California Debt & Investment Advisory Commission

Municipal Debt Essentials Seminar

Current Short-Term Financing Options

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Introduction: Short-Term Financing Options

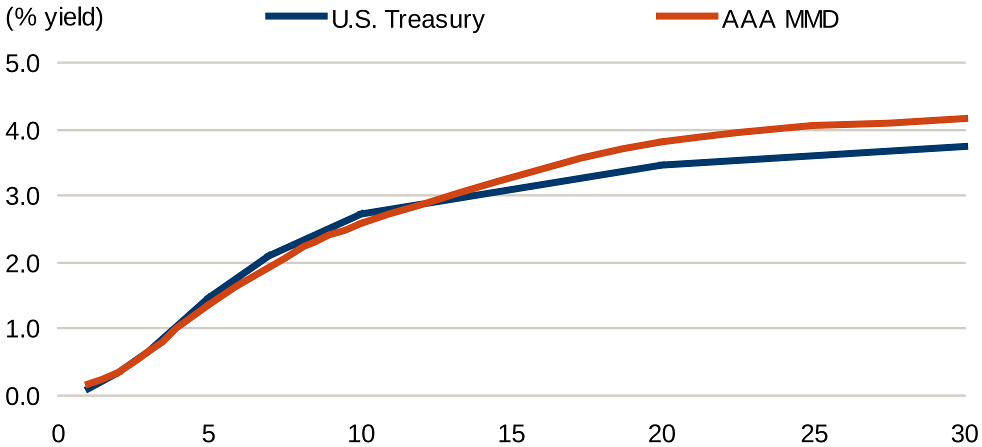
- **What is “short-term”?**
    - Short-term debt can have multiple meanings, but is most commonly viewed as debt that is money market fund eligible under SEC guidelines section 2(A)7.
- **For what purpose is short-term debt issued?**
  - Cash flow financing
    - Provide working capital to pay operating expenses
    - <u>Examples</u>: tax and revenue anticipation notes (TRANs), working capital notes
  - Bridge financings
    - Provide interim short-term financing for capital projects
    - <u>Examples</u>: bond anticipation notes (BANs), commercial paper (CP)
  - Permanent financings
    - Provide long-term project funding at short-term interest rates
    - <u>Examples</u>: variable rate demand obligations (VRDOs), floating rate notes

Short-Term Interest Rates Tend to Be Lower

Illustrative Yield Curve

AAA-rated Municipal Market Data (MMD) Index vs. U.S. Treasury

(As of September 23, 2013)



Illustrative Rates by Maturity

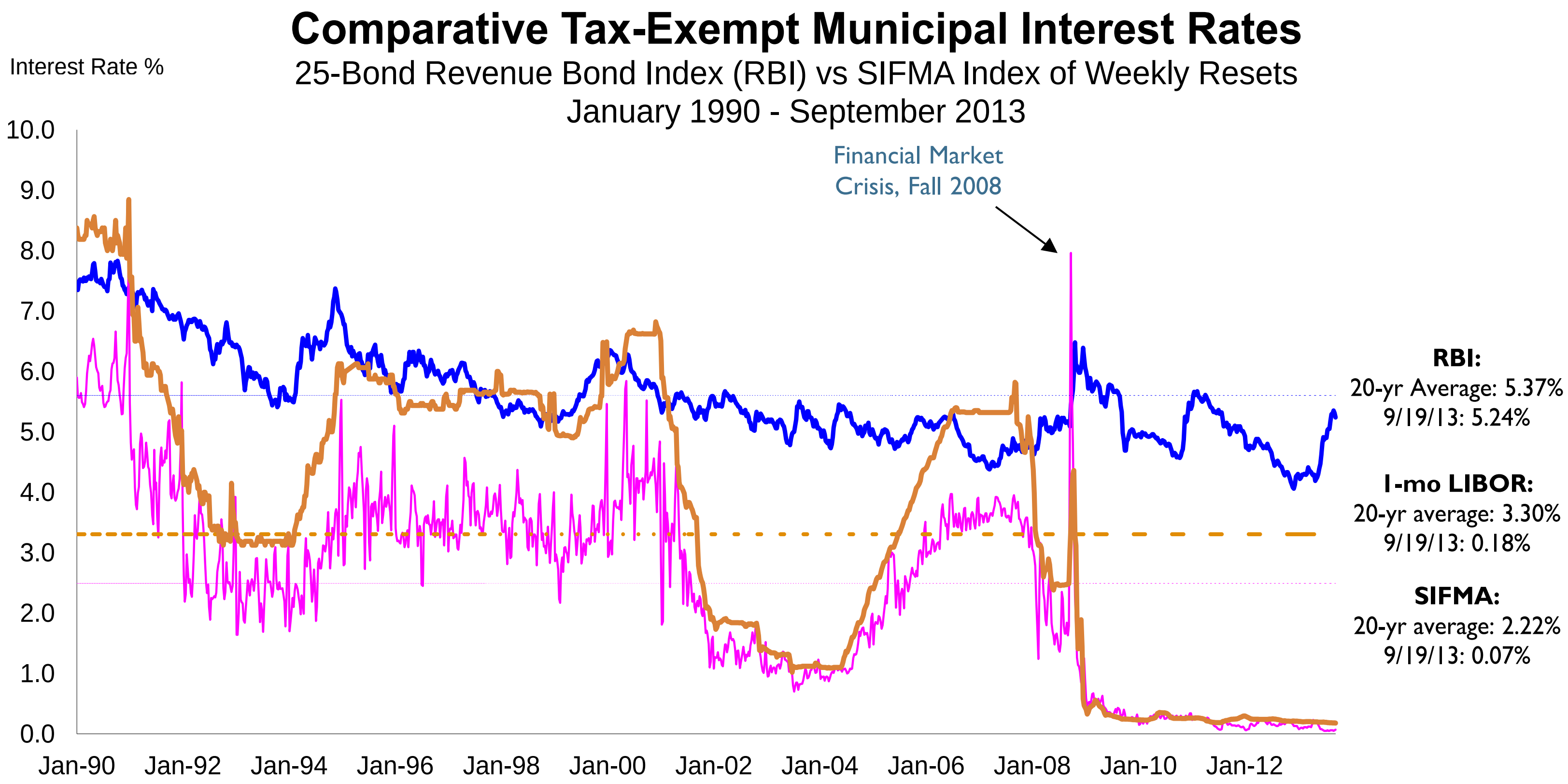
	MMD	UST	MMD:UST
6-month	0.15%	0.05%	300.0%
1 year	0.18%	0.10%	180.0%
2 year	0.36%	0.35%	102.9%
5 year	1.35%	1.48%	91.2%
10 year	2.59%	2.72%	95.2%
30 year	4.17%	3.73%	111.80%

SIFMA vs. U.S. government weekly repo	*100%*
SIFMA vs. 30-Day LIBOR	*35%*

Source: Barclays Live, Thomson Reuters , and Bloomberg.

Short- vs. Long-Term Interest Rates Over Time

Spread between short and long maturities is particularly wide in current market



Source: Bloomberg.

RBI: Long-Term Tax-Exempt Bonds Maturing in 30 Years with Average Rating of A1/A+. SIFMA: All bonds in Index must be tax-exempt, non-AMT, have $10mm or more outstanding and the highest short-term rating by Moody's or S&P, and pay interest monthly calculated on a ACT/ACT basis, and interest rate resets occurring on Wednesdays.

Why Issue Short-Term Debt?

- Issuing debt at the short end of the yield curve has historically produced the lowest interest cost over time
- Avoid locking-in long-term rates in unfavorable market conditions
- Align short-term or variable revenues with short-term or variable liabilities
- Increased flexibility relating to call features, par amount outstanding, and retaining a par valued structure
- Retain variable rate debt compatible with an outstanding swap

Who Buys Short-Term Debt?

- **Money Market Funds**
  - – Must purchase securities that retain a NAV at par or a dollar price of $1.00
    - Investors are typically willing to forego higher investment returns for the preservation of capital
  - – Seek high quality credits to preserve Net Asset Value (NAV)
  - – Regulations limit maturity or put feature to less than 397 days
    - Additional limits on credit quality and concentration of portfolio
- **Short-, Intermediate- and Long-Term Bond Funds**
  - – Have ability to purchase longer-dated maturities for particular funds
  - – Not subject to SEC Rule 2(a)7
  - – Preserve a fund's dollar price during periods of rising interest rates
  - – Increase liquidity
- **"Retail" Participation**
  - – Separately Managed Accounts (SMAs) act as retail aggregators
  - – Many short-term debt issues have $100,000 denominations that limit direct participation

RANs, TRANs and GANs

- **Tax Revenue or Grant Anticipation Notes (RANs or TRANs or GANs)**
  - Purpose: Used for cash flow or capital projects
  - Benefit: Smooth out inconsistent revenue streams like property tax receipts or grants
  - Risks: Short-term and fixed repayment require careful forecasting of future cash flow
  - Interest rate: Fixed at time of note sale
  - Requirements: Government Code and federal tax requirements
- ***Example:***
  - City relies heavily on property tax receipts due in December and April while expenses are fairly evenly spread throughout year
  - With diminished reserves in current economic climate, cash flow shortfall peaks after early December payroll payment
  - TRAN proceeds bolster cash position in July to cover peak deficits in fall; balances are restored and funds are set aside to repay TRANs throughout winter and spring, before June TRAN maturity
  - Credit rating is based on predictability of revenues, accuracy of projections, expected liquidity (and alternatives) at maturity and ability to withstand less favorable results

Commercial Paper

- **Commercial Paper (CP or TECP)**
  - Purpose: may be used for capital projects or cash flow
  - Benefit: offers flexibility to create template for borrowing program and then draw down project funds as needed with streamlined approvals
  - Risks: rollover failure, interest rate fluctuations
  - Maturity: less than 270 days; a true maturity
  - Interest rate: set at time of CP draws
  - Liquidity requirements: third-party (bank) liquidity or (rarely) self-liquidity
- ***Example*:**
  - Transportation authority with large capital program
  - May use CP draws to fund interim, initial project funding
  - One large, long-term financing issued to fund balance of project and pay off CP
  - Credit rating based on credit quality of liquidity bank, not borrower

Bond Anticipation Notes

- **Bond Anticipation Notes (BANs)**
  - Purpose: capital projects
  - Benefit: can provide seed financing in advance of a planned long-term financing
  - Interest rate: fixed at time of note sale
  - Requirements: statutory and tax limits
  - Risks: subject to market conditions at time of sale, reissuance annually

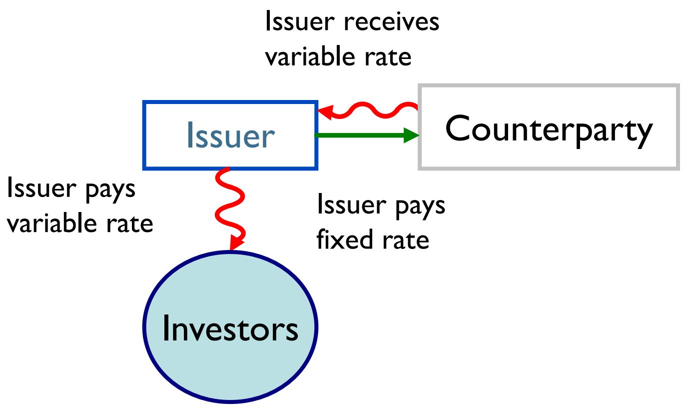
- ***Example*:**
  - Sales tax authorization approved by voters but revenue collections begin in 2 years
  - Transportation authority can issue BANs now to tap future debt capacity
  - BANs are repaid with long-term financing after collections begin
  - Credit ratings are based on expected terms of future take-out and assessment of future market access

Variable Rate Debt: VRDOs

- **Variable Rate Demand Obligations (VRDOs or VRDBs)**
  - Purpose: Used for capital projects
  - Benefit: Access rates on the short end of the yield curve, retain flexibility to pay off or restructure debt at any time
  - Maturity: Principal amortization may be scheduled over the life of the bonds, typically 30 years, or structured as lump sum term maturity
  - Interest rates: Variable rate may be reset daily, weekly, monthly or other periodic basis
    - Most VRDB debt issued has an investor 7 day optional put feature
    - Assuming 7-day reset mode, interest payments are made on a monthly basis
    - Remarketing agent resets the interest rate to achieve the lowest possible interest rate that preserves the $1.00 price of the bonds
  - Liquidity requirements: Third-party (bank) liquidity or self-liquidity which is only accessed in the event that the VRDBs cannot be remarketed at any rate up to the maximum rate permissible
  - Risks: Bank liquidity provider downgrade or non renewal, subject to weekly interest rate fluctuations

Interest Rate Swaps

- **Interest Rate Swaps**
  - Purpose: often used in combination with variable rate debt to limit interest rate risk, create a "synthetic" fixed interest rate
  - Common structure: issuer issues variable rate debt, pays fixed-rate swap rate to counterparty, receives variable rate from counterparty
  - Risks: Counterparty failure to perform, mismatch in basis of offsetting variable rate legs, liquidity renewal, termination events, etc.
  - Termination: Typically requires payment to terminate swap
    - Termination payments can benefit either issuer or counterparty depending on value
    - Mark-to-market values and termination costs depend on swap terms and market conditions

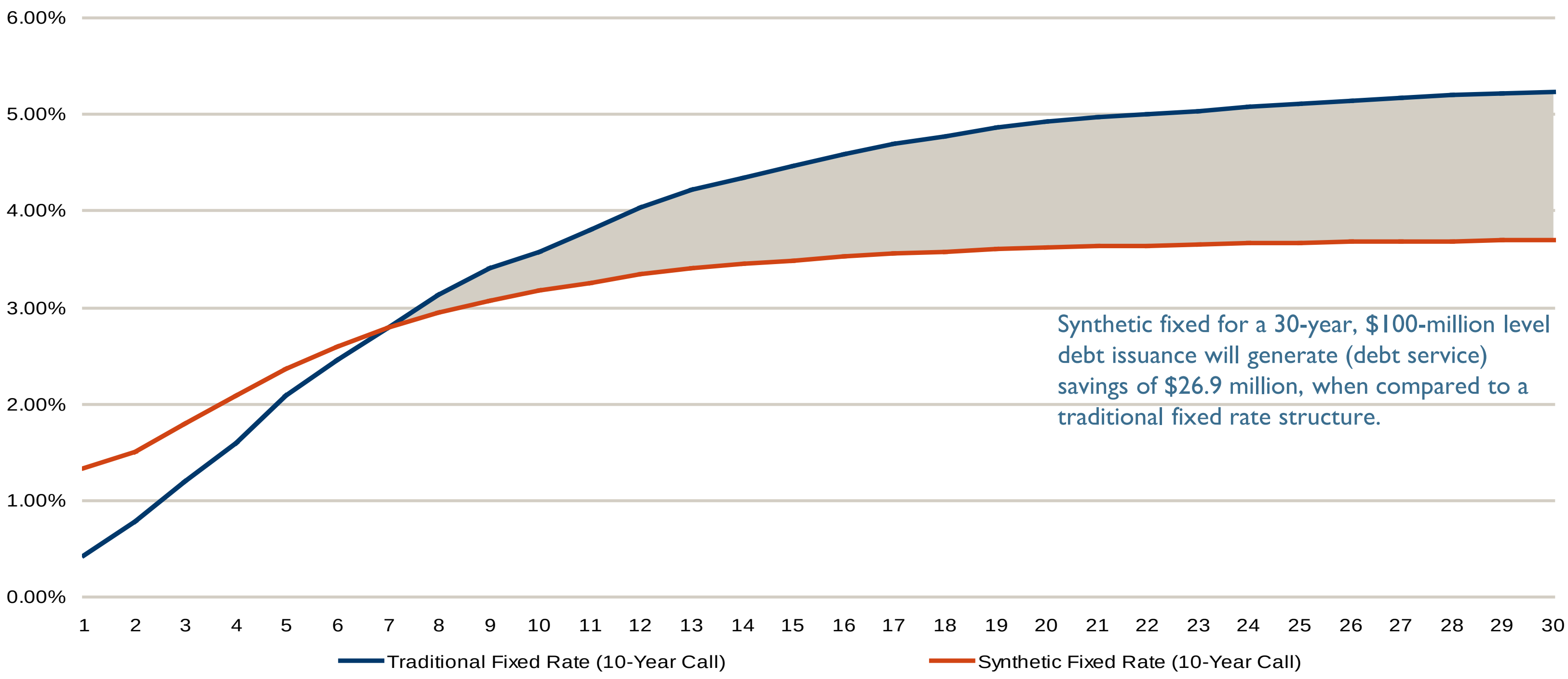


- **Interest Rate Caps, Locks, Floors**
  - Purpose: varying tools to mitigate interest rate risk with variable rate debt

Traditional and Synthetic Fixed Rate Curves

The yield benefit of synthetic fixed structure is significant for longer dated debt.

Traditional Fixed Rate Versus Synthetic Fixed Rate Curves

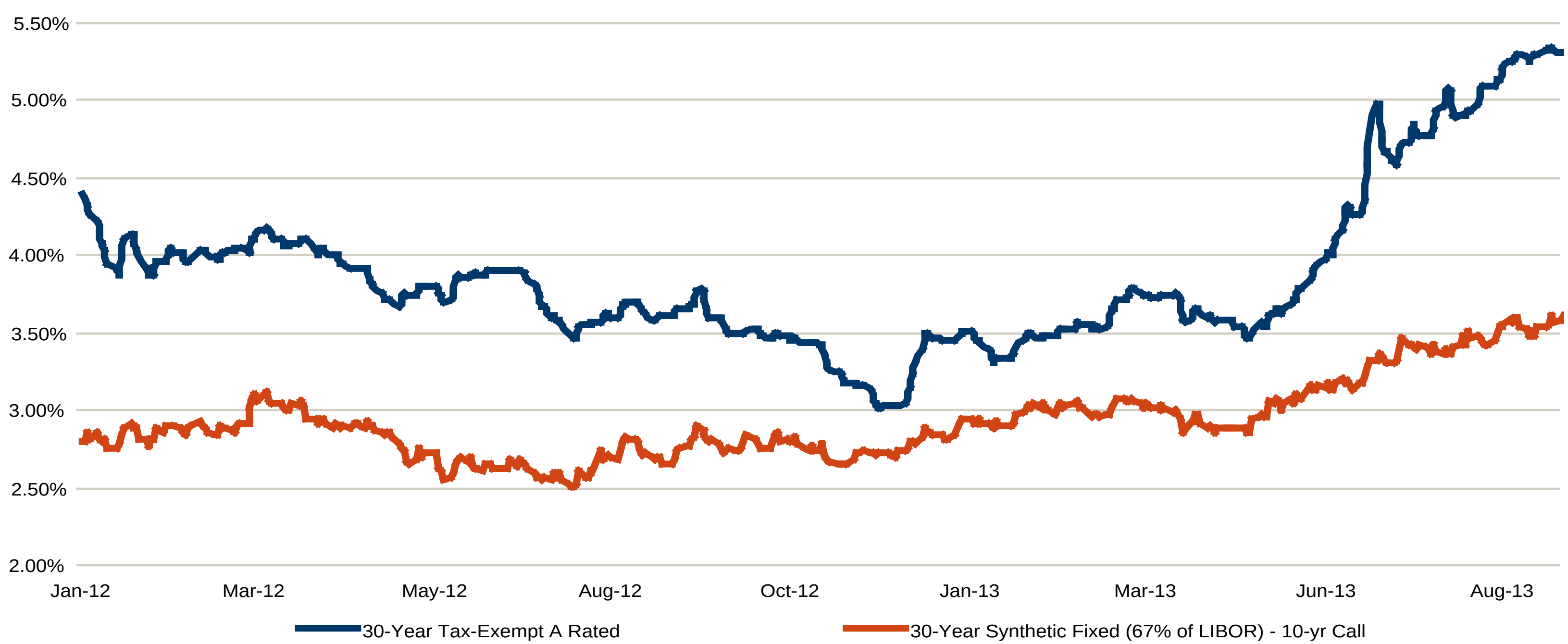


Synthetic fixed rate curve includes 70 bps for LOC cost, 5 bps for remarketing costs, and 25 bps for 10-year call option for comparison with traditional fixed rate debt.
Savings of 126 bps, based on a calculated all-in TIC of 4.93% for traditional fixed rate and 3.66% for synthetic fixed rate issuance.

“All-in Cost” Benefit of Synthetic Fixed Rate Debt

The benefit of synthetic fixed vs. traditional fixed of approximately 170 bps is greater than it has been in recent history.

Indicative 30-Year Tax-Exempt Fixed Rate Bonds Versus Synthetic Fixed (67% of LIBOR Swap) [1]



Synthetic fixed structure provides market access, which is just as critical as price

Source: Thomson Reuters

Synthetic fixed rate curve includes 70 bps for LOC cost, 5 bps for remarketing costs, and 25 bps for 10 year call option for comparison with traditional fixed rate debt.

VRDB Liquidity Requirements

- **Liquidity is necessary for traditional VRDBs**
  - VRDOs generally have a "demand" or "put" feature that is shorter than the final maturity date
  - Investors have the option to exercise a "put" on all or a portion of the VRDBs they own on any business day for settlement (typically) in 7 calendar days.
  - In addition to setting rates, the remarketing agent is responsible for attempting to find new investors to purchase the VRDBs when optional puts occur
  - If no investors can be found the liquidity facility will be drawn on to purchase the VRDBs that we unable to be remarketed or "failed"
  - Unremarketed VRDBs become bank bonds are subject to principal acceleration and formulaic step up rates that can be significantly different from VRDB market rates
- **Standby purchase agreement (SBPA)**
  - Provides liquidity to repay an investor who wants to liquidate his/her holdings (exercise the "put") when another investor can't immediately be found
  - Can be terminated in certain circumstances if issuer's credit deteriorates
- **Direct-pay letter of credit (LOC)**
  - Provides liquidity and credit enhancement to ensure repayment of debt service in certain circumstances
  - Irrevocable commitment through term of agreement

Update on the Liquidity Landscape

Short-term market for credit enhancement remains scarce

- There are fewer banks offering credit/liquidity than prior to 2008
  - Major providers: Bank of America, Barclays, JP Morgan, US Bank, Wells Fargo,
  - Other providers: Bank of the West, City National, Northern Trust, RBC, Sumitomo, State Street, BNY Mellon, Bank of Tokyo/Union Bank, and Mizuho
  - Capacity and saturation pressures mounting

Changing Credit Enhancement Landscape (by Sum of Outstanding Size)

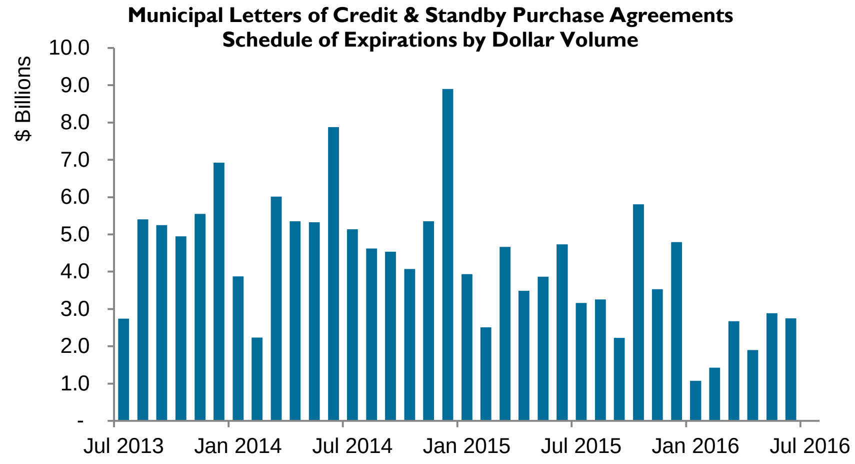
	2011		
	Top 10 Credit Enhancers	Total ($ in mm)	Market Share
1	JP Morgan Chase	39,819.9	12.9%
2	Bank of America	38,719.6	12.5%
3	Fannie / Freddie / FHLB	37,523.8	12.1%
4	Wells Fargo	20,141.4	6.5%
5	US Bank	13,856.5	4.5%
6	Self Liquidity	11,640.7	3.7%
7	Helaba	7,344.7	2.4%
8	PNC Bank	7,327.3	2.4%
9	RBC Bank	6,739.5	2.2%
10	TD Bank	5,783.1	1.9%

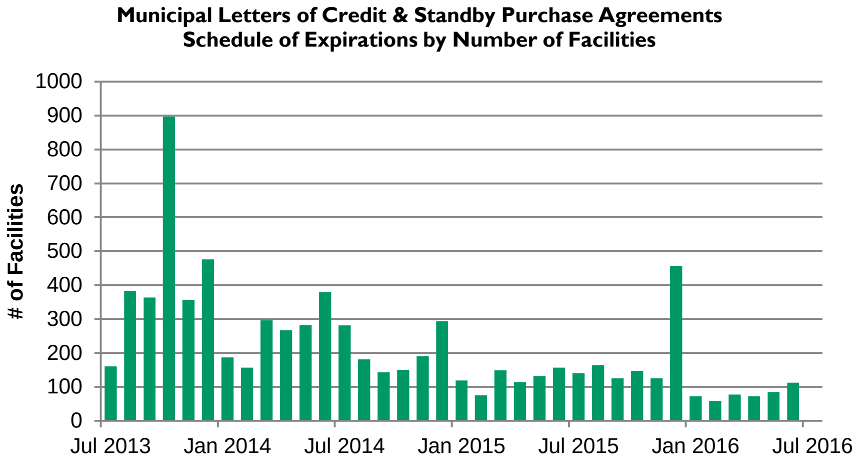
	2013		
	Top 10 Credit Enhancers	Total ($ in mm)	Market Share
1	JP Morgan Chase	31,489.5	14.7%
2	Self Liquidity	31,489.5	10.8%
3	Fannie / Freddie / FHLB	23,147.6	9.9%
4	US Bank	21,113.6	9.6%
5	Wells Fargo	20,516.4	8.0%
6	Bank of America	17,018.0	7.6%
7	PNC Bank	16,174.8	3.1%
8	TD Bank	6,626.2	3.0%
9	Barclays	6,421.0	2.3%
10	Bank of NY Mellon	4,917.2	2.0%

Source: Thomson Reuters (As of September 2013).

Changing Liquidity Regulation and Pricing

- New regulatory pressures
  - Money market reforms**:** Prime funds potentially switching to a floating NAV
  - Basel III reforms**:** Higher capital requirements for banks, higher cost
- Municipal asset class is viewed favorably by most banks leading to sufficient supply of bank facilities at a competitive cost to issuers.





Source: SIFMA (As of June 30, 2013).

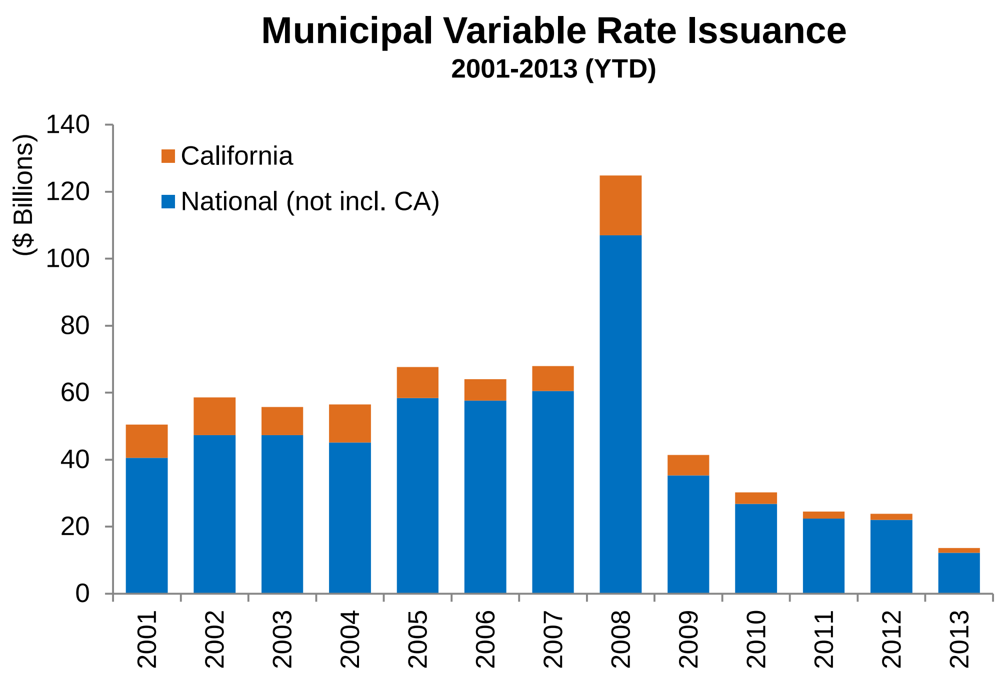
Alternative Variable Structures

Floating rate notes often become more attractive when bank facility pricing increases.

- **Floating Rate Notes (FRNs)**
  - Benefit: Can be used to create or retain variable rate debt without third-party bank liquidity
  - Rollovers: Requires a reissuance on each maturity date that can be costly and time consuming for issuers
  - Interest rates: Set at a fixed spread to variable weekly index (i.e. SIFMA or LIBOR)
  - Liquidity requirements: No liquidity required, essentially "self-liquidity" until maturity or put date
  - Risks: Exposure to future short-term yields, market access and interest rate risk at maturity
  - Structuring considerations: Amortization, put timing, call features, target investors, matches well with swaps
  - Price: May or may not trade at par in the secondary market which limits primary market demand when spreads contract
  - Considerations: Most FRN demand is 3-years or shorter which compares to the length of most bank facilities

Variable Rate Demand Bond Issuance Volume

Diminished volume of issuance and outstanding variable rate debt.

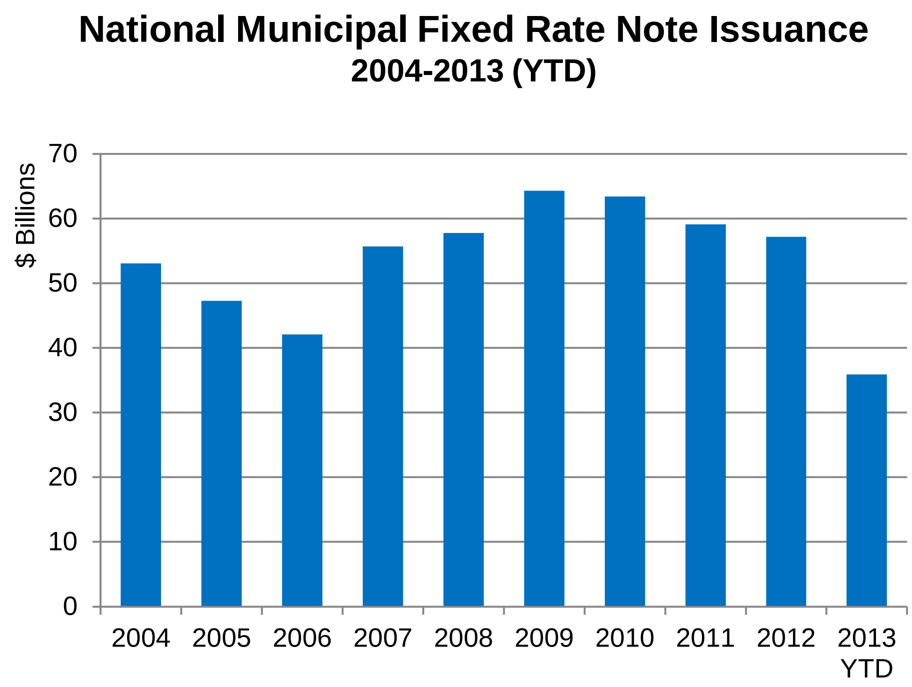


California 2013 variable rate issuance down 77% from 2009

- 2013: 17 issues totaling $1.37 billion
- 2009: 82 issues totaling $6.08 billion

Source: Securities Data Corporation (As of Sept. 23, 2013).

Fixed Rate Note Issuance Volume



California Issuance Volume Down

- 25% decrease in 2013 YTD over 2009
- 2013 YTD: 72 issues totaling $12.7 billion
- 2009: 100 issues totaling $17.1 billion

TRAN issuance

- Increased in 2010 due to financial pressures
- Season peaks in summer

Source: Bond Buyer (As of Sept. 10, 2013).

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