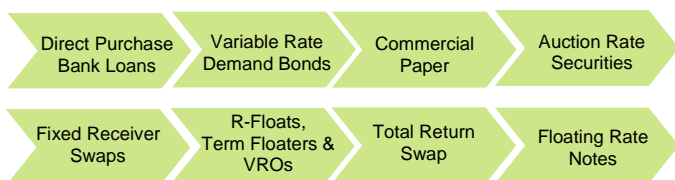


Executive Summary

- Currently, there is a dislocation between SIFMA resets and its theoretical relationship with 1 month LIBOR
- Pre-2008 financial crisis, SIFMA reset between 60% and 70% of 1mL
- The current SIFMA / 1 month LIBOR ratio is approximately 86%
- Impact on SIFMA market is primarily a function of the decrease in demand due to Money Market Reform
- In the private Direct Purchase (“DP”) market, the threat of an interest cost increase due to a change in corporate tax rates is viewed as more probable
- Depending on the application of the corporate tax language and the prevailing 1 month LIBOR rate, the cost increase can be significant

Evolution of the Variable Rate Market



History

As the graphic above illustrates, the tax exempt variable rate market has been constantly changing over the last 40 years. This evolution has been the direct result of the needs and sometimes conflicting objectives of clients, investors and credit providers. We have seen the appearance and subsequent virtual disappearance of auction rate bonds and Window VRDBs. We have experienced an on again off again relationship with public Floating Rate Notes (“FRNs”), and the timid emergence of R-Floats and VROs. Post crisis we have experienced the near market domination of bank DP structures, which were a common form of tax-exempt variable rate financing from 1978 through 1985. Lastly, we have seen an increase in utilization of commercial paper mode bonds, both taxable and tax exempt. Over this period, while its popularity has been subject to ebbs and flows, Variable Rate Demand Bonds (“VRDBs”) have remained a staple of client portfolios.

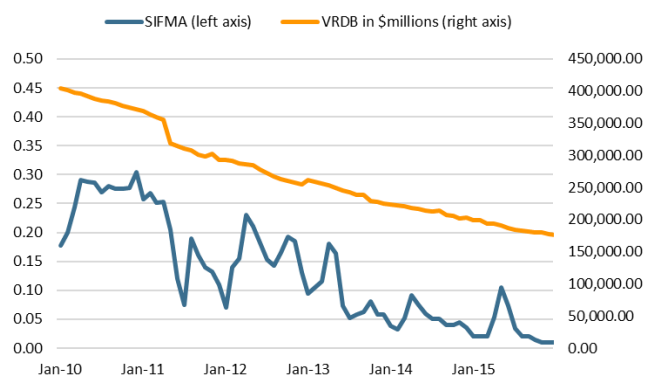
As different challenges have confronted the variable rate market, participants have succeeded in developing and offering varying products to meet the needs and capacities of the different constituents. Currently, the variable rate market is simultaneously being threatened by two very different situations. First, the SIFMA market comprised of VRDBs, VROs/R-Floats, and CP, is struggling with an abnormally high SIFMA index relative to market benchmarks and history. At the same time, despite a vigorous appetite to provide the product, the bank DP market is experiencing structuring challenges which may make the product untenable for many tax-exempt borrowers.

SIFMA Market

Historically, challenges in the overall SIFMA market have been the result of credit provider issues. The market has seen a revolving door of commercial bank interest and eligibility to provide liquidity and/or credit support, and the insurance company issues are still painfully fresh to market participants. Currently the market is confronted with a significant challenge from the investor base.

To understand changes in the SIFMA market, a clear understanding of the SIFMA Index is required. The index is a compilation of rates for high grade VRDBs with a 7 day put period (for specific criteria and eligibility, refer to <http://www.sifma.org/research/item.aspx?id=1690>). In turn, the entire tax exempt short term market, regardless of duration or product, trades in terms of weekly SIFMA. The key is that unlike LIBOR – which is a taxable short term lending rate that is not based on actual trades – SIFMA is the average rate for weekly put bonds. Therefore, factors which impact the product specific supply of VRDBs or the demand for VRDBs impact the short term market independent of traditional short term indicators.

Impact on SIFMA Due to the Decrease in VRDB Supply



Source: <http://www.SIFMA.org>

Therefore, post-crisis as borrowers had difficulty finding acceptable banks for LOCs, the supply of VRDBs decreased and drove SIFMA lower. As SIFMA declined and stayed under 0.30% for about 6 years, money market funds exited the unprofitable business line. Since money market funds are the largest buyers of VRDBs, SIFMA eventually increased to reflect this decrease in demand from the primary investor base.

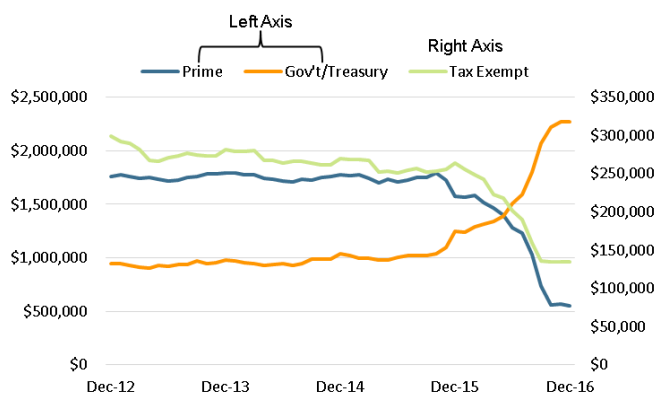
With the full implementation of Money Market Reform (“MMR”), new rules enacted some combination of more restrictive guidelines, including floating NAV’s, gates and redemption fees. As outlined below, retail funds (investors are “natural persons”) can maintain a constant \$1.00 NAV, but these funds may have to impose fees and erect gates. The remaining non-retail funds – estimated to be 1/3 of the market – are required to calculate a floating NAV based on standard mark to market rules.

Summary of Money Market Reform

Fund Type	Floating NAV	Liquidity Fee/ Redemption Gate
U.S. Treasury		
U.S. Government		
Retail Tax-Exempt		✓
Retail Prime		✓
Institutional Tax-Exempt	✓	✓
Institutional Prime	✓	✓

The result of MMR, combined with the low margin nature of the business, is that many fund companies have opted to close their tax-exempt money market funds and move client assets to taxable government funds. As a result, tax-exempt money market fund assets have declined from as high as \$300 billion in 2012 to an estimated \$135 billion as of year-end 2016.

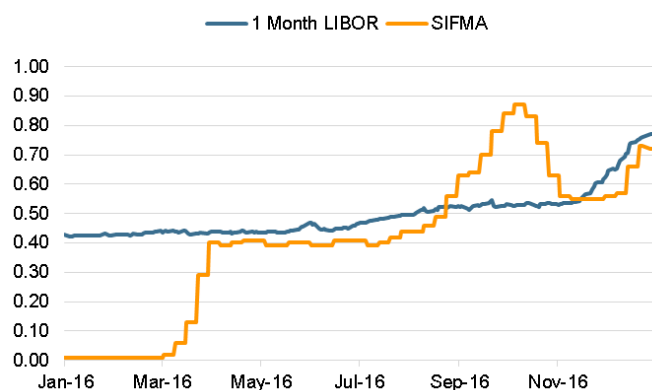
Money Market Fund Statistics



Source: Securities and Exchange Commission Money Market Fund Statistics Reports

Prior to the financial crisis, SIFMA usually reset within a range of 60% - 70% of 1 month LIBOR, and while statistically imperfect, the market generally accepted 67% or 68% of LIBOR as a reasonable estimate of SIFMA over long periods of time.

Relationship of SIFMA and 1 Month LIBOR in 2016



From January 2015 to early March 2016, SIFMA seemed to be pegged at 2 basis points, and the relationship was viewed to be an anomaly and virtually unworthy of analysis. Now, for the reasons detailed above, SIFMA seems to be “stuck” at a higher % of LIBOR than theory or projections would indicate, and not even the January 1 cash inflow from coupon payments significantly changed the relationship. For calendar year 2017, SIFMA has averaged 86% of one month LIBOR, and the market is questioning whether we have established a new benchmark. Given that the majority of VRDB buyers are pass through holders of tax risk and that there are no mark-to-market implications from changes to the tax code, we do not believe that the relative increase in SIFMA is a function of projected tax risk. Going forward, however, tax policy is expected to impact future SIFMA/LIBOR ratios, and therefore the SIFMA based products may experience additional headwinds if marginal tax rates or the tax preference of municipal bonds is altered.

The key issue for the SIFMA market is whether demand will be augmented via participation from new players, and what yield premium is required to attract those new investors. A related issue is whether short term desks are structured to evolve from the relative ease of marketing to large money market funds to the more challenging and time consuming endeavor of selling to other buyer groups. One potential outcome of new buyer bases may be a divergence in performance across remarketing desks.

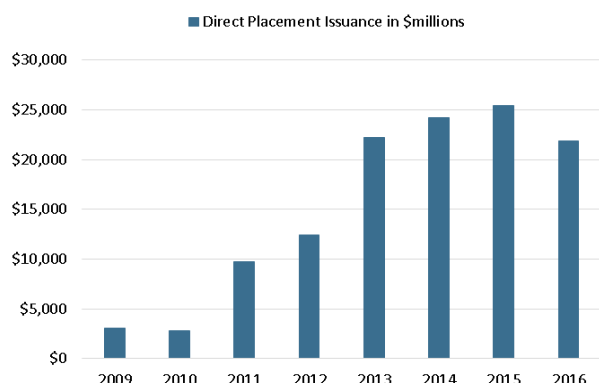
Bank Direct Purchase Market

At the same time that the SIFMA market is struggling, we are seeing some significant changes in the Bank DP market.

Since the offering of the DP structure resumed in 2009, bank direct placements gained widespread acceptance based on the reduced risk profile of the longer tenor of the product combined with the lower cost. In effect, clients could lower the annual cost of their variable rate debt, while dramatically reducing the put and renewal risk that challenges the variable rate market. The primary drawbacks are the emphasis on more stringent provisions than the standard MTI covenants and the pass through of increased cost provisions.

Historically, banks preferred to build in cost escalators based on changes in regulations (“Basel III” events) or borrower credit erosion. With increasing frequency banks also request formulaic escalators based on future changes in corporate tax rates. Given the publicly stated tax initiatives of the new administration, banks have increased the emphasis on this provision, and have become more firm in their request for tax risk protection.

The Rise of Direct Placement Bank Loans



Source: <http://www.SIFMA.org>

When pricing the structure, all other factors constant, the bank seeks to earn comparable tax adjusted returns on taxable and tax-exempt loans. The impact is derived by a mathematical formula as defined in the loan documents. As the table below details, as the corporate tax rate decreases, the borrowing rate increases to compensate for the reduced tax advantage. Importantly, this increase impacts the overall borrowing rate, and therefore the LIBOR % and the credit spread. Consequently, the impact to the client is a function of both the tax rate and the future level of one month LIBOR.

In the table below, we quantify the impact in cost of a change in the tax code. This example assumes a DP interest cost formula of 67% 1mL + 0.50%. Given a change in tax rates impacts both the % of LIBOR leg and the spread, the cost increase is magnified as 1mL increases. In this example, if 1mL increases to 3.00% and the corporate tax rate decreases to 15% the cost of capital increases by approximately 0.77% (from 2.51% to 3.28%)

The Impact of a Change in Corporate Tax Rates

1m LIBOR

Corporate Tax Rates	0.78%	1.00%	2.00%	3.00%	4.00%
10%	1.42%	1.62%	2.55%	3.48%	4.40%
15%	1.34%	1.53%	2.41%	3.28%	4.16%
20%	1.26%	1.44%	2.26%	3.09%	3.91%
30%	1.10%	1.26%	1.98%	2.70%	3.42%
35%	1.02%	1.17%	1.84%	2.51%	3.18%

Previously banks have been reluctant to pass on increased costs to clients, and many believe that will be the case with any DPs and corporate tax risk. Importantly, prior regulatory changes have been more nuanced in their impact, and the changes occurred when letters and lines were the primary exposure of commercial banks. With DP, the impact is more defined and understandable to the client, and the tenor of the loan tends to be longer than a letter or line. Consequently, the majority of the market believes that if corporate tax rates are significantly reduced, banks eventually will pass the cost through to borrowers. Of course, DP loans typically can be

prepaid at any time, so a borrower always has the option to refund into another vehicle, if more attractive.

Summary

Variable rate debt offers important advantages in terms of rate and flexibility, and product diversification remains critical for an optimized capital structure (Please refer to Jeff Sarhbeck's article "The Value of Variable Rates in a World of Low Rates" <http://ponderco.com/the-value-of-variable-rates-in-a-world-of-low-rates>).

As previously noted, the impact of changes in tax rates on the SIFMA market historically have been relatively ambiguous in timing and amount. Furthermore, the majority of end users in the SIFMA market continue to be individuals, and therefore the market is more dependent on individual tax rates. Still, a reduction in corporate tax rates is likely to cause rates on any variable rate tax-exempt vehicle to increase.

For those clients with existing variable rate deals – whether SIFMA based or LIBOR based – we are recommending that you continue to monitor the market, but not take any remedial action at this time. Given the uncertainty around tax reform policy and timing and the cost of re-structuring, a conversion does not seem to be a worthwhile endeavor absent new information. Clients who are currently evaluating a variable rate plan of finance have a more difficult path, and the decision is specific to each situation. The first option is to continue forward with the existing plan, then over time, if the structure is no longer effective, take advantage of the par call feature and roll into the product of choice at that time. Another option, given the time and real costs associated with implementation, is to delay the process until greater clarity is achieved. Alternatively, we have seen some banks offer DP structures that either eliminate or delay the impact of corporate tax reform. At this point banks are still struggling with the potentials for tax reform, and therefore are having difficulty pricing the risk, or are avoiding the option to offset or remove it completely. The good news is that we expect both of these issues to be at least partially sorted out in the next 6 months.

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