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Debt Line publishes articles on debt financing and public fund investment that may be of interest to our readers; however, these articles do not necessarily reflect the views of the Commission.

Business correspondence and editorial comments are welcome.

DATA-CORNER

A Monthly Update From CDIAC's Data Collection and Analysis Unit

Credit Rating Costs for Issuing Municipal Debt in California

By Ying Chen Axt, Tara Dunn, Jean Shih | Policy Research Unit

INTRODUCTION

In the July 2024 edition of *Debt Line*, the California Debt and Investment Advisory Commission (CDIAC) published "Credit Rating Fees in California, 2008 – 2023", a review of the credit rating fee information reported to CDIAC for municipal debt issues from January 1, 2008, through December 31, 2023.[1] The analysis identified trends and patterns of both median and average rating fees per rating and per $1,000 principal and indicated growth rates of both median and average credit rating costs had outpaced inflation rates during the period from 2008 to 2023.

This article extends the previous research by examining the range of credit rating costs per rating for issuances with settlement dates from 7/1/2022 to 6/30/2024 (Review Period). The research intends to provide a snapshot of the range of credit rating costs per rating segmented by debt types/sectors. The data of each sector is further segmented into specific tranches based on the par amount of the issues.

METHODOLOGY AND DATA DESCRIPTION

The data was derived from issuance information reported to CDIAC through Reports of Final Sale, that are also available on CDIAC's DebtWatch website. The dataset consists of 655 issues with at least one credit rating fee reported to CDIAC and a maturity greater than 540 days.[2] For issues with multiple ratings, the average rating fee per rating (total credit rating fees/number of ratings) was applied in the analysis. Figure 1 below classifies the dataset by debt types/sectors. Tax-supported Securities make up 71.5% of the total issues, among which K-14 School General Obligation bonds account for 52.2%.

The research applied box plots (also known as box and whisker plots) show the spread of credit rating costs per rating segmented by sectors. Figure 2 provides a visualization of the box plots by sectors featuring the entire range of principal amounts contained within the dataset. The spread of credit rating cost per rating is measured by the range of the data, namely, the distance between the lower whisker and upper whisker, shown as the bottom and top horizontal end lines in each column. Any data points that fall outside of these end lines are considered outliers. For example, the Higher Education/Non-Profit sector

[1] Jean Shih, "Credit Rating Fees in California, 2008-2023," CDIAC, *Debt Line*, Vol. 43, No. 7, www.treasurer.ca.gov/cdiac/debtpubs/2024/202407.pdf

[2] CDIAC DebtWatch Database. The data was retrieved as of August 28, 2024 and includes 655 long-term issuances consisting of 449 issues with one rating, 143 issues with two ratings, 62 issues with three ratings, and one issue with four ratings. Local obligation debt purchased by a joint powers authority under the Marks-Roos Bond Pooling Act of 1985 is not included.

Figure 1

MUNICIPAL SECURITIES CREDIT RATING COST DATASET
JULY 1, 2022 – JUNE 30, 2024, AS REPORTED TO CDIAC

DEBT TYPES / SECTORS	ISSUES	% OF TOTAL
TAX-SUPPORTED SECURITIES		
K-14 School General Obligation	342	52.2%
Lease/Special Tax	97	14.8
City & County General Obligation	15	2.3
State General Obligation	10	1.5
BANs	4	0.6
SUBTOTAL TAX-SUPPORTED SECURITIES	468	71.5%
REVENUE BONDS		
Utilities/Public Power	98	15.0%
Transportation	19	2.9
Affordable Housing	18	2.7
Higher Education/Not-For Profit	15	2.3
Charter Schools	10	1.5
Healthcare	8	1.2
Other Revenue Bonds*	19	2.9
SUBTOTAL REVENUE BONDS	187	28.5%
TOTAL	655	100%

*Other Revenue Bonds include housing excluding affordable housing, multiple capital improvements, earthquake insurance, tobacco securitization, P3 recreation/sports facilities.

has a wider range than the other sectors with the upper whisker end line about $240 thousand and the lower whisker end line above $20 thousand (see #1 and #2 in Figure 2). The wider range relates to the larger variability of principal amount for Higher Education/Non-Profit revenue bonds. As discussed in the July 2024 CDIAC article, the credit rating cost per rating is positively correlated with principal amount of the municipal debt issuance. As the principal amount increases, the credit rating cost per rating rises.

In addition to the range, the size of the center quartiles (the light and darker shaded box areas) is another measure of the spread of data. The center quartiles include the middle 50% of the data that lie between 25th and 75th percentile. For example, the percentage of data in the "box" of K-14 School GO is the middle 50% of the data, the same as the percentage of data in the "box" of City & County GO. A narrower box for K-14 School GO suggests less spread for the middle 50% of the data than that of City & County GO. In addition, Figure 2 also shows K-14 School GO has more high outliers, which are plotted as single dots lying above most of the data (#3 in Figure 2). In other words, the credit rating costs per rating for those K-14 School GO high outliers were significantly higher than most of the other points in the dataset.

Please note that if a dataset doesn't have outliers, the upper and lower whisker is the maximum and minimum value of the dataset. Please refer to the call-out box for the statistical definition of box plots.

FINDINGS – A SNAPSHOT OF CREDIT RATING COST PER RATING

Figure 3 summarizes the range between the lower and upper whiskers (w/o outliers) of credit rating costs per rating reported for tax-supported securities in specific tranches of par amounts including City & County GO bonds, K-14 School GO bonds, Leases/Special Tax bonds, State GO bonds and Bond Anticipation Notes (BANs). Since these sectors have been segmented into specific tranches based on the par amount of the issues, a sector may have different lower and upper whiskers and outliers than displayed in Figure 2 which includes all data points.

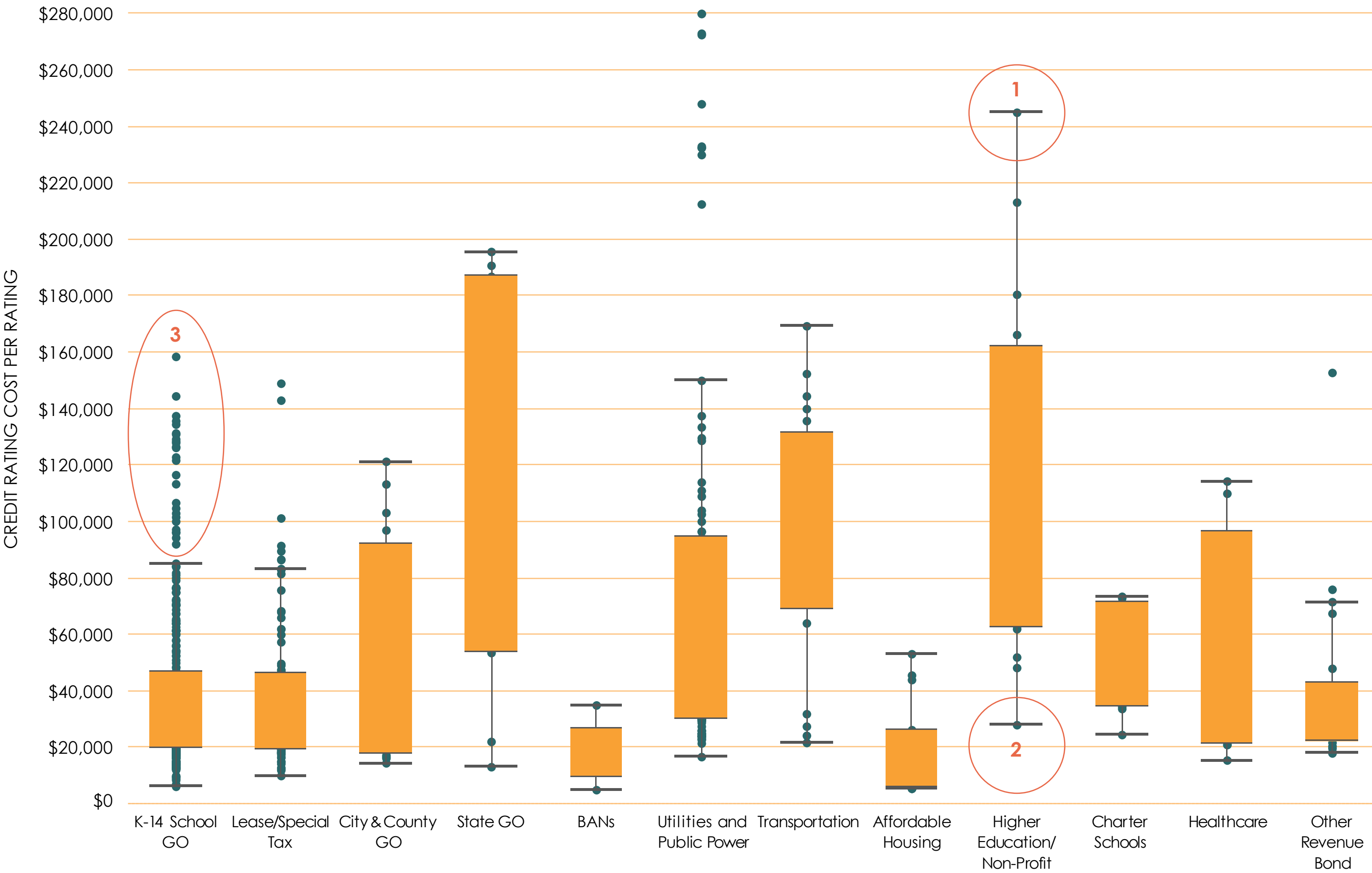
Figure 4 summarizes the range between the upper and lower whiskers (w/o outliers) of credit rating costs per rating reported for revenue bonds in specific tranches of par amounts issued for Utilities/Public Power, Transportation, Higher Education/Non-Profit, Charter Schools, Affordable Housing and Healthcare sectors. Since these sectors have been segmented into specific tranches based on the par amount of the issues, a sector may have different lower and upper whiskers and outliers than displayed in Figure 2 which includes all data points.

Consistent with findings in previous CDIAC research, the analysis reveals that rating costs generally rise as the principal amount increases. A few additional observations are detailed below:

1. Credit rating costs per rating for K-14 School GO bonds with par amount below $100 million have a wider range ($9,500 - $75,000) and

Figure 2

CREDIT RATING COSTS PER RATING BY DEBT TYPES/SECTORS, JULY 1, 2022 – JUNE 30, 2024, AS REPORTED TO CDIAC



BOX PLOT STATISTICAL DEFINITION

Box plots divide the data into equally sized intervals called **quartiles**. Q1, Q2, Q3 are the 25th, 50th and 75th percentile respectively.

The size of the center quartiles, the light and darker shaded box areas also known as the **inter quartile range (IQR)**, is the value of Q3 - Q1. The IQR tells us the range of the middle 50% of the data. Box plots also show outliers in the dataset. Outliers are data points that differ significantly from most of the other points in the dataset. They are plotted as single dots on a box plot. You can calculate outliers mathematically using these rules: **Low Outliers:** All values less than Q1 - (1.5 × IQR). **High Outliers:** All values greater than Q3 + (1.5 × IQR).

Figure 3

SUMMARY OF RATING COSTS PER RATING FOR TAX-SUPPORTED SECURITIES BY PAR AMOUNT
JULY 1, 2022 – JUNE 30, 2024, AS REPORTED TO CDIAC

PAR AMOUNT ($ MILLION)	K-14 SCHOOL GO	LEASE / SPECIAL TAX	CITY & COUNTY GO	STATE GO	BANs
Under 10	$9,500 - 21,000	$14,250 - 21,000	$14,500 - 21,000	NA	$14,000 - 18,000
10 – 25	$17,550 - 31,000	$21,000 - 35,000	NA	NA	$5,000*
25 – 50	$25,750 - 39,000	$18,550 - 37,750	$33,300 - 45,000	NA	$35,000
50 – 100	$23,000 -75,000	$37,100 - 57,375	$56,000	NA	NA
100 – 200	$67,500 - 122,875	$62,000 - 86,667	$16,750 - 97,000	$13,130 - 76,000	NA
200 – 500	$60,300 - 144,500	$24,010 - 149,000	$74,000 - 121,333	$22,093	NA
500 - 1,000	$92,083 - 158,500	$49,142 - 81,567	NA	$53,568	NA
Over 1,000	$131,000	NA	NA	$81,382 - 195,667	NA

* BANs' issuance followed by a GO bond transaction within the Review Period resulted in a lower credit rating cost.

Figure 4

SUMMARY OF RATING COSTS PER RATING FOR REVENUE BONDS BY PAR AMOUNT
JULY 1, 2022 – JUNE 30, 2024, AS REPORTED TO CDIAC

PAR AMOUNT ($ MILLION)	UTILITIES / PUBLIC POWER	TRANSPORTATION	AFFORDABLE HOUSING*	HIGHER EDUCATION / NOT-FOR PROFIT	CHARTER SCHOOLS	HEALTHCARE
Under 25	$21,500 - 27,488	$24,250 - 27,500	$5,500 - 15,000	NA	$24,525 - 45,000	NA
25 - 50	$28,850 - 37,500	$21,708	$10,000 - 16,000	$28,013 - 52,000	$56,250 - 71,500	$15,500 - 52,000
50 - 100	$23,277 - 70,000	NA	$6,000 - 53,150	$62,000 - 63,000	$33,735 - 73,500	$21,000
100 - 200	$62,375 - 111,037	$31,907 - 85,594	NA	$76,500 - 88,000	NA	$71,667 - 110,000
200 - 300	$32,445 - 109,000	$103,333 - 108,825	NA	$93,018	NA	$114,333
300 - 500	$44,780 - 129,667	$107,406 - 144,500	NA	NA	NA	$83,190
500 - 1,000	$74,949 - 280,000	$95,093 - 169,333	NA	$157,667 - 166,250	NA	NA
Over 1,000	$272,500 - 273,000	$64,058 – 155,000	NA	$157,492 - 245,000	NA	NA

* Affordable Housing issuances structured as variable rate demand obligation (VRDO) bond obtained much lower rating costs per rating (<= $10,000) across tranches of par amount.

more top outliers compared with the data for City & County GO bonds and Lease/Special Tax bonds, suggesting there may be more opportunities for issuers to lower the rating costs in the K-14 School GO sector.

2. Credit rating costs per rating of Charter Schools appear to be much higher than those of other sectors. For example: the median rating cost per rating for Charter Schools under $25 million tranche is $40,750. This is significantly higher than the upper ranges of other revenue bond sectors' rating costs in the same tranche, namely, $27,488 for Utilities/Public Power and $27,500 for Transportation.

3. Frequent issuers reported significantly lower rating costs per rating compared with other less frequent issuers with par amount over $100 million. For example, the Los Angeles International Airport reported an ultra-low average rating cost per rating at $64,058 for a revenue bond financing of over one billion dollars with three ratings by Fitch, Moody's and S&P.

CONCLUSION

The analysis shows a matrix of the credit rating costs per rating by sectors and par amount, and further discusses additional factors that might affect credit rating costs, such as issuers' frequency in the market and financing structures. Since the complexity of an individual bond transaction was not assessed for this analysis, the findings in this article may not be applicable for financings with complex structures.

The primary purpose for this research is to share information and promote transparency about recent credit rating costs. The findings and the data used for the analysis may be helpful for issuers to understand and negotiate the credit rating fee structure for a future issuance. The box plot analysis and dataset used for this analysis is available online with the hope that issuers find it a useful tool and resource (CDIAC Credit Rating Costs Interactive Tool). The dataset in this tool can be filtered by principal amount, sector and the number of ratings.

CDIAC will continue to monitor credit rating cost trends and update the analysis as more information is received. On November 19, 2024, CDIAC will be presenting "Practical Adaptations to the Evolution of Credit Ratings", a webinar on the use of credit ratings and how the role of rating agencies has changed over time as market needs and expectations have evolved. Registration for this program is now open.

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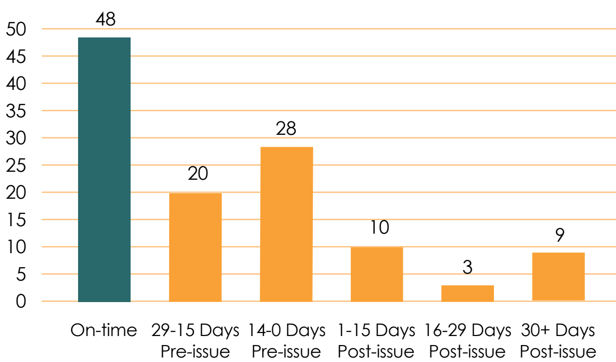
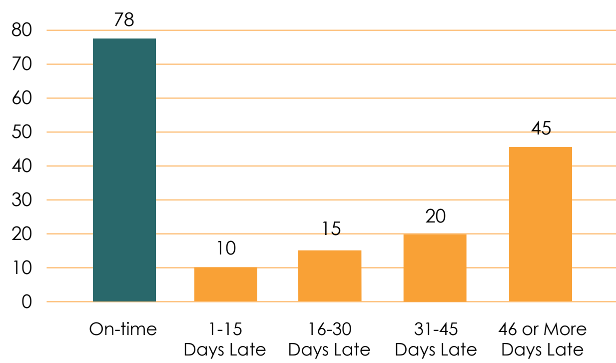
TIMELINESS OF SUBMITTAL OF REPORTS

REPORTS OF PROPOSED DEBT ISSUANCE (RPDI)[1]
RECEIVED AUGUST 2024



REPORTS OF FINAL SALE (RFS)[2]
RECEIVED AUGUST 2024



DATA UNIT ACTIVITY AUGUST 2024

- ✓ RECEIVED AND PROCESSED **118** RPDI
- ✓ RECEIVED AND PROCESSED **168** RFS
- ✓ RECEIVED **48** MARKS-ROOS YEARLY FISCAL STATUS REPORTS FOR FY 2023-24
- ✓ RECEIVED **31** MELLO-ROOS YEARLY FISCAL STATUS REPORTS FOR FY 2023-24
- ✓ RECEIVED **136** ANNUAL DEBT TRANSPARENCY REPORTS FOR FY 2023-24*

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[1] California Government Code Section 8855(i) states that the issuer of any proposed debt issue of state and local government shall, no later than 30 days prior to the sale of any debt issue, submit a report of proposed issuance to the commission by any method approved by the commission.

[2] California Government Code Section 8855(j) states that the issuer of any debt issue of state or local government, not later than 21 days after the sale of the debt, shall submit a report of final sale to the commission by any method approved by the commission.

* As of 10/3/2024, a total of 450 Annual Debt Transparency Reports had been filed for the FY 2023-24 reporting period.