ranks. This is because the district score is itself an average, and the variability of these averages decreases as the size of the groups increases. Figure 2 illustrates this phenomenon in a distribution based upon a set of real data for California. The actual distributions of the district mean test scores for all grade levels and the background factors are presented in the appendixes.



STATE PUPIL PERCENTILE RANK	36	46	74
STATE DISTRICT PERCENTILE RANK	18	38	95

Fig. 2. Comparison of pupil and district percentile ranks.

Figure 2 illustrates the principle that, particularly at the center of the distribution, a change in scores from A to B represents a large area under the peaked curve (i.e., many districts) and, hence, translates into a large difference in percentile rankings. However, this phenomenon should not concern the evaluator, for such increases are unlikely to occur in a large district because the reliability of grouped scores increases in direct relation to the group size. When they do occur, they will likely reflect real differences in student performance which may warrant inspection, for they may have implications for the instructional programs.

Figure 2 further illustrates the principle that for a school scoring below average, the district percentile rank (for the same score) will be a lower number than the pupil percentile rank. Conversely, for a school scoring above average, the district percentile rank will be a higher number than the value for the same score on the pupil percentile distribution. This phenomenon is in no way related to matrix sampling. The curves in Figure 2 are derived from data obtained in 1973 for what was then the state test for grade six, namely, the Comprehensive Tests of Basic Skills.

Example: For Calwest, the district mean score in grade two reading is 76.7, which places the district at the 75th percentile--that is, 75 percent of the districts had a lower mean score (and 25 percent of the districts had a higher mean score). It should be noted that although Calwest's absolute score in grade two reading increased from 1975-76 to 1976-77, its percentile rank decreased because its increase in scores was not as great as the statewide increase of 0.7 percent correct from 1975-76 to 1976-77.*

Section C: State Percentile Rank of the Comparison Score Band

In any ranking scheme, somebody must be at the bottom. Or, more particularly, in the percentile ranking presented in Section B of the district profiles, half of the districts must receive a ranking "below average"; i.e., below the 50th percentile. Personnel in a district operating under what may be considered constraining conditions may feel that it is unfair to compare their district with the more privileged districts in the state. Therefore, to mitigate such situations, a comparison score band is calculated and presented for each district.

The comparison score band indicates the percentile ranking obtained by the middle 50 percent of the districts with similar background characteristics. The comparison score band does not involve a subjective judgment of how a district should be scoring; it is calculated by analyzing the background factors reported for a district (See Section E: Background Factors) and how districts with a similar set of background factors are, in fact, scoring.

The procedures for calculating comparison score bands involve statistical analysis techniques that reveal the statewide relationships (correlations) among the background factors and the district test scores. The stepwise regression analysis enables a person to select from all of the background factors the subset which gives the most accurate predictions. The background factors used to calculate the comparison score bands are listed in Section E under each grade level in their order of importance; i.e., the first factor listed is the one most highly correlated with the test scores.

Example: Calwest's percentile rank of 75 appears quite favorable when the district's grade two reading score is compared to the scores of all districts in the state. However, about half of the districts

* See Student Achievement in California Schools, 1976-77 Annual Report. Sacramento: California State Department of Education, 1977.

with background characteristics similar to those reported for Calwest under "Background Factors Used to Develop Comparison Score Bands, Grades 2 and 3" also had grade two reading scores between the 61st and 78th percentiles; about 25 percent had scores above the 78th percentile, and about 25 percent scored below the 61st percentile. In other words, on the second-grade Reading Test Calwest District's mean score was in the middle 50 percent of California districts with a similar set of background characteristics.

Section D: Percentile Ranks of the District Mean Score and the Comparison Score Band

The section identified by a D in Figure 1 is a graphic representation of the percentile rank of the district mean score (denoted by an X) in relation to the comparison score band (denoted by a row of 0's). The distances plotted are based upon the relationship of percentile scores to a normal distribution. Hence, the distance from the 1st to the 25th percentile is much greater than the distance from the 25th to the 50th percentiles. Because of the limited number of print positions on the profile, a print position corresponds to more than one percentile, and occasionally the X will overprint the last 0 in a row (such as 000X). Whenever this occurs, the numerical values for the percentile will indicate whether the district mean score was actually within, above, or below its comparison score band.

Section E: Background Factors Used to Develop Comparison Score Bands

Several types of data on background characteristics are collected as part of the California Assessment Program. For the tests at the elementary school level, teachers record background characteristics information on the back of the pupils' test booklets. Other data (such as Percent AFDC) come from the school district office. Test scores in earlier grades are also treated as a background factor.

Section E of the district profile presents data for only those factors which were used to calculate the comparison score band for each grade level test. However, additional background factors are presented at the bottom right of the profile (Section F) to describe more completely the characteristics of a district. All of the profile background factors, their source, and how they are quantified are discussed in the following paragraphs in the order in which the factors appear in the profile.

A careful reading of how each factor was quantified is necessary to understand the value of the factor reported. A high value, and therefore a high percentile rank, does not necessarily mean a district is operating under favorable circumstances; it merely represents the presence or absence of the characteristic in question. For example, a district with a large number of bilingual pupils would have a high percentile rank for percent bilingual. Or, to cite another example, a district with a large average class size would have a high percentile rank.

Grades Two and Three Reading Tests

Five background factors were used in 1976-77 in calculating the district comparison score bands for grade two reading and grade three reading: (1) Entry Level Test scores; (2) socioeconomic index; (3) percent AFDC; (4) percent bilingual; and (5) pupil mobility. These factors are described below in their order of importance in influencing the values of the comparison score band.

Entry Level Test. The first factor reported was the mean score obtained in the fall of 1976 by the beginning first-grade pupils in the district. The test included items measuring the learning skills of immediate recall, letter recognition, auditory discrimination, visual discrimination, and language development.

The selection of skills assessed by the Entry Level Test was based on the need to know what level of skills children have when they enter the first grade as well as the need to account for initial differences in readiness when analyzing subsequent pupil reading achievements in the second and third grades. A high score on the Entry Level Test indicated that a district's entering first graders tended to have a greater readiness for learning than those from districts with lower scores.

Socioeconomic Index. The socioeconomic index is an indicator of the occupations of the parents of second- and third-grade pupils. On the back of each pupil's Reading Test booklet, the teacher identified from the following list the occupational category that corresponded most closely with the occupation of the pupil's father, mother, or guardian:

1
- Unknown
- Unskilled employees (and welfare)

2
- Skilled and semiskilled employees

3
- Semiprofessionals, clerical and sales workers, and technicians
- Executives, professionals, and managers

The first two categories were assigned a value of 1; the third, a value of 2; and the last two, a value of 3. The socioeconomic index is the average (mean) of these values for all second- and third-grade pupils in the district. A high score indicates that the district serves a community with a large percentage of people engaged in professional and semiprofessional occupations.

Percent AFDC. The AFDC figure is the percent of pupils whose families are receiving assistance under the Aid to Families with Dependent Children (AFDC) program.

Late in 1976 each district completed a questionnaire in which it identified the enrollment of each school in the district and the number of pupils in each school whose families were receiving AFDC assistance as of October, 1976.

For each school with second or third grades, the number of pupils from AFDC families was divided by the school enrollment to yield a percent AFDC figure (October, 1976 count).

The district AFDC value presented on the profile was calculated by weighting the percent AFDC figure for each school by the number of second- or third-grade pupils tested in the school. Percent AFDC was collected for the first time in 1975-76, so no value is presented for 1974-75.

Percent Bilingual. The percent bilingual figure was derived from data filled in on the back of each pupil's Reading Test. Teachers were asked to classify the pupil according to one of four language-use categories:

- English only
- Bilingual
  - Fluent English and a second language
  - Limited English and a second language
  - Non-English speaking

The percent bilingual is the percent of pupils who were identified as being in the last three categories.

Pupil Mobility. Teachers were asked to indicate on each pupil's test booklet the grade in which that pupil was first enrolled in his or her current school and whether he or she had been continuously enrolled since that time. The pupil mobility value was the percent of pupils who had not been continuously enrolled since kindergarten or first grade.

> Example: Calwest's second- and third-grade pupils come from high socioeconomic families with relatively few disadvantaged pupils (5.1 percent AFDC). The number of bilingual pupils (8.8 percent) and the pupil mobility are just slightly below the state average (the 49th and 46th percentiles respectively).

Grade Six Survey of Basic Skills

Three background factors were used in calculating the comparison score bands for the Survey of Basic Skills: Grade 6--grade three achievement index, percent AFDC, and percent bilingual. Values are presented for only the last two years since different background factors were used to develop comparison score bands for previous years.

Grade 3 Achievement Index. The 1976-77 achievement index is the grade three score a school achieved on the state Reading Test in May, 1977. Scores from feeder schools were used if a school with grade six did not itself have third-grade pupils. The district value presented on the profile was calculated by weighting the grade three achievement index for each school by the number of sixth-grade pupils tested in the school.

Percent AFDC. The AFDC figure is the percent of pupils whose families were receiving assistance under the Aid to Families with Dependent Children program.

Late in 1976 each district completed a questionnaire in which it was asked to give the enrollment of each school in the district and the number of pupils in each school whose families were receiving AFDC assistance as of October, 1976. For each sixth-grade school, the number of such pupils was divided by the school enrollment to yield a percent AFDC figure.

The district AFDC value presented on the profile was calculated by weighting the percent AFDC figure for each school by the number of sixth-grade pupils tested in the school.

Percent Bilingual. The percent bilingual was derived from data filled in on the back of each pupil's test form. Teachers were asked to classify the pupil according to one of four language-use categories:

- English only
- Bilingual
  - Fluent English and a second language
  - Limited English and a second language
  - Non-English speaking

The percent bilingual was the percent of pupils who were identified as belonging to the last three categories.

> Example: Calwest's sixth grades received pupils with above average reading achievement (73rd percentile on the grade three achievement index). The district's sixth-grade schools are further characterized as serving an area with relatively few economically disadvantaged pupils and an average number of bilingual pupils.

Grade Twelve Survey of Basic Skills

The values on two background factors were used to compute the comparison score bands for the twelfth-grade Survey of Basic Skills: grade six achievement index and percent AFDC. Values are presented only for the last two years since different background factors were used to develop comparison score bands for previous years.

Grade 6 Achievement Index. The grade six achievement index for 1976-77 is a composite of the grade six scores on two subtests of the Survey of Basic Skills: Grade 6, which was administered in April, 1976, to the pupils in the schools that feed into the district's high schools. The subtest scores that were combined were from the reading and mathematics subtests. The score for each sixth-grade feeder school was calculated by taking the percent correct scores according to the following formula:

$$\text{Grade 6 Achievement Index} = \frac{2\,(\text{reading score}) + (\text{math score})}{3}$$

The achievement index for each sixth-grade feeder school was weighted by the number of sixth-grade pupils currently feeding into a high school to obtain the grade six achievement index for the high school.

If a district had more than one high school, the district value (as presented on the profile) for the grade six achievement index was calculated by weighting the achievement index for each of the high schools by the number of twelfth-grade students tested in each high school.

Percent AFDC. The AFDC figure is the percent of students whose families are receiving assistance under the Aid to Families with Dependent Children program.

Late in 1976 each district completed a questionnaire in which it was asked to identify the enrollment of each school in the district and the number of students in the school whose families were receiving AFDC assistance as of October, 1976. For each twelfth-grade school, the number of such students was divided by the school enrollment to yield a percent AFDC figure.

The district AFDC value presented on the profile was calculated by weighting the percent AFDC figure for each high school by the number of twelfth-grade students tested in the school.

> Example: In 1976-77 the high schools of Calwest Unified were receiving from the elementary schools pupils with above-average achievement levels in reading and mathematics. As was apparent from the background factors collected in grades two, three, and six, very few students were coming from economically disadvantaged homes.

Section F: Additional Background Factors (Not Used to Develop Comparison Score Bands)

In addition to the background factors utilized in the computation of the comparison score bands for the respective tests, several other background factors are presented on the district profiles under the heading "Additional Background Factors." These additional factors can assist the reader in understanding more completely the background and the conditions under which a district was operating. The information for the additional factors was not collected as part of the assessment program; rather, it was obtained from the State Department of Education agencies which require reports from districts. Definitions of the factors and the sources of the additional background factors are presented in the paragraphs that follow.

Percent Minority Pupils

Data on the number of minority pupils enrolled in the schools were collected in 1973-74 as part of the Elementary and Secondary School Civil Rights Survey. The minority enrollment in each district was divided by the total enrollment to obtain the percent of minority enrollment. The following definitions were used in the civil rights survey:

American Indian: Persons considered by themselves, by the school, or by the community to be of American Indian origin.

Asian American: Persons considered by themselves, by the school, or by the community to be of Chinese, Japanese, or other Asian origin.

Black: Persons considered by themselves, by the school, or by the community to be of black or of African or Negro origin.

Spanish-surnamed: Persons considered by themselves, by the school, or by the community to be of Mexican, Puerto Rican, Central-American, Cuban, Latin-American, or other Spanish origin.

Note: Many districts have no minority pupils, or at least none in a particular category. The state distribution of minority students contributes to erratic appearing percentile rankings for a district, as demonstrated in Appendix C. For example, 35 percent of the districts have no black students, and half of the districts have fewer than 0.3 percent blacks; thus, a district with a 0.3 percent black population would be at the 50th percentile, and another district with only a 1.6 percent black population would be at the 75th percentile. In statistical terms, the distribution of black students among districts is anything but normal; it is strongly positively skewed. The same skewness is apparent in the distribution of other minorities as well.

Average Class Size, Elementary

Information on average class size in kindergarten through grade eight is collected annually by the Bureau of School Apportionments and Reports (Form J111A). The figure shown in the profile is the average number of pupils per class for 1976-77, rounded to one decimal place. A high average and high percentile rank indicate large elementary grade class sizes.

Average Class Size, High School

Information on average class size in grades nine through twelve is collected annually by the Bureau of School Apportionments and Reports (Form J111A). For purposes of the report, grades seven, eight, and nine of a junior high school were included with high school grades in calculating the average. The figure shown in the profile is the average number of pupils per class for 1976-77, rounded to one decimal place. A high average and high percentile rank indicate large high school class sizes.

Average Daily Attendance

The average daily attendance (a.d.a.) reported is the total second period a.d.a. reported to the Bureau of School Apportionments and Reports for 1976-77 (Forms J18 and J19).

Note: For the next three background factors, all financially related, percentile rank tables were prepared by type of district. Thus, unified districts were ranked among unified districts; elementary, among elementary; and high school, among high school. The letter U, E, or H following the percentile rank printed on the profile identifies the percentile rank tables used in the comparisons.

Assessed Valuation per Unit of a.d.a.

The assessed valuation per unit of average daily attendance is a measure of the ability of a school district to provide local revenues. The valuation figure was derived from the modified assessed valuation of 1976-77 reported to the Bureau of School Apportionments and Reports (Form J29A) divided by the second period a.d.a. for 1976-77 and rounded to the nearest dollar. The a.d.a. used to calculate the figure is described in the preceding paragraph.

General Purpose Tax Rate

General purpose tax rate data were taken from information furnished by school districts to the Bureau of School Apportionments and Reports (Form J29B). It is the rate levied in conjunction with the district revenue limit, plus the areawide tax levied, when appropriate. The tax rate is determined annually to provide local revenues sufficient to complement state apportionments in meeting the district revenue limit amount. The rate shown is that levied by the district for 1976-77. In some instances, the rate shown may be lower than that authorized if the district has chosen to operate at a revenue limit lower than the computed rate.

Expenditures per Unit of a.d.a.

Expenditures per unit of a.d.a. shown on the profile is the total current expense of education reported to the Bureau of School Apportionments and Reports (Form J41) divided by fiscal a.d.a. It does not include expenditures for food services, community services, and capital outlay, as these are not considered part of total current expense of education because of the variation of expenditures in these classes among school districts. The expenditures reported are for 1975-76, the latest school year for which data were available.

Example: About 14 percent of the students in Calwest Unified School District were classified as minority, over half of whom had Spanish surnames. Class sizes in the district were larger than the state averages. The district, with an average daily attendance of 31,312, was among the largest 5 percent of all the 1,042 districts in the state. The assessed valuation of $15,112 per student was fairly low (28th percentile) for unified districts. The rax rate was somewhat above average, while the per pupil expenditure was below average.

Questions and Answers

Q. Is it true that the state changes the tests every year?

A. No. However, it may have seemed that way in the past when there was a transition from publishers' standardized tests to state-developed tests, which were subsequently revised to accommodate the suggestions of teachers and members of the test advisory committees. This year's profile is designed to show the stability which now exists: the Entry Level Test and Reading Test have now been used in the same form for three successive years. The Surveys were implemented one year later and hence have been the same for two years.

Q. Is it true that if my district's percent correct score in second-grade reading, for example, were only one percent correct higher than last year, my percentile rank would increase by 20 percentile points?

A. No. Even at the middle of the distribution (where the sensitivity to change is greatest because of the peakedness of the frequency distribution curve), a 1 percent change in percent correct will translate into a change of five percentile points. However, the variance of district scores does decrease at the higher grade levels, particularly grade twelve, where there are only 373 districts. The distribution of test score means from large units, e.g., high school districts, is a more compressed distribution. This results in a larger ratio of percentile rank differences to mean raw (percent correct) score differences. The case is most dramatic with spelling where high- and low-scoring districts do not have dramatically different scores.

Q. What background factors are most influential in determining the comparison score bands?

A. The factors used for the calculations are listed under each test in the order of their importance. After the third- or fourth-ranked background factor is considered, the information provided by the remaining factors becomes redundant, and very little new information can be extracted. The Reading Test illustrates this principle very nicely. Once the Entry Level Test scores and socioeconomic index for a district are known, very little additional significant information about a district is produced by adding the percent AFDC, percent bilingual, or pupil mobility values. All three of these factors are correlated with Entry Level Test scores and the socioeconomic index. Thus, while these three factors have informational value, they tell little more about a district's test scores than a person can learn from the Entry Level Test scores and the socioeconomic index.

Q. Why use 1976 Entry Level Test scores as a predictor of current second- or third-grade pupils' scores? Wouldn't longitudinal comparisons be better? That is, why not use the fall, 1975, Entry Level Test scores as predictors for the current second grade?

A. If true longitudinal data were available, they might be better predictors of scores. However, the scores of last year's first grade are not likely to be for the same pupils as this year's second grade. This will be true if even one of the first graders moved from the community or if one new second grader was not in the school last year when the first-grade Entry Level Test was administered. No better predictions resulted when such quasi-longitudinal comparisons were attempted. To the extent that there is any pupil mobility reflective of a changing community, the most recent test results will reflect that change. And if the second- and third-grade pupil population is changing because of mobility, it is only reasonable that the pupils have younger brothers and sisters now in the first grade who would reflect that change.

Because of the greater span of years, the quasi-longitudinal comparisons from grade three to grade six and from grade six to grade twelve would suffer even more from any mobility which exists.

Q. Why aren't the graphic representations of the comparison score bands the same width for all grade levels and content areas for a district?

A. Some grade-level and content-area scores are more predictable than others. For example, at both grade six and twelve, spelling is the most difficult content area to predict. Background factors are not as closely correlated with spelling scores as they are with, for example, reading; therefore, comparison score bands for spelling tend to be wider.

The width of the comparison score band is also a function of the number of students tested. Thus, a small district with a limited number of pupils tested has a large measurement error, which is reflected in a wider comparison score band than that of a large district.

Q. Does a district scoring below its comparison score band indicate that the instructional program is poor?

A. Not necessarily, but the low score should serve as a signal to examine the situation thoroughly. The following questions must be considered before concluding that the instructional program is failing:

1. Are the test results consistent with teacher observations? However, when considering teacher observations, one should be wary of the possibly biased argument that "This is a particularly bad class." Furthermore, when considering the average score of 200-300 students, one must realize that the students would have to be quite systematically and dramatically different from the norm to affect a district average.

2. Did the testing coordinator report any unusual conditions which arose during the administration of the tests? A fire drill? Inattentive proctors? Apathy apparent in the students? (Any disruptions should have been reported at the time. If they are reported on an ex post facto basis, they tend to sound like rationalizations or excuses rather than valid explanations or reasons.)

3. Do the reported background factors present a reasonable profile of the district? Selected factors are, of course, the basis of the predicted score, so if one of these should falsely inflate the comparison score band, there is a greater likelihood of the district's score falling below its comparison score band.

4. There remain the two extreme--and antithetical--explanations for a score's being below the comparison score band:

   a. In fact the district is not performing as well as those similar to it.

   b. Even after rejecting all competing explanations, it cannot be said with certainty that the instructional program is at fault, since the prediction system is not foolproof. A small chance exists that the district could have scored below its comparison score band even when it deserved to score within.

Q. Does scoring above one's comparison score band mean that the instructional program is outstanding?

A. To analyze fairly and completely the test results, a district scoring above its comparison score band should ask itself the same questions as districts that score below.

Q. Does being within one's comparison score bands in all grades and all content areas indicate that the district is doing about as well as can be expected?

A. It is doing about as well as other districts with similar characteristics. There remains the possibility that all districts with those characteristics could be doing better. All districts must be wary of the self-fulfilling prophecy implicit in using comparison score bands. If the cited situation creates complacency, there will never be improvement--just a perpetuation of the status quo. Or if scores increase statewide, a district with an average score that remains the same would receive a lower percentile rank.

The relationship of a district's score to its comparison score band should never be viewed without keeping in mind the percentile rank. A good example is a district that has a comparison score band from the 1st to the 9th percentiles and the actual score at the 1st per-

centile. Being within its comparison score band can hardly be seen as laudatory or even reason for self-satisfaction.

Some of the same warnings can be directed to higher scoring districts, regardless of the interpretation index. Being at the 95th percentile does mean the district is relatively good; but possibly on an absolute or judgmental basis, all districts might be scoring "too low," and a 95th percentile is just one of the best of a "not-too-good" group.

Q. Is the size of the school district an important consideration in analyzing a district profile?

A. Yes. In the smallest school districts in which a small number of students has determined the district average, caution must be used in interpreting scores. In these cases, extreme scores, absenteeism, or other aberrations can have a marked influence on the district average.

This same limitation has been taken into account in calculating the comparison score band. The width of this band must be greater for smaller school districts. For the very smallest districts, this width becomes so great that the relationship of the district average to the comparison score band is of little value.

Q. What can be learned from the background factors?

A. Often documentation may be secured to affirm or refute claims made by various groups.

Examples:

1. A taxpayers' group may think the district has the highest tax rate around. The percentile rank will show how accurate the group's perceptions are.

2. The teachers may think their average class size is too large. In absolute terms, who is to say? In relative terms, the percentile rank will show how the district's average class size compares to that of other districts throughout the state.

APPENDIX A

PERCENTILE DISTRIBUTION OF DISTRICT SCORES OF TEST RESULTS FOR GRADES 2, 3, 6, AND 12
ALL CALIFORNIA SCHOOL DISTRICTS, 1976-77

Percentile Rank	Grade 2	Grade 3	Grade 6				Grade 12			
	Reading	Reading	Reading	Written Expression	Spelling	Mathematics	Reading	Written Expression	Spelling	Mathematics
Maximum	100.0	100.0	100.0	100.0	100.0	100.0	76.4	75.5	78.2	81.1
95	85.9	94.1	80.8	80.1	75.1	74.5	70.0	68.6	73.1	73.9
90	82.3	92.2	77.4	75.5	72.7	70.1	68.2	66.9	71.4	71.1
85	80.3	90.8	75.0	73.4	70.6	66.4	67.1	65.7	70.6	70.3
80	78.3	89.8	73.6	71.2	68.9	64.4	66.5	65.1	69.9	69.6
75	76.6	88.8	72.1	69.8	67.7	62.8	66.0	64.1	69.5	68.7
70	75.5	88.0	70.9	68.6	66.7	61.8	65.4	63.2	69.0	67.8
65	74.2	87.4	70.2	67.6	66.1	60.5	64.8	62.6	68.6	67.3
60	73.2	86.6	69.4	66.8	65.3	59.9	64.3	61.9	68.3	66.7
55	72.1	85.6	68.7	65.9	64.5	58.9	63.7	61.5	68.0	66.1
50	71.1	84.8	67.6	65.2	63.7	58.1	63.3	61.0	67.6	65.5
45	69.8	83.8	66.6	64.4	63.0	57.2	62.8	60.7	67.1	64.8
40	68.4	82.8	65.7	63.2	62.3	56.2	62.3	60.3	66.7	63.8
35	67.0	81.6	64.8	62.0	61.4	55.2	61.6	59.8	66.4	63.3
30	65.5	80.2	63.3	60.7	60.3	54.2	60.9	59.2	66.0	62.9
25	63.4	78.5	61.7	59.2	59.5	53.0	60.2	58.8	65.3	62.1
20	60.9	77.0	59.7	57.6	58.4	51.7	59.5	58.1	64.5	61.2
15	58.5	75.2	57.7	55.8	57.1	50.3	58.3	57.1	63.9	60.2
10	55.8	72.4	55.1	53.2	55.3	48.6	57.0	55.9	63.1	59.3
5	51.3	67.7	50.4	49.4	51.3	45.9	55.7	53.9	61.2	56.1
Minimum	20.0	34.2	29.2	25.0	25.0	20.0	46.6	46.5	52.5	44.6
Mean	69.8	83.2	66.8	64.6	63.8	58.5	62.9	61.2	67.4	65.3
Standard Deviation	10.9	8.3	9.2	9.2	8.4	9.0	4.5	4.5	3.6	5.5

APPENDIX B
PERCENTILE DISTRIBUTION OF DISTRICT VALUES ON BACKGROUND FACTORS USED TO COMPUTE COMPARISON SCORE BANDS FOR EACH TEST
ALL CALIFORNIA SCHOOL DISTRICTS, 1976-77

Percentile Rank	Grades 2 and 3					Grade 6			Grade 12	
	Entry Level Test	Socio-economic Index	Percent AFDC	Percent Bilingual	Pupil Mobility	Grade 3 Achievement Index	Percent AFDC	Percent Bilingual	Grade 6 Achievement Index	Percent AFDC
Maximum	35.00	3.00	100.0	97.2	100.0	100.0	100.0	100.0	81.6	71.2
95	30.78	2.67	27.9	57.0	55.5	94.2	28.3	55.5	73.9	22.7
90	30.05	2.52	23.2	45.1	50.1	92.3	22.6	43.2	71.4	18.0
85	29.72	2.43	20.0	35.9	46.7	90.9	19.6	32.6	69.9	14.8
80	29.45	2.36	17.9	29.1	43.7	89.9	17.5	24.9	68.6	12.6
75	29.05	2.30	16.0	23.5	41.5	89.0	15.7	20.6	67.7	11.4
70	28.81	2.26	14.5	19.7	39.8	88.3	14.0	16.7	67.0	9.7
65	28.66	2.22	13.2	16.3	38.7	87.6	12.8	13.6	66.2	8.5
60	28.44	2.17	12.1	13.3	37.6	86.8	11.8	10.6	65.4	7.6
55	28.23	2.13	11.3	10.7	36.7	85.9	10.9	8.5	64.6	7.0
50	27.98	2.09	10.4	9.0	35.3	85.0	9.7	6.5	63.6	6.4
45	27.65	2.04	9.3	7.5	34.2	84.0	8.7	5.1	63.0	5.7
40	27.37	2.00	8.3	6.0	33.1	83.0	8.0	3.9	62.3	5.1
35	26.99	1.95	7.5	4.9	32.0	81.9	7.1	2.9	61.6	4.6
30	26.73	1.91	6.4	3.8	30.6	80.6	6.3	1.8	60.4	4.0
25	26.44	1.86	5.5	2.5	29.1	78.7	5.1	0.0	59.3	3.5
20	25.94	1.77	4.3	1.3	27.5	77.3	4.1	0.0	58.0	3.0
15	25.29	1.70	3.2	0.0	25.7	75.4	3.1	0.0	56.8	2.5
10	24.48	1.61	1.8	0.0	22.9	72.7	1.8	0.0	55.0	2.0
5	23.42	1.43	0.0	0.0	18.9	68.1	0.0	0.0	52.9	0.9
Minimum	16.28	1.00	0.0	0.0	0.0	34.2	0.0	0.0	43.4	0.0
Mean	27.58	2.08	12.0	16.4	36.2	83.4	11.8	14.4	63.5	8.5
Standard Deviation	2.38	0.37	10.3	19.1	12.4	8.2	11.7	18.9	6.5	8.1

APPENDIX C
PERCENTILE DISTRIBUTION OF DISTRICT VALUES ON ADDITIONAL BACKGROUND FACTORS
ALL CALIFORNIA SCHOOL DISTRICTS, 1976-77

Percentile Rank	Percent total minority	Percent American Indian	Percent Asian American	Percent Black	Percent Spanish-Surnamed	Average Class Size		Average daily attendanc
						Elementary	High School	
Maximum	100.0	100.0	89.6	88.2	92.6	33.5	39.7	619,715
95	63.3	7.8	5.7	10.6	55.6	29.7	29.6	15,717
90	52.8	4.3	3.4	6.5	44.2	29.1	28.9	10,618
85	44.7	2.3	2.7	3.6	34.3	28.7	28.4	7,425
80	37.1	1.4	2.2	2.6	27.5	28.3	27.9	5,315
75	31.5	1.0	1.7	1.6	22.1	27.9	27.5	3,740
70	27.2	0.7	1.4	1.1	18.2	27.5	27.2	2,771
65	23.2	0.5	1.2	0.8	14.9	27.1	26.8	2,038
60	19.4	0.4	1.0	0.6	11.9	26.7	26.5	1,488
55	16.1	0.3	0.8	0.4	9.9	26.2	26.2	1,135
50	14.1	0.2	0.6	0.3	8.0	25.8	26.0	890
45	11.9	0.2	0.5	0.2	6.4	25.3	25.5	668
40	10.6	0.1	0.4	0.1	5.4	24.7	24.9	503
35	9.0	0.0	0.3	0.0	4.5	24.2	24.2	395
30	7.6	0.0	0.1	0.0	3.5	23.6	23.2	302
25	6.4	0.0	0.0	0.0	2.7	22.6	22.4	228
20	5.3	0.0	0.0	0.0	1.9	21.4	21.7	164
15	4.2	0.0	0.0	0.0	1.4	19.9	20.8	114
10	2.8	0.0	0.0	0.0	0.1	16.5	18.5	68
5	0.2	0.0	0.0	0.0	0.0	13.0	15.5	36
Minimum	0.0	0.0	0.0	0.0	0.0	1.7	9.2	7
Mean	22.0	1.8	1.5	2.6	15.9	24.4	24.7	4,580
Standard Deviation	20.8	5.6	3.7	7.8	18.6	5.2	4.2	22,567

APPENDIX D

PERCENTILE DISTRIBUTION OF DISTRICT VALUES ON ADDITIONAL BACKGROUND FACTORS, FINANCIAL VARIABLES ONLY FOR UNIFIED, ELEMENTARY, AND HIGH SCHOOL DISTRICTS, 1976-77

Percentile Rank	Unified districts			Elementary districts			High school districts		
	Assessed valuation per unit of a.d.a.	General purpose tax rate	Expenditures per unit of a.d.a.	Assessed valuation per unit of a.d.a.	General purpose tax rate	Expenditures per unit of a.d.a.	Assessed valuation per unit of a.d.a.	General purpose tax rate	Expenditures per unit of a.d.a.
Maximum	$214,870	$6.16	$2,874	$2,441,821	$5.28	$4,918	$430,370	$2.60	$2,486
95	61,923	5.08	2,031	227,403	3.12	2,104	158,512	2.34	2,132
90	49,233	4.86	1,823	129,340	2.88	1,789	113,212	2.21	1,943
85	44,111	4.71	1,634	100,148	2.76	1,620	101,638	2.12	1,833
80	38,953	4.45	1,526	81,538	2.68	1,516	91,821	2.05	1,755
75	34,114	4.35	1,483	68,792	2.56	1,415	85,181	2.02	1,678
70	29,801	4.24	1,429	60,564	2.49	1,361	80,375	1.96	1,644
65	27,441	4.18	1,388	53,366	2.43	1,321	73,724	1.92	1,580
60	25,598	4.13	1,357	45,754	2.38	1,270	67,809	1.90	1,545
55	23,967	4.09	1,328	40,790	2.33	1,243	64,958	1.86	1,507
50	22,287	4.02	1,300	36,610	2.29	1,208	61,066	1.82	1,481
45	21,176	3.97	1,277	33,042	2.25	1,186	59,478	1.77	1,457
40	19,651	3.88	1,261	30,384	2.20	1,163	57,811	1.73	1,413
35	18,134	3.81	1,237	27,574	2.12	1,139	53,795	1.71	1,390
30	16,041	3.72	1,215	25,608	2.02	1,117	52,226	1.68	1,376
25	15,061	3.56	1,201	22,995	1.93	1,086	50,724	1.64	1,348
20	13,969	3.42	1,186	20,475	1.80	1,051	46,062	1.60	1,321
15	12,752	3.21	1,170	18,436	1.62	1,021	44,978	1.50	1,303
10	11,647	2.80	1,137	15,994	1.39	982	44,537	1.32	1,263
5	9,443	2.28	1,116	12,007	1.14	923	40,550	1.14	1,234
Minimum	3,595	0.82	1,030	438	0.18	728	27,444	0.62	1,125
Mean	$28,185	$3.91	$1,392	$ 72,348	$2.24	$1,330	$75,196	$1.80	$1,548
Standard Deviation	21,842	0.81	290	144,265	0.61	446	46,947	0.33	274

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