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CALIFORNIA
DEBT AND
INVESTMENT
ADVISORY
COMMISSION

SOURCES AND USES OF DATA: A SHIFTING BASIS FOR THE MUNICIPAL MARKET

Facilitator: Jennifer Johnston, Vice President/Research Analyst

Panel:

Jeff Curie, President, Bitvore Corp.

Barbara Voute', Director, Market Practices, MSRB

Richard Ciccorone, President/CDI, Merritt Research Services

Ted Price, Co-founder and CEO, GovInvest, Inc.

November 3, 2018

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BITVORE IN MUNICIPAL CREDIT ANALYSIS

JEFF CURIE
PRESIDENT
BITVORE CORP.

Continuous Monitoring of Muni Obligors

If You Don't Know, You Can't Act

Tracks 1.2M CUSIPs

 For Munis OPEN BITVORE

Obligor Intelligence Alert Jan 25, 2016

News

Development

FBI probe into Palm Springs includes Wessman projects
desertsun.com Saturday, January 23, 2016 05:23 AM PDT
Palm Springs 69667EAA6 California Development

An agreement with Wessman Holdings and emails sent by Palm Springs to the city's largest developer, John Wessman, were among items seized by federal agents in Palm Springs and Southern California. Federal agents working in force in the U.S. Attorney's Central California office collected email files for the \$350 million downtown redevelopment project, a central theme of Mayor ...
[READ MORE](#)

Education

Escondido to address deep enrollment drop
sandiegouniontribune.com Sunday, January 24, 2016 05:18 AM
Escondido Union School District 296353LY9 296371R1

Escondido — A nearly 12 percent drop in enrollment at Escondido Union School District officials blame the decline on low enrollment and a decision by some families to choose home school or charter schools. Officials say charter schools in particular ...
[READ MORE](#)

Fewer students, fewer dollars for school district
napavalleyregister.com Saturday, January 23, 2016 02:22 PM
Napa Valley Unified School District 630361X81 California

The Napa Valley Unified School District is continuing to show signs of financial stress, according to a report that could potentially impact the district's bottom line. Fewer students ...

Lookup Situations Save as PDF

 Saginaw Public School District MI [Past 90 days](#)

Most Relevant News View Query Expand ▾

-  [Saginaw School District defaults on \\$7 million loan](#)
nbc25news.com - Tuesday, September 19, 2017 07:12 PM
-  [Saginaw Schools missed multi-million dollar payment, could have long-term impact](#)
www.wnem.com - Tuesday, September 19, 2017 01:03 PM
-  [Who is responsible for Saginaw Schools missing \\$7M payment deadline?](#)
www.wnem.com - Monday, September 18, 2017 08:00 PM
-  [Saginaw School District close to settlement on case against the state](#)
www.mlive.com - Wednesday, August 30, 2017 04:56 PM

Early Warning System



Bitvore AI

- ▶ Proactive holdings surveillance
- ▶ Linked to CUSIPs, Tickers
- ▶ Concise, read in minutes
- ▶ 3-year history research
- ▶ 80,000 Sources, incl. EMMA

Pay Research Teams

- ▶ Hire a team of Googlers
- ▶ Forward spreadsheets

Every Person for Themselves

- ▶ Dredge the Internet
- ▶ Newspapers, Debtwire, Google, Factiva, Rating Agencies, EMMA

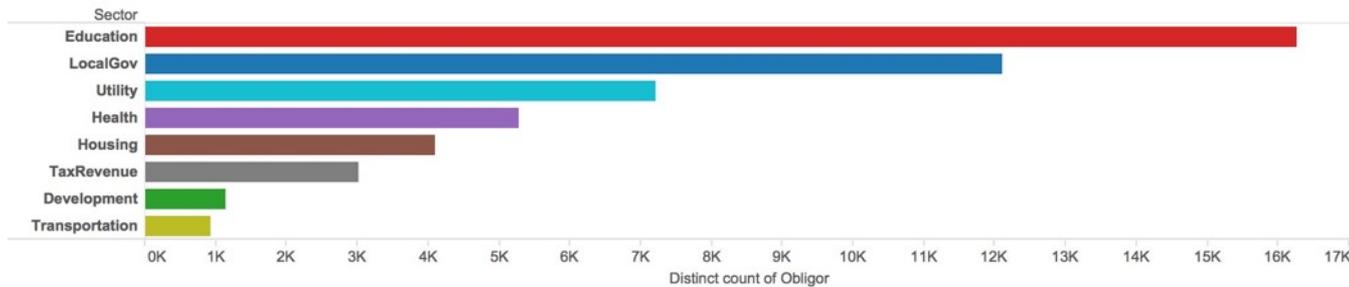
**Evolution of Continuous
Monitoring**

AI for Muni Credit Support

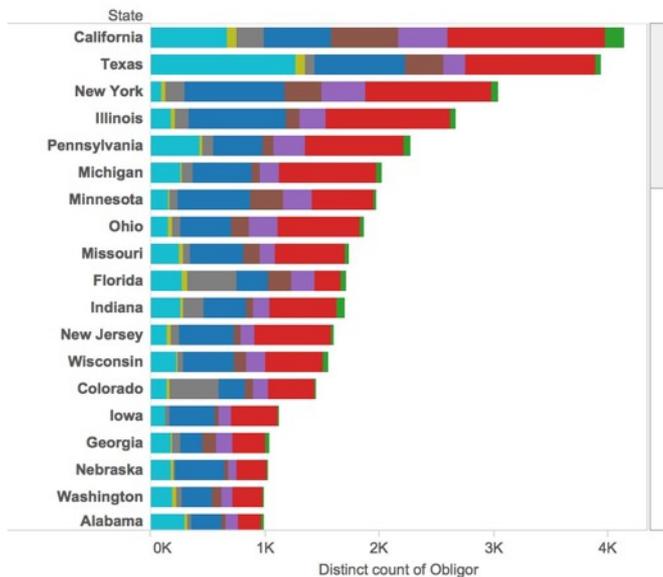


Muni Bond Obligors Included in Analysis

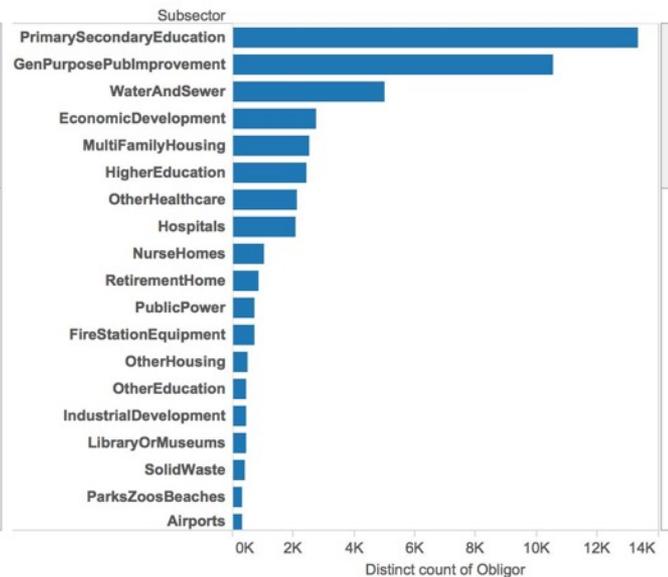
Obligor Coverage by Sector



Obligor Coverage by State



Obligor Coverage by Subsector



Examples of 308 Material Events Monitored

- Accreditation Changes
- Aid Cuts
- Audits
- Bankruptcy
- Bond Sale
- Budget Action
- Cargo Levels
- Certificate Of Need
- City Capital Spend Approval
- Corruption
- Debt Issuance
- Debt Restructure
- Default
- Deficit
- Downsizing
- Economic Forecast
- Economic Incentive
- Emergency Loan
- Employment

Transparent Local Dynamics

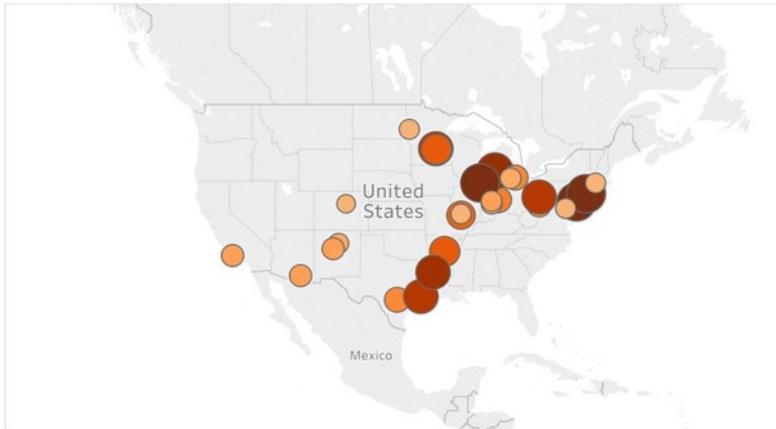


Municipal Debt Early Warning Indicators: U.S. Education

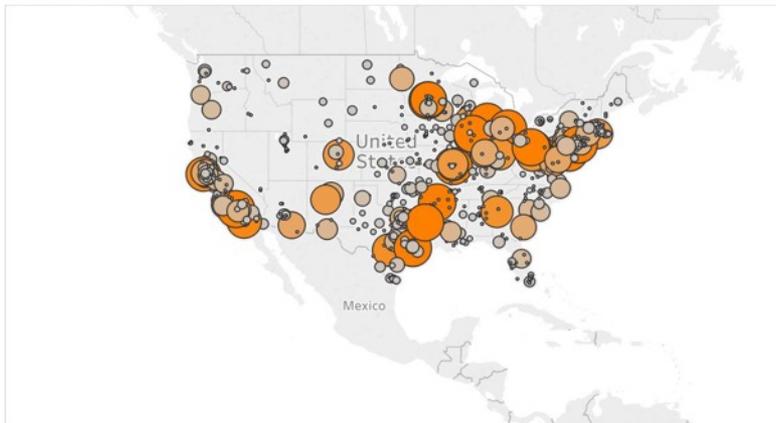
District and University Coverage

Analysis Period Q2 2017

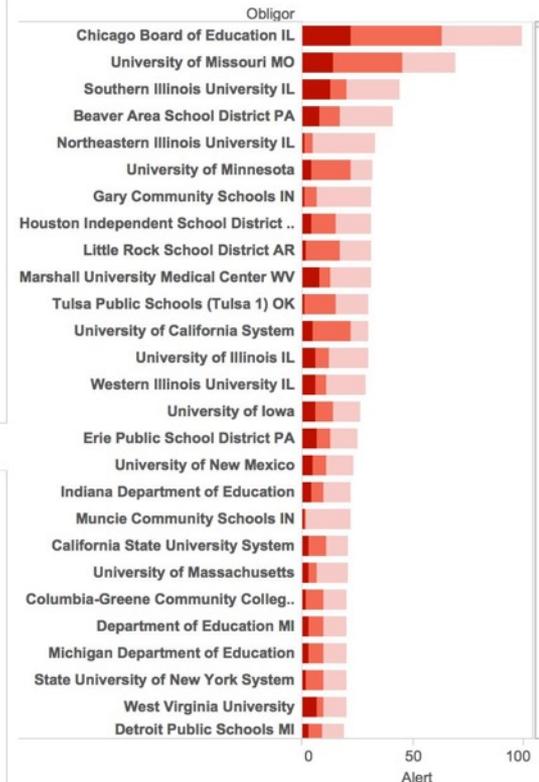
Most Volatile Education Obligor in Period



Early Warning Indicators 12-Months



Most Volatile in Period of Analysis



Month of Alert



Non-duplicate, negative news alerts per obligor reported by Bitvore

Learn More

- Sign up to the free *Muni Daily Brief* at Bitvore.com

- Contact:

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EMMA AND MUNICIPAL MARKET DATA

Barbara Voute'

Director, Market Practices

Municipal Securities Rulemaking Board

 **MSRB**

Municipal Securities Rulemaking Board

EMMA[®]'s Role in the Municipal Market

- Promote transparency for the **\$3.8 trillion** municipal securities market
- Ensure information about virtually all municipal bonds is:
 - ▣ Accessible
 - ▣ Centralized
 - ▣ Public



Security-Specific Information

Official Disclosures

- ❑ Official Statements
- ❑ Advance Refunding Documents
- ❑ Event Notices
- ❑ Financial Disclosures
- ❑ 529 Plan Disclosures
- ❑ Municipal Asset-Backed Securities Disclosure
- ❑ Political Contribution Disclosures

Real-Time and Market Data

- ❑ Trade Prices and Yields
- ❑ Interest Rate Resets for Municipal Variable Rate Securities
- ❑ Credit Enhancement Documents for Variable Rate Securities
- ❑ Credit Ratings

Evolving EMMA



Yield Curves and Indices

View daily and historical yield curves and indices from third-party providers.



New Issue Calendar

View a list of issues scheduled to come to market, integrated with final pricing scales



Economic Calendar

View upcoming economic reports and events

- Providing market-wide data and tools to support understanding of market trends
- Improvements to navigation and presentation of information

EMMA Guiding Principles

- Promote fair municipal security transactions and support investment and issuance decisions by making comprehensive pricing and disclosure information readily available at no cost;
- Facilitate efficient access to and submission of municipal market data, disclosures and information through an interface that is intuitive and dynamic;
- Prioritize potential enhancements based on the public interest, cost, benefit, and size of target audience; and
- Ensure that data storage and delivery are reliable and secure without sacrificing availability.

Optimizing Market Data

- Conducting a comprehensive analysis of relevant market data
 - ▣ Disclosure documents
 - ▣ Trade data
 - ▣ Third-party data (e.g., credit ratings)
- Maximizing availability, utility and quality



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MERRITT RESEARCH SERVICES - AMERICA'S OLDEST MUNICIPAL CREDIT DATABASE

VIA CREDITSCOPE

RICHARD A CICCARONE
PRESIDENT & CEO
NOVEMBER 3, 2017

Providing municipal credit data analysis solutions
since 1986

History

- ▣ First municipal bond credit analysis data and software package available to industry - introduced as **The Merritt System** in 1986 by **Van Kampen Merritt/Xerox Financial**
- ▣ Joined with **Investortools' CreditScope** in 1996 to advance software capabilities and create portfolio solution with Perform
- ▣ Spun off from **Van Kampen/Morgan Stanley** to become an independent company as **Merritt Research Services LLC** in 2001

Basic Concept

- Designed as a new issue and surveillance credit screening and productivity tool
 - Collected and consistently fielded data
 - Sourced directly from obligors, official repositories and other sources
 - Over 10,000 data fields
 - Reputation for high quality data
 - Features: quick access to credit fundamentals, peer group comparisons, statistical modeling and rankings, surveillance report repository
 - Credit sectors released in stages – beginning with hospitals and now 13 standard and 17 custom credit sectors
 - Encompassing approximately:
 - 10,000+ full data obligors
 - 59,000+ supplemental credits
 - 338,000+ linked issues

Sample of A City Report

Investortools	Credit Name	State	GNIS County Name	Moody	S&P	Population	Fiscal Year End	CreditScore Rank	CreditScore City Barometer	High Burden Taxpayer Risk	Days Cash GenF on Hand[2016]
★	Alhambra	CA	Los Angeles			85,058	06/30/2016	53.07	6	54.34	127
☰	Buena Park	CA	Orange			82,928	06/30/2016	88.85	0	88.43	325
	Alameda	CA	Alameda		AA+	78,363	06/30/2016	67.89	2	20.82	189
	Milpitas	CA	Santa Clara			77,269	06/30/2016	86.35	8	25.91	176
	San Ramon	CA	Contra Costa		AA+	75,100	06/30/2016	87.84	4	68.15	51
	Apple Valley	CA	San Bernardir			71,980	06/30/2016	49.63	3	83.00	90
	Lynwood	CA	Los Angeles			71,583	06/30/2016	21.26	2	52.03	45
	Rancho Cordov	CA	Sacramento			70,783	06/30/2016	91.14	8	56.32	161
	Pittsburg	CA	Contra Costa	CE	A+	69,192	06/30/2016	62.30	2	43.45	154
	Camarillo	CA	Ventura			67,339	06/30/2016	94.58	8	85.17	621
	Yuba City	CA	Sutter			66,604	06/30/2016	36.15	0	77.91	6
	Palo Alto	CA	Santa Clara	Aaa	AAA	66,567	06/30/2016	81.44	6	48.63	133
	Santa Cruz	CA	Santa Cruz		AA+	64,112	06/30/2016	37.77	7	31.94	68
	Madera	CA	Madera			63,916	06/30/2016	55.90	-4	85.79	148
	Pico Rivera	CA	Los Angeles			63,850	06/30/2016	67.49	6	70.74	360
	Encinitas	CA	San Diego			62,762	06/30/2016	81.10	-2	69.00	183
	Lake Elsinore	CA	Riverside			62,270	06/30/2016	52.19	-4	62.49	137
	Rocklin	CA	Placer			61,047	06/30/2016	76.52	9	79.84	240
	Petaluma	CA	Sonoma			60,358	06/30/2016	69.71	-3	51.37	47
	La Mesa	CA	San Diego	Aa2		59,876	06/30/2016	66.07	7	63.15	228
	San Rafael	CA	Marin		AA-	59,123	06/30/2016	61.29	3	18.51	63
	Huntington Par	CA	Los Angeles		BBB	59,088	06/30/2016	14.79	7	29.92	125
	Brentwood	CA	Contra Costa	Aa3	CE	58,767	06/30/2016	87.23	3	77.86	228
	Arcadia	CA	Los Angeles		AAA	58,071	06/30/2016	76.04	2	25.53	186
	Fountain Valley	CA	Orange		AA+	56,750	06/30/2016	69.98	-7	49.39	366
	Novato	CA	Marin	Aa2	AA+	55,486	06/30/2016	93.83	4	31.24	284
	Paramount	CA	Los Angeles			55,100	06/30/2016	68.36	3	68.58	191