Morgan Stanley

April 14, 2010

The Honorable Bill Lockyer
Treasurer of the State of California
915 Capitol Mall, Room 110
Sacramento, California 95814

Dear Mr. Lockyer:

Thank you for your March 29, 2010 letter to James Gorman inquiring about Morgan Stanley's activities in the municipal credit default swap ("CDS") market. Your letter outlines the many credit strengths of the State's general obligation bonds, including their backing by the full faith and credit of the State of California (the "State"), their continuous appropriation and second call on General Fund revenues, and the State's perfect record of payment. Morgan Stanley has been fortunate enough to work with your office to bring State debt to market in the past, and we value each of your points.

At Mr. Gorman's request, we assembled a team of professionals with expertise in the CDS and municipal markets to respond to the questions you raised. We have made every effort to provide detailed answers to your questions; at the outset, we highlight several summary observations:

- Most CDS trading is not motivated by an expectation of default but rather by a view on credit spreads. As such, nearly all significant issuers of debt – corporate, sovereign, and municipal – are traded in the CDS market, regardless of their financial strength or credit ratings. In fact, as of March 26, 2010, there was approximately $222 billion of CDS outstanding referencing such highly-rated sovereigns as China, France, Germany, Japan, the United Kingdom, and the United States.
- We do not believe that the municipal CDS market has had a significant impact on the State's borrowing costs to date given the relatively small size of that market in comparison to the cash bond market, types of market participants, and historic trading data.
- With the taxable Build America Bond program, the municipal market is reaching new investors that are more frequent users of CDS. While more widespread distribution of the State's bonds may lead to greater linkage between the municipal bond market and CDS over time, the more important factor is that widespread distribution of the State's debt to new types of investors expands market capacity for the State's bonds, improves liquidity, and reduces the State's borrowing cost.
- Many factors contribute to municipal CDS spreads, but we expect that the primary factor in both the State of California's CDS spreads and its bond yields will remain its own credit strengths.

- Research by the Federal Reserve Bank of New York (the "New York Fed") [1] on the impact of bond and loan pricing due to the trading of corporate CDS states that "…we find no evidence that the onset of CDS trading affects the cost of debt financing for the average borrower." The New York Fed further found "that CDS trading has a small positive effect on spreads at issue for transparent and safe firms ...".
- Morgan Stanley is an active market maker in all sectors of the CDS market, as we are an active participant in all areas of the debt markets. We believe the State is best served by underwriters that understand these markets, their development and interaction, and can market the State's bonds in a manner that achieves the lowest cost for each bond sale.
- Our underwriting business is separate and independent, both physically and functionally, from the traders who trade municipal and California CDS, with independent personnel, resources, and budgets, and information barriers in place to avoid actual or apparent trading activity (in bonds, CDS, or other instruments) based upon the knowledge gained from our underwriting of bonds for public finance clients.

Typical CDS Structure

CDS are swap contracts between buyers and sellers of protection. CDS are tied to a reference entity or entities, and these reference entities may be sovereign governments, corporations, or structured product issuers. The CDS are typically linked to the credit of the entity rather than any single bond or obligation. As commonly structured, a CDS buyer contracts to make a series of payments over the term of the contract (typically five or ten years) to a CDS seller. In exchange, the buyer receives from the seller the difference between par and the market price of the securities of the reference entity if the reference entity experiences a contractually-defined credit event (such as a payment default, bankruptcy or a restructuring).

Market Participants' Uses for CDS

The majority of CDS trading is not motivated by an expectation that the reference entity will default on its debt while the CDS are in place or to purchase insurance against default. Rather, most purchasers buy protection to create a gain if the reference entity's CDS spreads widen, either hedging a loss that the buyer might incur (from, for example, a fall in bond prices on directly owned securities) or to express a view on spreads. Equally, some participants wish to reduce credit or counterparty exposure to the reference entity for regulatory reasons (e.g. a bank with direct lending, a swap counterparty, or a credit enhancer), potentially creating additional capacity for exposure to the issuer.

Indeed, the greatest volumes in CDS contracts are in large corporate and international sovereign entities that are investment grade and have low probabilities of default. Most contracts have a term of 5 years or less and nearly all have a term of 10 years or less. By comparison, a February 2010 release by Moody's Investor Service estimated an average 5-year historical cumulative

Notes

1. Has the Credit Default Swap Market Lowered the Cost of Corporate Debt?" Ashcroft, Adam B. and Santos, Joao, A.C., Federal Reserve Bank of New York. Staff Report 290, July 2007

default rate for investment-grade corporate debt at 0.97%, indicating that actual defaults for entities of this type remain noteworthy but rare.[2] Indeed, the United States, whose securities are generally considered a riskless benchmark, is an example of a pristine credit actively traded in the CDS market. On March 26, 2010, the Depository Trust and Clearing Corporation ("DTCC") reported that approximately $13 billion of gross notional amount (i.e. the sum of the notional values on all CDS contracts) and $2.2 billion of net notional amount (i.e. the difference between the protection bought and sold by each counterparty and therefore net of offsetting trades) of CDS used the United States as a reference entity.

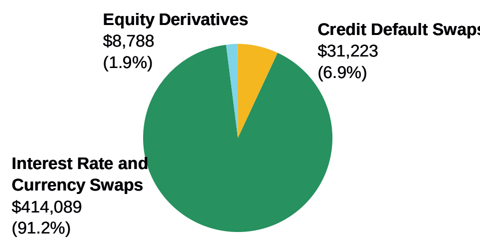
It is also worth noting that for every buyer of CDS, there is a seller, and this seller is expressing a view that is consistent with the buyer of the bond or loan of the reference entity. This seller creates liquidity and broadens the ultimate base of investors who can accept credit risk in the form of the reference entity's securities, knowing they have the ability to partially hedge that exposure in the CDS market.

The CDS Market

CDS fall into the broader category of derivatives. Figure 1 shows the gross notional amount of various types of derivatives as of June 30, 2009. The CDS market is newer, dating back to the late 1990s, and smaller than either the interest rate or currency derivatives markets, although still significant in size.

Figure 1: Relative Size of Derivatives Markets by Type

Notional ($Bn, %)



Source: ISDA Market Survey for the period ending June 30, 2009

Nearly all significant issuers of debt (corporate, sovereign, and municipal) are reference entities in the CDS market. In addition to the United States, as noted above, as of March 26, 2010, approximately $209.3 billion of CDS were reported relating to such highly-rated sovereigns as China, France, Germany, Japan, and the United Kingdom.

DTCC provides a free, publicly available, weekly report on the current and historic notional amounts of CDS contracts traded through their systems. Table 2 uses the DTCC data to detail the types of CDS contracts by category of the reference security or index (as of the week ending March 26, 2010). Corporate CDS were by far the largest segment of the CDS market during this period. Of the approximately $24.8 trillion of CDS, approximately $12.4 trillion (50%) used corporate reference securities versus approximately $2.2 trillion (9%) for sovereign/municipal reference securities.

Table 2: Overview of CDS Market By Reference Security

Reference	Gross Notional $Bn (USD Equivalent)	%	# Contracts ('000)	%
Corporate	12,394	50%	1,939	85%
Index	7,392	30%	102	4%
Tranched	2,626	11%	48	2%
Sovereign/Municipal	2,158	9%	160	7%
Mortgage-Backed	147	1%	27	1%
Loans/Other	73	0%	18	1%
Total	**24,790**		**2,294**	

Source: DTCC Warehouse Data for the week ending March 26, 2010

Table 3 shows the breakdown within the sovereign/municipal CDS market during the same period. As illustrated, the single-name international sovereign CDS market was much larger than the U.S.

Notes

2 . "U.S. Municipal Bond Defaults and Recoveries, 1970-2009", Moody's Investor Service, February 2010

municipal CDS market. California was the largest single-name municipal CDS reference security during this period with approximately $7.1 billion of gross notional amount and $908 million of net notional amount on 422 contracts. CDS for the five most active single-name municipal entities had a total gross notional value of $17.5 billion and a net notional value of $3.1 billion on 1,059 contracts.

By contrast, the gross notional amounts outstanding for the five most active single-name international sovereign entities during the same period was approximately $757.0 billion while the net value was $61.6 billion with approximately 40,669 contracts outstanding.

Table 3: Single Name Sovereign CDS and MCDX Index

Reference	Ratings (M/S)	Gross Notional $Bn (USD Equivalent)	%	Net Notional $Bn (USD Equivalent)	%	# Contracts ('000)	%
U.S. Municipal							
California	Baa1/A-	7.1	0.3%	0.9	0.0%	0.4	0.3%
New Jersey	Aa3/AA	2.1	0.1%	0.6	0.0%	0.2	0.1%
Texas	Aa1/AA+	2.1	0.1%	0.4	0.0%	0.1	0.1%
Florida	Aa1/AAA	3.5	0.2%	0.3	0.0%	0.2	0.2%
New York	Aa3/AA	2.7	0.1%	0.3	0.0%	0.1	0.1%
Subtotal		17.5		2.4		1.1	
U.S. Municipal CDS Index							
MCDX Subtotal (2)		10.6	0.5%	3.1	0.1%	0.6	0.4%
Sovereign							
Italy	Aa2/A+	214.8	9.9%	23.8	1.1%	5.3	3.3%
Turkey	Ba2/BB+	175.9	8.1%	5.9	0.3%	12.4	7.7%
Brazil	Baa3/BBB+	137.6	6.3%	12.4	0.6%	10.1	6.3%
Russia	Baa1/BBB+	111.9	5.2%	4.1	0.2%	8.4	5.2%
Spain	Aaa/AA+	104.3	4.8%	15.2	0.7%	4.0	2.5%
Greece	A2/BBB+	70.5	3.2%	8.4	0.4%	3.1	2.0%
Germany	Aaa/AAA	63.8	2.9%	12.4	0.6%	10.1	6.3%
France	Aaa/AAA	50.2	2.3%	9.0	0.4%	1.6	1.0%
United Kingdom	Aaa/AAA	38.8	1.8%	7.5	0.3%	2.1	1.3%
China	A1/A+	31.9	1.5%	3.1	0.1%	3.1	1.9%
Japan	Aa2/AA	24.6	1.1%	4.0	0.2%	2.1	1.3%
United States	Aaa/AAA	13.0	0.6%	2.2	0.1%	0.4	0.3%
Other Sovereign		1,103.5	50.9%	-	-	96.2	59.9%
Total Sovereign and MCDX		2,168.8		-	-	160.6	

Notes:

(1) Source: DTCC Warehouse Data for the week ending March 26, 2010

(2) Includes MCDX 2010, MCDX 2011, MCDX 2012, and MCDX 2013

A 50-name municipal CDS index ("MCDX") was created in May of 2008. Nearly half of the reference securities are general obligation issues while the balance are backed by revenues of municipal issuers. The State of California's general obligation credit comprises 2% of the index, as all reference entities in the index are equally weighted. Based on DTCC's data for this period, the MCDX index is more actively traded than any single-name municipal CDS, making MCDX an attractive alternative to single-name CDS for investors wishing to either buy or sell municipal market credit exposure.

The single-name corporate CDS market is much larger in size than the sovereign/municipal market. Table 4 shows select, highly rated single-name corporate CDS for illustrative purposes.

Table 4: Single Name Corporate CDS

Reference	Ratings (M/S)	Gross Notional $Bn (USD Equivalent)	%	Net Notional $Bn (USD Equivalent)	%	# Contracts ('000)	%
Berkshire Hathaway Inc.	Aa2/AA+	23.4	0.2%	5.1	-	2.9	0.2%
IBM	A1/A+	15.9	0.1%	1.4	-	2.4	0.1%
Pfizer	A1/AA	11.7	0.1%	1.2	-	1.6	0.1%
Johnson & Johnson	Aaa/AAA	6.6	0.1%	0.9	-	1.0	0.0%
Exxon	Aaa/AAA	2.6	0.0%	0.5	-	0.5	0.0%
Other Corporate CDS	-	12,333.5	99.5%	n/a	-	1,930.9	99.6%
Corporate Single-Name CDS		12,393.7		-		1,939.3	

Source: DTCC Warehouse Data for the week ending March 26, 2010

Morgan Stanley's Activity in the CDS Market

As a full service integrated financial services firm, Morgan Stanley is an active market maker in all significant categories of the CDS market, including corporate, sovereign/municipal, and index products. Our firm continuously provides two-way quotes on the MCDX index as well as approximately 20 single-name municipal general obligation credits, including the State of California. The firm acts as a principal in each trade rather than as a facilitator or arranger. Our clients in the municipal CDS market include, but are not limited to, banks/broker-dealers, mutual funds, credit enhancers, insurance companies, and hedge funds, both domestically and abroad.

Our clients' trading varies over time, but Morgan Stanley is generally active in municipal CDS with each category of client mentioned above, including State of California CDS, as well as in sovereign and corporate CDS.[3] In aggregate, Morgan Stanley has conducted gross notional trades (including buys and sells) in the amount of $9.4 billion in State of California CDS since January 1, 2007. Morgan Stanley's current gross notional of State of California CDS outstanding is $1.9 billion. Morgan Stanley's current net notional of State of California CDS outstanding is $38.1 million of protection purchased. Note that the gross notional for the sovereign/municipal CDS market was approximately $2.2 trillion, and the gross notional for all types of CDS was approximately $24.8 trillion, as provided by DTCC for the week ending March 26, 2010.

Morgan Stanley's Role as an Underwriter of Municipal Bonds

As you know, Morgan Stanley has an active public finance underwriting business. This business is separate and independent, both physically and functionally, from the traders who trade municipal and California CDS. The separation for corporate underwriting and CDS is the same. Morgan Stanley runs the businesses with independent personnel, resources, and budgets. Public finance bankers' decisions are not influenced by Morgan Stanley's CDS trading activity nor are Morgan Stanley's CDS traders' decisions influenced by public finance bankers' activities. Additionally, Morgan Stanley has information barriers in place between traders on the public side and public finance bankers on the private side to avoid actual or apparent trading activity (in bonds, CDS, or other instruments) based upon the knowledge of the public finance bankers.

Notes

3. The Morgan Stanley data in this paragraph reflects activity of the Firm's institutional securities division current through April 13, 2010, and does not include activity of the Firm's affiliated asset management and retail divisions.

Credit Analysis/Marketing Material Distributed to Our Clients

Morgan Stanley Research has distributed a variety of information to our clients regarding municipal CDS. The research has focused primarily on the MCDX index, its composition, and trading opportunities. This includes recommendations on trading strategies that involve both purchasing and selling protection using the index. Morgan Stanley Research has not published or distributed research on single-name CDS for municipal issuers, including research on the State of California. For your information, we have included as attachments to this response research pieces published by Morgan Stanley on the municipal CDS market:

- "Credit Derivatives Insights: Muni Mania" (2/1/2008)
- "Muni Bond CDS Basis: MCDX, BMA/LIBOR Ratios and Muni Cash Bonds" (5/16/2008)
- "Credit Derivatives Insights: MCDX: Credit Risk or Risk Premium" (5/21/2008)
- "Credit Derivatives Insights: Munis vs. Corporates in Recession: CDS Considerations" (10/24/2008)
- "Municipal Bond Market Update" (10/5/2009)

Impact of State of California CDS Trading on Bond Sales

We do not believe that the municipal CDS market has materially impacted the State's bond sales or the borrowing costs paid by taxpayers given the relatively small size of the municipal CDS market, types of market participants in the traditional bond market and the CDS market, and historical trading data. The net notional amount of CDS relating to the State (approximately $0.9 billion net held through DTCC as of March 26, 2010) is small when compared to the State's current outstanding debt (approximately $63.3 billion of general obligation bonds and $9.3 billion of lease revenue bonds as of March 1, 2010). In Figures 5 and 6, we graph the spreads on the 30-year maturity of the State's primary market general obligation bond sales in the tax-exempt and taxable markets against the trading of the State's 10-year CDS and the 10-year MCDX index. We utilized 10-year CDS as, according to DTCC data, 85% of single-name CDS contracts have a term of 5-years or less and 99% of single-name CDS contracts have a term of 10-years or less. Both graphs show the significant widening of spreads in all markets that took place during the peak of the credit crisis in the fall of 2008. Additionally, they both show that spreads between the cash and municipal CDS markets have moved together at times and have diverged at times. Of note, each taxable sale from March 2009 through the most recent sale has experienced significant spread tightening despite volatility in the CDS market. For most bond sales, the 10-year spreads in the CDS market were tighter than the State's 30-year bond spreads at the same time.

Figure 5: CDS Trading Summary and State of California's Tax-Exempt GO New Issue Spreads

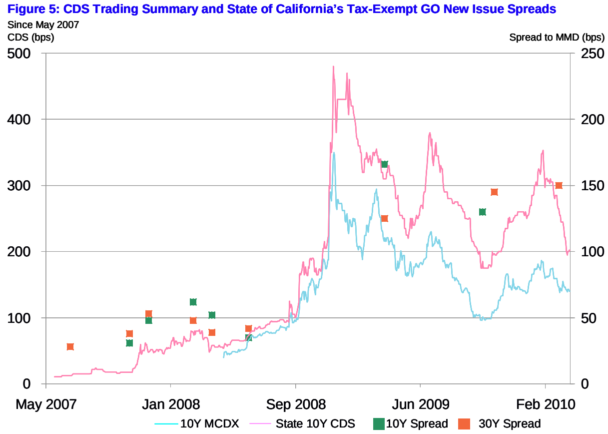
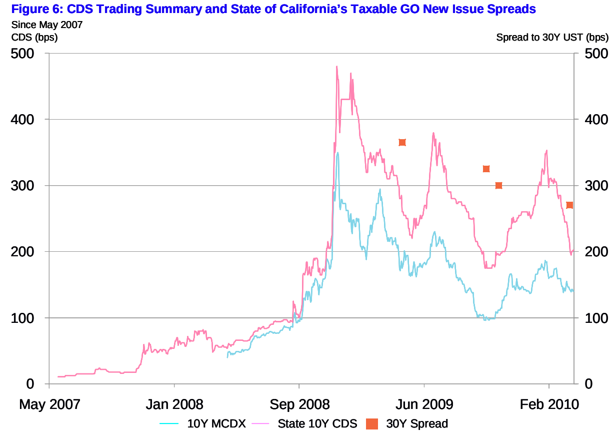


Figure 6: CDS Trading Summary and State of California's Taxable GO New Issue Spreads



Source: Morgan Stanley

Outlook for Municipal CDS and State of California CDS Markets

We expect that the market for both municipal CDS as well as single name CDS referencing the State of California will expand. This has been the trend for large, liquid corporate borrowers and international sovereign governments.

The taxable Build America Bond program is enlarging the investor base for municipal securities beyond the traditional tax-exempt investors. This wider distribution is a positive factor that increases distribution of the State's debt to new types of investors, expands market capacity for the State's bonds, improves liquidity, and reduces the State's borrowing cost. The State's most recent taxable general obligation bond sale generated over $1 billion of orders from international investors, while most of the State's recent taxable sales have also had significant interest from pension funds and large taxable money managers. As the investor base for municipal securities expands to a community that is more similar to that for corporate, consumer, and international sovereign debt, there will be increasing demand for risk management tools like CDS. As described above, the default probability for investment grade credit risk is low during all parts of the economic cycle; however, the credit premium that the market charges for this risk varies substantially. Most investors in credit instruments (i.e. securities other than U.S. Treasuries that have a credit component, including municipals), will ultimately be net long credit risk throughout the economic cycle but the liquidity in the cash bond market is insufficient for these investors to manage their credit risk efficiently. CDS permits these market participants to manage their credit exposures over time as risk premiums fluctuate, with any gains from the widening of CDS spreads offsetting losses in their cash bond positions.

With the increased distribution of the State's bonds to these non-traditional municipal bond investors, the linkage between the cash municipal bond market and the CDS market may become more pronounced than it has been to date. Despite this increased linkage, the CDS market and the cash bond market will not necessarily converge, as there are a number of structural reasons that could drive municipal CDS spreads wider than bond spreads at times. As CDS is a vehicle through which the bond investor can mitigate the credit spread volatility of their municipal bond portfolio (in lieu of selling that portfolio), the seller of protection may have to be compensated in excess of the cash spread to take part in the transaction. Equally, upon a credit event, the buyer of protection has the ability to deliver a wide variety of maturities and coupons to fulfill their

CDS contract. The buyer may be willing to pay for that "option" in the form of a wider CDS spread than the cash spread.

As many debt market participants experienced in 2008, CDS spreads can gain the attention of investors and the media. In a volatile market when the State must sell bonds, it is possible that a severe widening of State CDS spreads could adversely affect investors' perception of the State's credit quality, which could negatively impact the pricing of the State's bonds at the time of a sale. While CDS spreads may garner more attention in the media than bond spreads, there was no indication during the credit crisis that the widening of corporate CDS spreads drove bond spreads. In fact, at the peak of the financial crisis, the premium demanded by CDS users was significantly less than that of buyers of corporate bonds or loans, and as markets have experienced improved liquidity, the spreads on corporate bonds have more closely aligned with the tighter levels of the CDS market rather than the reverse.

Ultimately, if the CDS market expands for municipal credits, we expect a broadening of the investors willing to accept municipal credit risk through the purchase of the State's bonds in the cash market. We also expect that the primary factor in both the State's CDS and bond spreads will remain its own credit strengths rather than media attention or other factors.

In closing, thank you again for reaching out to Morgan Stanley on this important topic. We would welcome the opportunity to meet with you and your staff to explore any questions you may have.

Sincerely,

Jack DiMaio
Managing Director and Global Head of IRCC

Stratford Shields
Managing Director and Head of
Public Finance

cc: James Gorman
John Sheldon

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February 1, 2008

Global

Structured Credit

Credit Derivatives Insights

Muni Mania

Conference call Monday February 4, 11AM EST: We will discuss investment grade, structured credit and CDO markets. Please call 800-659-1942, (+1-617-614-2710), passcode “Greg Peters.”

US municipal CDS market: Systemic fears, regional economic stress, poor real estate fundamentals and monoline credit issues have both raised credit risk within the muni market and helped to boost interest in trading muni CDS. We estimate trading volumes in excess of $50 billion over the past six months.

CDS contract details: Municipalities have only two credit events; failure to pay and old-style restructuring. We explore the technical side of this largely untested contract and its specific terms and discuss recovery implications.

Ratings: Municipalities and other tax-exempt issuers are rated somewhat differently than their corporate counterparts. We explain the mapping from one to the other.

Basis trades: For now, there is little overlap between muni bond investors and muni CDS investors. There are basis opportunities here, but tax-exemption makes these more complicated.

Structured solutions: FTDs and more generally nth-to-default baskets represent pure play structured approaches to munis via CDS. Implied correlations tend to be high, and fixed recovery is an interesting alternative.

The Primary Analyst(s) identified above certify that the views expressed in this report accurately reflect his/her/their personal views about the subject securities/instruments/issuers, and no part of his/her/their compensation was, is or will be directly or indirectly related to the specific views or recommendations contained herein.

This report has been prepared in accordance with our conflict management policy. The policy describes our organizational and administrative arrangements for the avoidance, management and disclosure of conflicts of interest. The policy is available at www.morganstanley.com/institutional/research.

Please see additional important disclosures at the end of this report.

Muni Mania

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One of the strongest themes that emerged in the latter half of 2007 was the significant pickup in systemic risk across the global financial system. The impact of this systemic risk had and continues to have huge negative implications on risky credit assets, but it has also led to growth and participation in new credit market instruments. In Europe there has been an explosion in the usage of sovereign CDS as a tool to hedge systemic risk, position for sovereign stress and also capture the unprecedented wide spreads on sovereign entities in leveraged and structured products. CDS on European sovereign names now trade in the 10 to 40 bp range.

These same systemic market themes have played a role in the explosive recent growth of credit default swaps on US municipal issuers. US housing stress, state-specific economic conditions and the monoline debacle have clearly played a role as well. Up until last summer the over $2.2 trillion US municipal market was, despite its size, a quiet market. States, counties, cities, school districts and other entities that could borrow at tax-exempt rates would bring their issue to market, where much of it would be sold to individual investors and nearly all of it was purchased with the expectation that it would be held to maturity.

Exhibit 1

Current Indicative Levels for Muni CDS

As of January 31, 2008

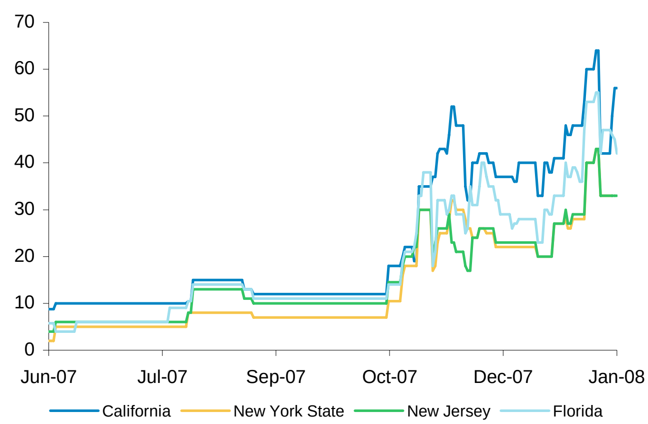
Issuer	S&P	Moody's	S&P	10YR CDS
California	CA	A1	A+	58/65
New York, NY	NY	Aa3	AA	46/53
Florida	FL	Aa1	AAA	44/52
Michigan	MI	Aa3	AA-	43/51
Ohio	OH	Aa1	AA+	37/43
New Jersey	NJ	Aa3	AA	36/42
New York State	NY	Aa3	AA	35/41
Illinois	IL	Aa3	AA	25/31
Massachusetts	MA	Aa2	AA	22/28
Texas	TX	Aa1	AA	21/27

Source: Morgan Stanley Research

When the first signs of the impending housing issues began to surface in February, market participants began to connect the dots. If foreclosures and bankruptcies really were on the rise, this could lead to a dramatic reduction in tax revenues. The virtually non-existent municipal CDS market suddenly seemed like a good place to speculate on the state of the US housing market. We estimate that the volume of muni CDS trading has gone from several hundred million total in the 5 years prior to July 2007 to over $50 billion in the 6 months since then.

Exhibit 2

Historical Spreads on Muni CDS



Source: Morgan Stanley Research

Further compounding the trouble in the municipal market is the uncertain monoline situation. Though the monolines have run into trouble insuring ABS CDO paper, their original business plan was insuring the municipal bond market (indeed, MBIA initially stood for Municipal Bond Insurance Association). With the monolines' future ability to pay out claims or even write new business in question, the municipal market was threatened with the notion that hundreds of billions of dollars of insurance wraps are deemed much less valuable than just a few months ago. While most of the G.O. debt that is referenced in the CDS market isn't wrapped by monolines, the deteriorating credit quality of the monolines was causing more uncertainty in an already shaken market. Many new issues were put on hold, while the market waited for some resolution.

Finally, many investors realized that municipalities' expenses tend to be rather fixed, while tax revenues can vary widely year to year based on economic conditions and that municipalities can be reluctant to raise taxes prematurely.

Meanwhile, as the new issue market was coming under pressure, the CDS volumes were increasing. Buyers of protection further pushed the credit spreads wider as more non-traditional funds entered the market from the short side. Exhibit 2 shows the CDS spreads, historically in the single digits, widen to 40, 50, 60 bps and Exhibit 1 shows indicative levels on 10 liquid names as of January 31.

One reason the muni CDS market has been slow to develop up until summer 2007 is that munis have largely been thought of by traditional municipal bond investors as tax and interest rate products. Since most issuers had AA or AAA credit ratings, the interest rate environment or a potential change in the tax code was of much greater concern than the credit quality of the municipality. When the twin storms of poor monoline health and the collapse of the subprime mortgage market set in, the credit aspect of muni bonds began to take on more significance. Since the muni market was already familiar with a wide array of interest rate and tax derivatives, CDS was an easy next step in muni derivative products.

As the current US credit and real estate cycle plays out, we expect interest in the US municipal CDS market to continue to grow, with broader participation among investors and investor segments. This report represents our first thoughts on the municipal CDS market, and we provide some general considerations for trading muni CDS, as well as some of the fundamental and technical aspects of the market, including the following.

Ratings. Municipalities and other tax-exempt issuers are rated somewhat more conservatively than their corporate counterparts. We explain the mapping from one to the other.

CDS Contract. Municipalities have only two triggers; failure to pay and (old-style) restructuring. We explore the technical side of this largely untested contract and its specific terms.

Tax-exemption. Municipal bonds are exempt from state, local and federal taxes for residents of the municipality. This has important implications for basis trades.

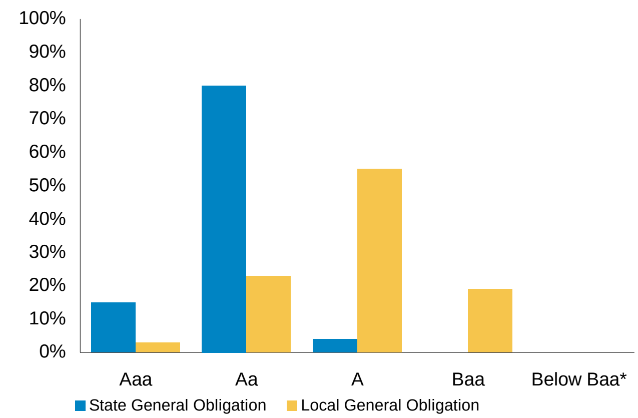
Market Participants. Hedge funds as well as dealers, insurance companies and banks have been responsible for the early growth in the market. As more investors enter the market and some structured products develop, we expect liquidity and the number of traded entities to increase. We highlight some structured ideas.

Ratings

One thing we'd like to note here, of the 10-15 liquid muni CDS names, all of them reference state general obligation bonds and one city general obligation bond (NYC). Though the muni market as a whole has a range of credits, in this report we focus on the larger, more liquid and more highly rated general obligation debt and largely ignore the school district, housing finance, utility and revenue credits such as toll roads and stadium financings, as CDS on these entities is still not liquidly traded.

Exhibit 3

Moody's Municipal Scale Rating Distribution

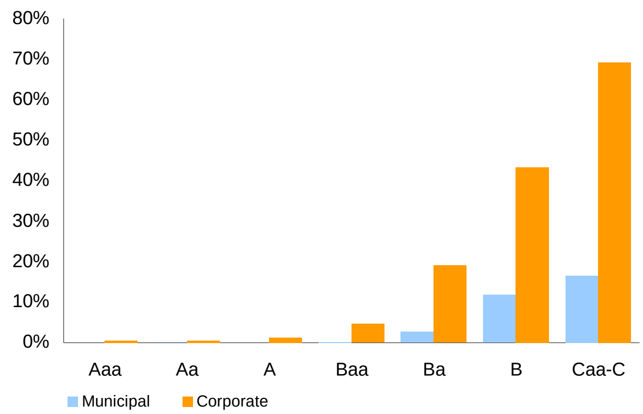


Note: For obligors with multiple ratings on different security pledges (senior, subordinated, etc.), the percentages are based on the obligor's highest rating.
* 0.003% of local government GO's are rated below Baa
Source: The U.S. Municipal Bond Rating Scale: Mapping to the Global Rating Scale And Assigning Global Scale Ratings to Municipal Obligations. Moody's Public Finance Credit Committee

Before we delve into some of the details of muni CDS, it's important to review the rating agency approach to examining credit quality. One of the main reasons munis haven't developed into credit instruments is their historically stable ratings and, at least in the G.O. category, almost total lack of defaults. In fact, when looking at general obligation debt, which is guaranteed by tax revenues of the issuing authority, since 1970, there has been only one "credit event", Baldwin County Alabama, and the bonds recovered at par 15 days later – an event that would not have triggered a CDS contract.

Exhibit 4

Average 10-year Cumulative Issuer Weighted Default Rates, Moody's-Rated Only, 1970-2006



Source: The U.S. Municipal Bond Rating Scale: Mapping to the Global Rating Scale And Assigning Global Scale Ratings to Municipal Obligations. Moody's Public Finance Credit Committee

So from a historical default perspective, much of this G.O. debt would be indistinguishable. To solve that, muni issuers and investors sought a separate municipal ratings scale to be able to differentiate the fine gradations of taxing ability from one credit to the next. For issues being marketed to non-traditional investors, an issuer can request a "global scale" rating, formerly called a corporate equivalent rating. We include in Exhibit 5 this global scale conversion mapping. The first column shows the muni rating and the second two columns show the global scale rating that corresponds to the muni rating for the specific issuer type. For example, a state G.O. credit with a muni rating of A1 would be comparable from an expected loss perspective to a global Aaa. Since municipal general obligation bonds both tend to default less often and recover higher, this mapping has some credits jumping several notches.

Exhibit 5

Moody's Global Scale Ratings

Municipal Scale Rating	State GO	Local GO;Water / Sewer; State Revolving Fund; State Lease Obligation and Special Tax
Aaa	Aaa	Aaa
Aa1	Aaa	Aaa
Aa2	Aaa	Aaa
Aa3	Aaa	Aaa
A1	Aaa	Aa1
A2	Aa1	Aa1
A3	Aa1	Aa1
Baa1	Aa1	Aa2
Baa2	Aa2	Aa3
Baa3	Aa2	Aa3
Ba1	Aa3	A1
Ba2	Aa3	A2
Ba3	A1	A3
B1	A2	Baa1
B2	A3	Baa2
B3	Baa1	Baa3
Caa1	Baa2	Baa3
Caa2	Baa3	Ba1
Caa3	Baa3	Ba2

Source: The U.S. Municipal Bond Rating Scale: Mapping to the Global Rating Scale And Assigning Global Scale Ratings to Municipal Obligations. Moody's Public Finance Credit Committee

The Muni CDS Contract – Important Details

While history tells us that default likelihood for the state G.O. municipal issuers that are commonly traded in the muni CDS market are effectively zero, there is some amount of uncertainty related to how features of muni CDS contracts would behave when tested. This uncertainty should and does add some amount of risk premium to CDS contracts.

Generally, confirmations for US municipal CDS transactions are governed by both the 2003 ISDA Credit Derivatives Definitions and an ISDA supplement that covers US municipal reference entities. Failure to pay and restructuring are the two standard credit events, and it is important to note that restructuring is "old style", i.e., not ModR that is used for corporate reference entities. Old style restructuring implies that, in the event of a restructuring, bonds of any maturity less than 30 years can be delivered, which can introduce a significant amount of interest rate risk into a muni CDS contract upon a restructuring credit event (i.e., a 30 year fixed-rate bond could trade at a significant discount to par in a high interest rate environment). This is particularly important given that the muni market tends to be long in duration. In corporate credit, the restructuring of a Xerox obligation in 2002 brought interest rate risk to light, which was a key driver in the introduction of ModR to the 2003 ISDA definitions.

With effectively no default history on state G.O.s, the CDS market needs to make other assumptions as well. As of now, 80% recovery appears to be a market standard, which will impact CDS unwinds as well as any fixed-recovery products, including first-to-default baskets (see later section).

With the explosion of CDS volumes over the past few months, there is a bit of segmentation among investor bases, based on our experiences. Many of the protection buyers are hedge funds who are motivated by the story we describe in the introduction, as well as a rising risk premium play (similar to sovereign CDS). Protection sellers tend to be insurance companies, banks and dealers, all of whom are attracted by the unfunded nature of derivative contract, despite the lack of any tax exempt treatment for muni CDS. Standard CDS maturity in the market is ten years.

Cash / CDS Basis

We've written extensively about the cash / CDS basis in the corporate market (see "Why Is The Basis Still Negative?" November 30, 2007, for our most recent thoughts). In munis, however, basis packages are much more complicated, stemming from their tax-exempt status. A basis package on a Florida G.O. bond will look most attractive to a Florida based investor, less so to a non-Florida based US investor, and worst to a non-US domiciled investor. This is because a Florida bond is tax exempt on a state and federal level, while CDS does not benefit from any tax exempt status. As such, there are really 3 basis packages for every bond. For this reason and others, there has been very little overlap between muni CDS users and muni bond holders. Nevertheless, basis packages represent interesting opportunities for those who can claim one or more tax-exemptions. The potential tax exempt treatment of G.O. bonds (for a given investor) impacts the funding side of the trade as well, and the market uses different BMA and MMD curves instead of Libor for this reason.

Structured Solutions

If muni CDS continues to trade at the wide levels, we see interesting ways of playing the market from a structured perspective. Prior to this year there have been just a handful muni cash CDOs, and this has largely been the extent of munis in structured finance land.

To take a structured view on the muni market we prefer first-to-default (FTD) and more generally nth-to-default trades. Current market pricing suggests that implied correlation on these baskets is very high, reflecting the systemic nature of underlying risk. As such, from a correlation perspective, good long credit positions would be 2nd to default or 2nd-to-nth trades, while FTDs might look more attractive on a short credit basis. However, the biggest issue for these trades isn't so much the correlation as the assumed recovery. With almost no historical loss data to draw from, recovery could easily be as high as 95% or even 100% (rating agency assumptions). Though if this market truly represents an unprecedented and highly correlated paradigm shift, recovery could be much lower. The market standard right now is to use 80% as the floating recovery amount, which makes pricing look very unusual for those used to playing in the corporate FTD space. Exhibit 6 shows pricing on a 5 name muni CDS basket with a 10-year maturity and a sum-of-spreads of approximately 220 bps. In this exhibit we show the impact of fixed vs. floating recovery on FTD pricing.

Exhibit 6

Sample Muni FTD Pricing

Pricing as of January 31, 2008

Recovery	Indicative FTD Level
40% Fixed	225
80% Floating	83

Note: Pricing assumes a 5 name basket with a 10yr maturity and a 220bps sum of spreads
Source: Morgan Stanley Research

We've heard some investors explore the idea of using 40% fixed recovery to make pricing on muni FTDs more attractive. In our hypothetical basket this would give an FTD price of roughly 225bps and would look much more like the corporate FTD pricing many investors are used to.

Conclusion – Investment Strategies

Thanks in part to regional economic stress, falling real estate prices, poor health in monolines and generally high systemic risk, the municipal market is now one that must consider the implications of credit risk. Muni CDS is a burgeoning but still niche sector of the credit derivatives markets, but it does offer important tools to position for higher or lower levels of credit risk, hedge existing portfolios of muni risk, or participate in the market through simple structured solutions. We expect greater two way liquidity and a wider variety of reference entities to choose from, but we also caution that low levels of actual default risk may leave the finer details of the CDS contract untested.

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(as of Dec 31, 2007)

	Coverage Universe		Investment Banking Clients (IBC)		
Rating	Count	% of Total	Count	% of Total IBC	% of Rating Category
Overweight	72	35%	40	30%	56%
Equal-weight	84	41%	59	45%	70%
Underweight	48	24%	33	25%	69%
Total	204		132		

Coverage includes all companies that we currently rate. Investment Banking Clients are companies from whom Morgan Stanley or an affiliate received investment banking compensation in the last 12 months.

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Overweight (O) Over the next 6 months, the fixed income instrument's total return is expected to exceed the average total return of the relevant benchmark, as described in this report, on a risk adjusted basis.

Equal-weight (E) Over the next 6 months, the fixed income instrument's total return is expected to be in line with the average total return of the relevant benchmark, as described in this report, on a risk adjusted basis.

Underweight (U) Over the next 6 months, the fixed income instrument's total return is expected to be below the average total return of the relevant benchmark, as described in this report, on a risk adjusted basis.

More volatile (V) The analyst anticipates that this fixed income instrument is likely to experience significant price or spread volatility in the short term.

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MORGAN STANLEY RESEARCH

May 16, 2008

Research
Global

Municipals:

Muni Bond CDS Basis: MCDX, BMA/LIBOR Ratios and Muni Cash Bonds

Source: Wikipedia

Morgan Stanley & Co. Incorporated

Interest Rates Strategy

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Executive Summary

- In this presentation we discuss the municipal CDS market, the new MCDX index and two applications.
- We advocate that onshore investors involved in TOB (Tendered Option Bond) programs (a partnership for U.S. tax purposes) should be buyers of protection (via MCDX or CDS). These investors have negative basis – after buying the bond, financing it through a TOB program[1] and hedging the municipal default risk by buying protection through MCDX (or municipal CDS), the investor still enjoys a positive cash flow (the basis).
- We also advocate that offshore investors should be sellers of protection and BMA/LIBOR ratios as a synthetic long position in muni cash. Non-U.S. taxpayers typically do not benefit from tax exempt income and as a consequence the basis is positive. Offshore investors wanting exposure to Municipal Asset Swap Spreads would be better off selling ratios and selling protection rather than participating in a TOB program or investing in municipal bonds through municipal single strategy hedge funds. Moreover we think that the transparency of the strategy as well as the liquidity contribute to the attractiveness of the derivative trade for offshore investors.

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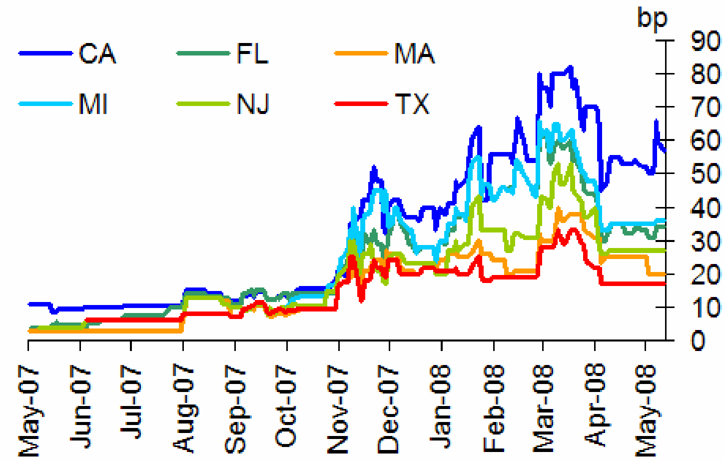
1) The investor don’t fully own the bond through a TOB program, but participate in a partnership with the floater holder.

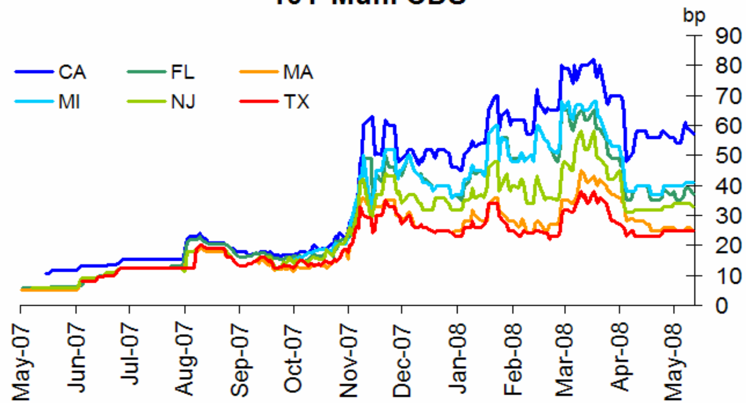
Overview of the Muni CDS market

- The single-name Muni CDS Market was not actively traded until early 2007, when the total outstanding Muni CDS was approximately $5Bn; the total current outstanding value is now $100Bn.
- Characteristics of single-name Muni CDS include:
  - The reference obligations have mostly been uninsured State General Obligation bonds.
  - The most liquid CDS maturity is 10y.
  - 80% recovery rate assumption after a credit event
- Only a few Muni Bonds have actually defaulted; amongst them:
  - In 1988, Baldwin County defaulted. The effective recovery on that Bond has been 100%.
  - Orange County defaulted in 1994 on one of their Pension obligation issues. The effective recovery was also 100%.
  - In 1983, Washington Public Power Supply System defaulted on their Nuclear Project Bonds. The recovery rate was 40%.
- Before the summer of 2007, single-name Muni CDS traded between 5 and 15bp. Throughout the two worst periods of the credit crisis, however, there was a clear tiering in single-name Muni CDS spreads as investors distinctly differentiated between states.

5Y Muni CDS



10Y Muni CDS

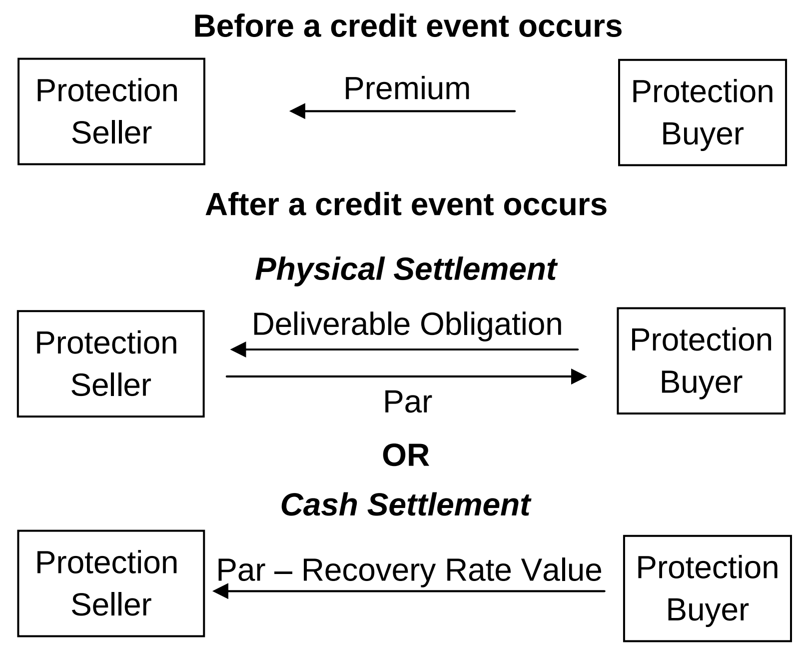


Source: Morgan Stanley

-For more Research on Muni CDS, see publications from the Credit Strategy Team. ("Credit Derivatives Insights", Muni Mania February 1, 2008 for example)

Muni CDS: Mechanics

- CDS allows investors to take a pure view on the credit risk of the issuer.
- The protection buyer buys protection, and pays the protection seller quarterly. The Premium is an annualized percent of the notional.
- Credit Events include:
  - Failure to pay: The municipality fails to pay within contractual grace periods. Includes payment by monoline insurers.
  - Restructuring: The municipality requests that payments be postponed or reduced outright.
- The recovery rate for the MCDX is assumed to be 80%.



More information about Municipal Bond Rating:
http://www.moodys.com/cust/content/content.ashx?source=staticcontent/free%20pages/credit%20policy%20research/documents/current/102249_rm.pdf

MCDX Facts

The MCDX index is the "IG" index for Municipal Bonds

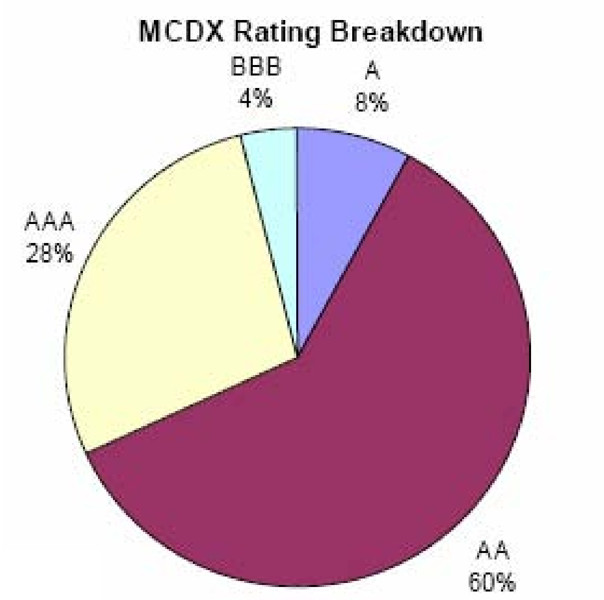
- MCDX is constructed as an equally weighted basket of 50 municipal CDS (similar to IG which is a basket of 125 CDS).

- 3 Tenors of MCDX are currently trading: 3y, 5y and 10y.

- The underlying names are 50 US Municipals Bonds (24 Revenue Bonds, 21State GO and 5 Local GO). All names have equal weighting.

- As for IG, the index quotation is spread based.

- Only 30 of the 50 reference names are liquid single name CDS. MCDX offers liquidity for a wider range of bonds

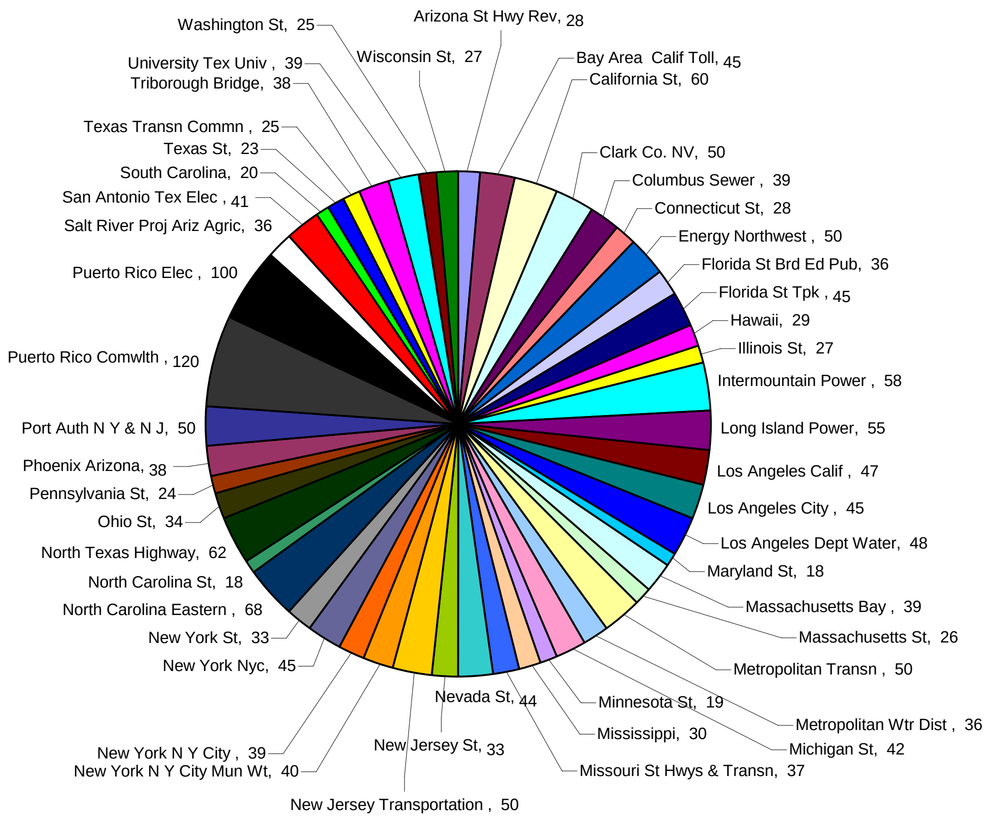


Source: Markit

Additional information about MCDX can be obtained at markit:
http://www.markit.com/information/products/category/indices/mcdx/documentation.html

MCDX vs. underlying CDS

Underlying 10y CDS Spreads (estimation) for the MCDX Basket (bp)



Source: Morgan Stanley

- 10y MCDX is currently trading at 46bp.
- The estimated average 10y CDS spread is 41bp.
- MCDX is currently trading wide to the underlying CDS.
- Selling protection through MCDX is currently attractive.

Synthetic versus Cash Muni Bond Investments

- In the following slides we compare two different investments that allow investors to invest in fully hedged/fully funded municipal bonds.
- An investor can invest in a cash municipal bond, finance the purchase through a TOB[1] (Tendered Option Bond) program (a partnership for U.S. tax purposes) and hedge the bond duration via a Libor interest rate swap. The TOB is similar to a Repo that provides short-term, tax-exempt funding for long dated municipals. The short term funding leg is recomputed every week and is computed as a spread to SIFMA weekly resets.
- Alternatively, an investor can sell ratios and sell protection.
- The two strategies have different U.S. tax consequences. In the TOB case, the net cash flows of the TOB partnership are tax-exempt, whereas the cash flows of the derivative trade are taxable.

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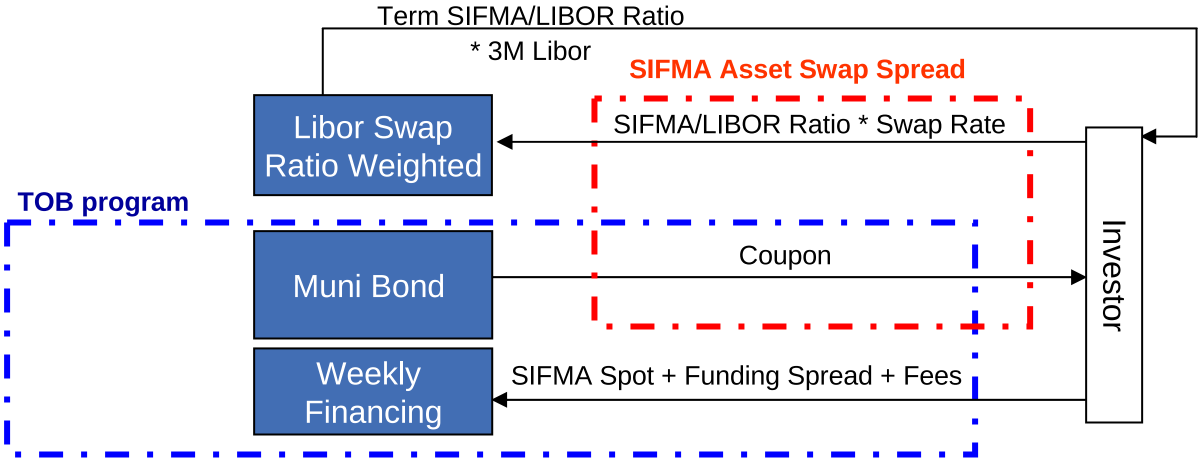
1) The investor don't fully own the bond through a TOB program, but participate in a partnership with the floater holder.

Fully Funded Bond Position and Derivative Trade (Offshore Investor case)

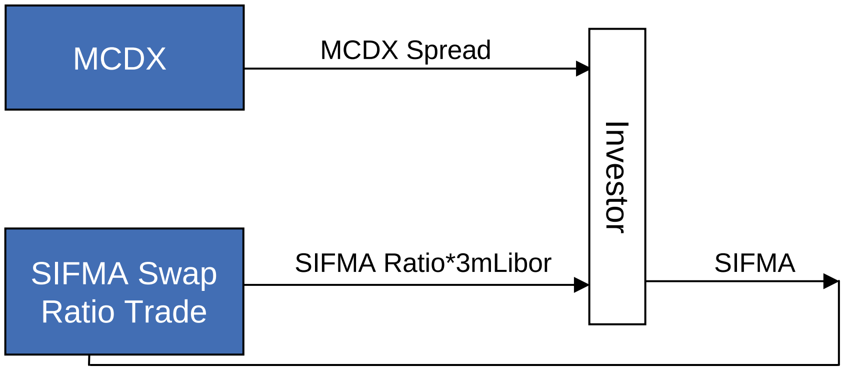
Muni Cash Bond Trade

Net Flow:
+3M Libor * SIFMA Ratio
-SIFMA Spot
+SIFMA Asset Swap Spread
- Funding Spread-Fee



Derivative Trade

Net Flow:
+3M Libor * SIFMA Ratio
-SIFMA Spot
+MCDX Spread



- Being long a muni bond financed through a TOB program and hedged with a Libor swap at a weight equivalent to the corresponding term BMA/LIBOR ratio is similar to being short BMA ratios and selling MCDX protection.
- MCDX is equivalent to the [Sifma Asset Swap Spread - (FundingSread+Fees)].

Cash Bond vs. CDS Basis (Offshore Investor case)

As explained in the previous page, The Cash Bond vs. CDS basis is computed as the difference between the CDS Spread and the SIFMA Asset Swap Spread minus Funding Spread-Fee.

CDS Basis Computation Example

BOND NAME	California St	
10Y SIFMA	3.26%	
BOND COUPON	4.14%	
ASSET SPREAD (bp)	87.66	=(4.14% - 3.26%)
FUNDING+FEES (bp)	45	
CDS	53	=(53 + 45 - 87.66)
BASIS (bp)	10.34	

Source: Morgan Stanley

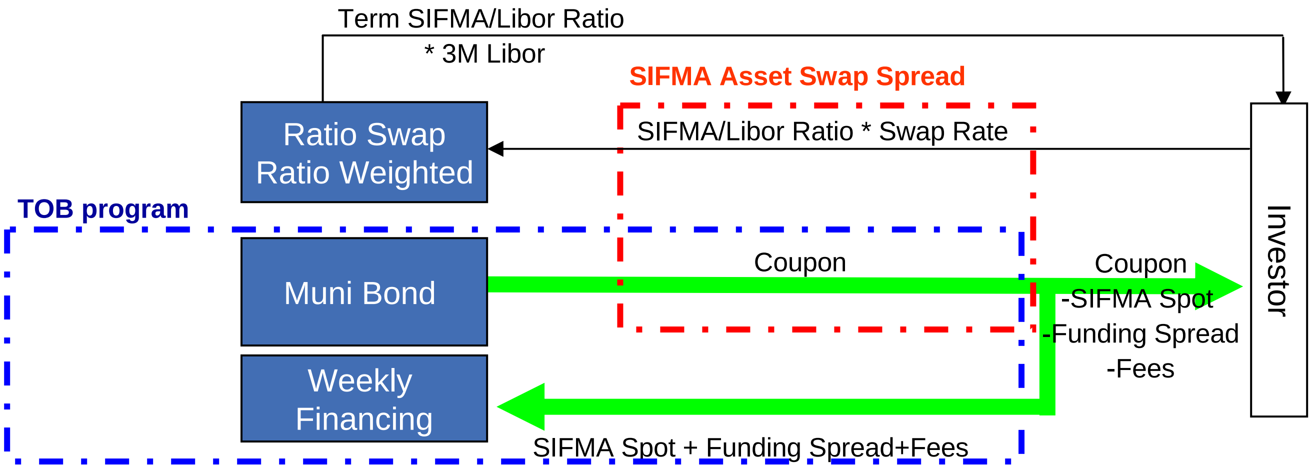
- In this example the CDS basis is positive
- An offshore investor wanting to go long that particular Bond Asset Spread would be better off shorting ratio and selling protection via the CDS than by buying the bond, hedging it and financing the operation via a TOB.
- Moreover, in a TOB operation the investor typically needs to forfeit 5% of the price appreciation of the Bond to the floater holder, the derivative investor doesn't have that risk exposure.
- The derivative trade is a cost-efficient, transparent way for an offshore investor to invest in Municipal Bond Asset Swaps.
- We note that the replication strategy is not perfect, a widening of the Muni Asset Swap Spread doesn't always imply a widening of the CDX spread.

Fully Funded Bond Position and Derivative Trade (Onshore Taxable Investor case)

Muni Cash Bond Trade

Net Flow:
Bond Yield
+ 3MLibor * SIFMA Ratio
-SIFMA Spot
+ SIFMA Asset Swap Spread
-Funding Spread-Fee

$$+\frac{\tau}{1-\tau}\left[\begin{array}{l} Coupon - SIFMASpot \\ - Fee - FundingSpread \end{array}\right]$$

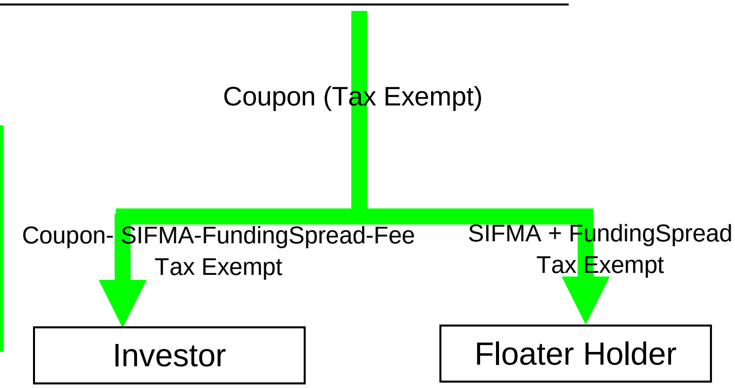


Tax Free Flows

The Tax Free Cash Flow from the Municipal Bond is split between the Bond Holder and the Financing vehicle

The Tax Benefits for the Investor is

$$\frac{\tau}{1-\tau}\left[Coupon - SIFMASpot - FundingSpread - Fee\right]$$



- When U.S. federal tax rates are 35%[1] onshore investors get approximately 50% of the curve (Coupon – SIFMASpot-Fee-Funding Spread) in tax benefit.
- More information about Tax calculation in the appendix.

1) This doesn't take into account state and local income taxes or any other consequences particular to a a specific taxpayer including AMT consequences and loss of deductions as a result of carrying tax-exempt bonds

Cash Bond vs. CDS Basis (Onshore Taxable Investor case)

As explained in the previous page,
The Cash Bond vs. CDS basis is computed as the difference between the CDS Spread and the SIFMA Asset Swap Spread minus Funding Spread minus fee plus

$$\frac{\tau}{1-\tau}\left[Coupon - SIFMASpot - FundingSpread - Fee\right]$$

where τ is the investor tax rate

CDS Basis Computation Example

BOND NAME	California St	
10Y SIFMA	3.26%	
BOND COUPON	4.14%	
ASSET SPREAD (bp)	87.66	=(4.14% - 3.26%)
FUNDING+FEES (bp)	45	
CDS	53	
Tax rate	35%	=(53 + 45 -87.66) - .35/(1-.35)*(414-211-45)
SIFMA Weekly	2.11%	
BASIS (bp)	-74.49	

Source: Morgan Stanley

- In this example the basis is highly negative
- The onshore investor has high incentives to prefer the TOB program to invest in Municipal Bond securities. This preference is due to the tax-exempt income advantage that the investor gets through the TOB program. Contrary to the positive basis for a non-US tax paying investor, a US investor enjoys negative CDS basis in part because of the steepness of the muni curve.
- The onshore investor could buy protection through MCDX index or individual CDS as a hedge against the credit of his municipal Bond portfolio. A negative CDS basis means that an investor after buying the bond, financing it through a TOB program and hedging the municipal defaults by buying protection through MCDX still has positive cash flow (the basis).
- We note that the hedging strategy is not perfect, a widening of the Muni Asset Swap Spread doesn't always imply a widening of the CDX spread.

Appendix 1: Pre Tax Equivalent Cash Flows

- After tax and Pre-Tax cash flow are related with the following formula

$$Income\ (After-Tax) = Income\ (Pre-Tax) * (1-\tau)$$

Where τ is the investor tax rate.

- Inverting the formula yields

$$Income\ (Pre-Tax) = Income\ (After-Tax) * \frac{1}{1-\tau} = Income\ (After-Tax) + \frac{\tau}{1-\tau} Income\ (After-Tax)$$

- Therefore a tax exempt cash flow is generally worth an additional factor of $\frac{\tau}{1-\tau}$ more than if the same cash flow was taxable

This analysis is general and does not take into account AMT considerations, disallowance of deductions under section 265 of the internal revenue code of 1986 as amended, or any other tax considerations specific to taxpayers. MS does not provide tax advice. Investors should seek their own tax counsel.

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Appendix 2: Municipal Market Resources

Bloomberg Tickers

Rates	Ticker
SIFMA Ratio & Rates	PREB13
SIFMA Muni Swap Rates	MUNIPSA Index
US Swap Rates	USSW
Search	
Muni Bond Search	SRC
SEC Filings Search	Cusip CF
Ratings	
State Bond Ratings	STGO
City Bond Ratings	CTGO
Track Ratings Changes	Cusip RCHG
News & Events	
Muni Calendar	CDRN
Muni Material Events	NI MTE
Muni Refundings	NI MRI
Specific Bond News	Cusip SCN
Analysis	
Muni Bond Price	Cusip YAS
Muni Bond Yield to Call	Cusip YTC

Useful Websites

Securities Industry and Financial Markets Association	http://www.sifma.org/
The Muni Center	http://www.themunicenter.com/
HTD Online	http://www.htdonline.com/
Kenny Web	http://www.kennyweb.com/
Markit Partners	http://www.markit.com/

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May 21, 2008

Global

Structured Credit

Credit Derivatives Insights

MCDX: Credit Risk or Risk Premium?

Continued development in the muni CDS market: Muni CDS first gained traction in late 2007 when monolines and auction rate securities' concerns dominated the conversation. As the market shifts focus to the increasingly strained American consumer, muni CDS liquidity has gained a long-term foothold.

MCDX launched: Last week several dealers, along with MarkIt, launched a 50-name muni index, the first ever metric to isolate and track the credit risk in the municipal market.

Index Technicals: Many aspects of the index are comparable to other credit indices, while some are unique to the muni market. Tax-exemption on the underlying reference entities is one such factor, affecting everything from who participates in this market to basis trading.

Trading MCDX vs. Corporates: We like going long MCDX vs. shorting corporate credit, both in the IG index as a whole and the 30-100% tranche specifically, based on the expected losses implied by current spread levels.

Trading MCDX vs. RPX: We see interesting relative value trades when comparing MCDX to RPX. Current RPX spread levels imply far greater local economic stress than is priced into MCDX.

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MCDX: Credit Risk or Risk Premium?

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Following the global crisis led by the collapse of the securitization markets that began in the second half of 2007, events in the first half of 2008, particularly post-Bear Stearns, have been characterized by a paradigm shift in the market from systemic to cyclical risk. In the corporate credit space we've seen IG spreads retreat from their recent highs, though still significantly elevated compared to pre-crisis levels.

Indeed a portion of the risk currently priced into the credit market in the corporate space is uncertainty and MTM pressures, as opposed to pure default risk premium. The corporate credit market is adapting to this new environment, as we highlighted in our *Credit Derivatives Insights* piece on May 16, 2008, "Credit Calm or Credit Storm?"

In the municipal market, the shift from a systemic to a cyclical market environment has different implications. In late 2007, when the muni CDS market began trading, initial concerns related to many technical aspects of the muni market, including the stress in the monoline sector and failed auctions in the short-term auction rate securities market. As a result, municipal issuers and investors alike have adapted to the monoline issue, by becoming more familiar with municipal credit risk, and to the auction rate issue by issuing more long-term debt and moving away from ARN products.

Unlike in past recessions, the current economic vulnerabilities are characterized less by excess leverage in corporate sectors but more by increased pressure on the American consumer and homeowner – known in muni-land as the American taxpayer, and the only source of revenue for municipalities.

It is in this environment that MCDX was launched. MCDX is a 50-name index referencing the credit risk from municipal debt. Initial trading volumes have been strong, indicating a willingness on the part of investors to view munis as a credit product, in addition to the tax and rate product it has long been considered. As the market continues to gain traction, we hope to see greater liquidity and transparency, and hopefully a broadening of the applications for single-name muni CDS, from extended use in FTD products to inclusion in corporate bespoke portfolios as they become more ratings efficient relative to corporates.

In this piece we highlight some of our preliminary thoughts regarding opportunities in this market. Some are the same as one would expect when considering any credit index product, while others are unique to the municipal space.

Exhibit 1

Moody's Global Scale Ratings

Municipal Scale Rating	State GO	Local GO; Water/Sewer; State Revolving Fund; State Lease Obligation and Special Tax
Aaa	Aaa	Aaa
Aa1	Aaa	Aaa
Aa2	Aaa	Aaa
Aa3	Aaa	Aaa
A1	Aaa	Aa1
A2	Aa1	Aa1
A3	Aa1	Aa1
Baa1	Aa1	Aa2
Baa2	Aa2	Aa3
Baa3	Aa2	Aa3
Ba1	Aa3	A1
Ba2	Aa3	A2
Ba3	A1	A3
B1	A2	Baa1
B2	A3	Baa2
B3	Baa1	Baa3
Caa1	Baa2	Baa3
Caa2	Baa3	Ba1
Caa3	Baa3	Ba2

Source: The U.S. Municipal Bond Rating Scale: Mapping to the Global Rating Scale And Assigning Global Scale Ratings to Municipal Obligations. Moody's Public Finance Credit Committee

Index Mechanics. The mechanics of this market are largely the same as they are for the existing indices, including roll dates and settlement mechanics. We caution investors to pay close attention to deliverability and settlement issues pertaining to individual reference entities.

Index Composition. This index comprises 50 names, representing 23 of the 50 states in addition to Puerto Rico. Nearly half are general obligation issues, the rest are backed by revenues, none are wrapped by the monolines, and all are IG rated on the Moody's Municipal Ratings Scale and above A1 on Moody's Global Scale Ratings ("GSR"). The main considerations in terms of composition are spread distribution and correlation of the reference entities, which we discuss further.

Market Participants. There is currently little overlap between traditional muni bond investors, most of whom are wealthy individuals as well as P&C insurance companies, and muni CDS investors, who tend to be hedge funds. This is primarily because traditional muni investors tend to view muni bonds as a tax product that has a certain degree of interest rate risk. CDS investors are isolating the credit component, something most cash investors aren't yet considering. Basis trading is still a long way off, as tax implications prevent most basis packages from being attractive except to a small subset of in-state investors.

Trading Strategies. We compare MCDX to IG10, 30-100%, sovereigns, and the RPX index and highlight a few trade ideas we like in this environment.

Index Mechanics and Technicals

When considering any index trade, an investor must look at the mechanics and logistics of the index as a whole in addition to the specific underlying reference entities. In the case of MCDX, the index rolls biannually and pays quarterly, exactly like the corporate indices. While compositional changes at the next roll date are unclear, having the opportunity to change the names should only bolster liquidity as we learn what names are most representative and which names gain the most traction in the relatively new single name market. Other specifics when considering MCDX are:

Recovery Assumptions. Unlike the corporate market, which has robust historical default and recovery data, the muni market has had very few defaults historically, when looking exclusively at general obligation and revenue bonds. Recovery assumptions are therefore largely theoretical. Right now the assumption used for calculating the upfront payment exchanged when putting on an MCDX trade is 80%, but until we have more data, this number could vary widely in the event of an actual default.

Initial Liquidity. Unlike CDX IG and iTraxx Main, a large portion of MCDX constituents are still illiquid. If the index continues to gain momentum, there is hope that single-name liquidity will pick up, but in the meantime, index arb trading is unlikely, much like we see in LCDX and CDX HY.

Tax Implications. Given the tax-exempt nature of the underlying cash asset vs. the taxable nature of the CDS and index products, basis trading is generally unfeasible for out-of-state investors (doubly so for offshore investors). See a report written by our colleagues in Interest Rates Strategy from May 16, 2008, titled *Municipals: Muni Bond CDS Basis: MCDX, BMA/Libor Ratios and Muni Cash Bonds* for further explanation on this concept.

Untested Credit Events. A credit event in the muni space is a largely untested occurrence, and since a municipality cannot file for bankruptcy, a credit event would be more analogous to a restructuring in the IG corporate space. Most municipal bonds are non-accelerating, meaning that if a coupon payment is missed, the municipality is only responsible for paying the bondholder the missing coupon, and par is still not due until final maturity. Therefore, a seller of protection could potentially be required to take delivery of a bond, and have to hold it to maturity to realize par.

Furthermore, unlike most corporate bonds, a bondholder has no claim to any of the municipality's assets, only the payability of the taxpayers or future revenue streams from the entity.

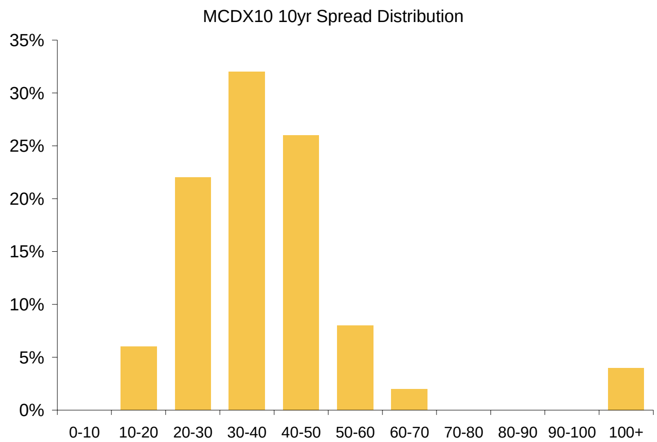
Deliverability and Settlement. Market participants are looking to adopt an auction protocol as the standard credit event settlement mechanism, but the documents currently state that physical settlement will be used. This raises issues of deliverability and eligibility in the event of default. While a seller of protection would only be required to pay the accreted value if a zero-coupon bond were delivered, many muni bonds are issued at a discount, with lower coupons, creating some cheapest-to-deliver issues.

Index Composition and Fundamentals

MCDX comprises 50 municipal reference entities, each adhering to a stringent set of criteria:

- $250mm debt outstanding
- Credit events are failure to pay and restructuring
- IG rated on the municipal scale; equivalent to single-A and above on Moody's Global Scale Ratings
- 3 obligation types; Revenue Obligation, Full Faith and Credit Obligation and General Fund Obligation
- No healthcare, tobacco or housing bonds
- All uninsured – no monoline wrapped bonds

Exhibit 2
MCDX Spread Distribution

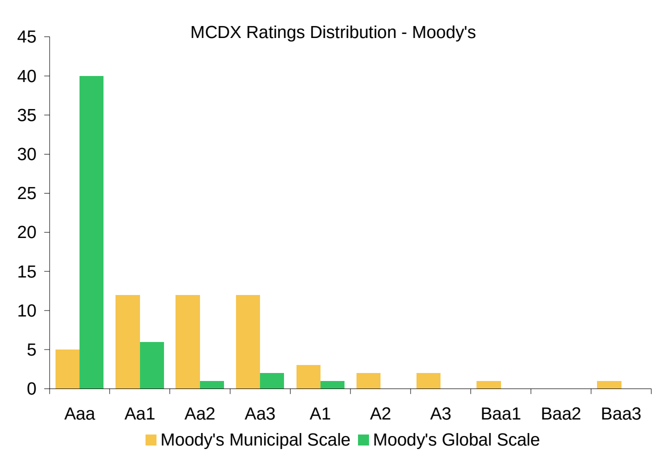


Source: Morgan Stanley

All of these criteria suggest that the index is highly representative of the largest municipalities and therefore a good proxy for the health of the municipal market as a whole. The last three criteria in particular ensure that some of the technical factors that have weighed on the muni market in recent months, such as the monoline situation, will not cloud trading levels on MCDX.

Two other factors come into play when considering an index trade position; correlation of the underlying names and spread distribution.

Exhibit 3
MCDX Ratings Distribution – Moody's



Source: Morgan Stanley, Moody's

In the case of MCDX there are two reference entities, both in Puerto Rico, trading above 100 bp, and the remaining are between 10 bp and 70 bp, with the bulk of the names in the 30-40 bp range, making this a fairly uniformly distributed index, in comparison to the more disparate CDX indices. In this respect it is much more akin to iTraxx, both from an overall credit-quality perspective and from a tail perspective.

A point of differentiation on MCDX is the high degree of default correlation in the underlying names. Indeed, a municipal default is a highly remote occurrence. An economic downturn is the most likely reason for a precipitous decrease in tax revenues (aside from fraud). While economic distress can be regional in some circumstances, i.e., loss of manufacturing jobs in Detroit, natural disasters in the coastal regions, etc, economic downturns are often nation-wide. Therefore regional or tax source diversification will do little to help in periods of a U.S. recession, and there are no "countercyclical" municipalities with which to diversify a portfolio.

Trade Opportunities

At the conclusion of the second week of trading on the MCDX index we have already begun to see an increase in volumes traded. As this index gains traction, we see some potential trading strategies, especially when paired with the corporate indices or other asset classes.

Expected Loss Trade. This trade works in both 5yr and 10yr. The liquid point for single name muni CDS is 10yrs, though MCDX has good liquidity in 5yrs as well. Currently, MCDX10 10yr is trading at 47 bp and CDX 10 is trading at 93 bp in 10yrs. The corresponding expected loss, assuming a duration of 7.7 for both, is 3.6% for MCDX and 7.2% for CDX IG. When you assume a standard recovery of 80% for munis and 40% for IG corporates, this implies a 18.1% default rate in the muni market and a 11.9% default rate in corporates!

Exhibit 4
MCDX10 vs CDX IG10

	MCDX10	CDX IG10
Spread	47 bp	93 bp
Recovery	80%	40%
10yr Expected Loss	3.6%	7.2%
10yr Implied Default Rate	18.1%	11.9%

Source: Morgan Stanley

In light of this we like going long MCDX and shorting CDX against it, either by being carry neutral or slightly carry positive.

Risk Premium Trade. Another way we like thinking about MCDX is as a pure risk premium trade. Given that historical default data for municipal risk are nearly non-existent (once housing and hospital revenue bonds are removed), we consider much of the spread on MCDX to be compensation for spread volatility as opposed to actual default risk. In this way we consider MCDX to be somewhat analogous to the pure risk premium 30-100% tranche in CDX IG10. We like going long MCDX vs. shorting CDX IG10 30-100%, equal notional. Given the super senior tranches' poor technicals, this tranche could widen dramatically again in a weakening environment. Assuming current market levels, an investor would receive $52k upfront to go long $10mm MCDX and pay nothing to get into a CDX IG10 30-100% tranche trade at 27 bp. Rolldown for MCDX is much steeper than the super senior tranche and this trade is carry positive.

Another way to trade MCDX as a pure risk premium play is to compare it to European sovereign CDS. Both muni CDS and sovereign CDS are a good way to express a view on the local economies of either the US or the EU region. EU sovereigns have never had a default, and munis have had relatively few since 1970, and the few that have occurred had extremely high recoveries, many at par.

Fundamental Credit Trade. Property taxes are an important contributor to the coffers of municipalities and are dependent on the level of home prices. We find that changes in the state revenues and local home prices are positively and significant correlated (Exhibit 5). Home prices are weak, and the emerging consensus is that they will weaken further for the next two years at the national level – as implied by the residential property derivatives market (See *Property Derivatives Insights,* "Shape of Things To Come," April 11, 2008).

It is reasonable therefore to conjecture that MCDX spreads and measures of home prices such as the RPX index and others affected by the trajectory of home prices appreciation such as the ABX index (particularly AAA ABX sub series) are likely to be correlated. This suggests that there is clearly the potential for hedging between these alternative indices. We like going long RPX and shorting MCDX, given that RPX is pricing in significantly greater weakness in local housing markets, and thus by extension, property tax revenues.

Conclusion

If it feels like we've covered a lot of ground in this piece we have our reasons. In our view, the community of investors with significant experience in *both* credit derivatives indices and municipal bonds is small, and therefore there are learning curves that many need to climb. Furthermore, credit derivatives tied to municipal bonds have unique issues that should result in some interesting tests of contract language over time. We are indeed excited about strategic opportunities in the muni credit space involving single-names and indices. However, we caution that we are in the early days of a market that will need time (and increased credit risk) to mature.

Exhibit 5

MCDX10 vs CDX IG10

	Portion of MCDX	Correlation of Change in Taxes and Home Prices
Arizona	6.0%	52.9%
California	12.0%	46.2%
New York	16.0%	53.5%
Texas	10.0%	42.0%

Source: Morgan Stanley, OFHEO, U.S. Department of Commerce: Census Bureau

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Underweight	54	25%	34	25%	63%
Total	213		138		

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October 24, 2008

Global

Structured Credit

Credit Derivatives Insights

Munis vs. Corporates in Recession: CDS Considerations

Munis vs. Corporates: Both municipalities and corporations are seeing pain in this economic cycle, which is reflected in recent CDS pricing. We look at several differentiating factors between the two markets.

Muni CDS Contract: The muni CDS contract has several features unique from the corporate CDS market, and we examine the implications of these in an actual credit event scenario.

Recovery Risk: With very little historical defaults to examine, determining a proper recovery assumption can be difficult. The market assumes 80% though we see several scenarios in which recovery could vary widely from that assumption.

Trading Cross-Assets: We like going long (selling protection) CDX IG11 and shorting (buying protection) MCDX11 in this environment, given where each asset class is in the economic cycle and how much weakness is already priced in.

Localized Trading: While we have focused most of our attention on the broader corporate and muni markets, we see compelling comparisons for trading localized munis vs. their regional industry CDS counterparts.

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Munis vs. Corporates in Recession: CDS Considerations

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Please refer to notes at the end of the report.

Both municipalities and corporations are already seeing pain in this economic cycle, though structural differences indicate strengths and weaknesses for each. To start, a municipality has taxing authority and thus arguably has greater autonomy on the revenue side of the budget than does a corporation, since, in the end, a corporation cannot force the public to buy more widgets. On the other hand, corporations have an easier time on the expenditure portion of the budget, since often budgetary decision making lies with one person or a few people. A municipality by nature is a representative government of the people, and may have less ability to cut large expenditures without going through several lengthy approval processes by many people.

With this in mind we take a fresh look at the municipal CDS market, taking into consideration the unprecedented events of September in the financials sector specifically and the credit markets more broadly.

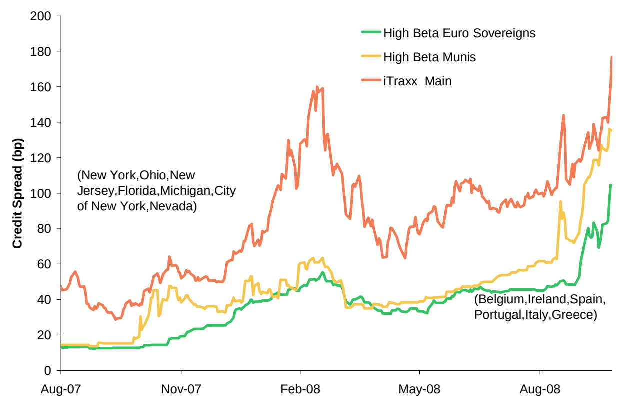
Corporate credit has priced in a more severe default cycle and indeed many sectors are starting to look cheap. Our IG strategy team recently highlighted the opportunities in going long the financial sector in last week's *Credit Basis Report: Banking on the Government* (Oct. 17, 2008).

Because the corporate credit and CDS markets are further into this economic cycle than their municipal counterparts, we expect to see certain sectors of the corporate market recover sooner. Indeed, even if the financials sector begins a slow recovery, there are a number of economic indicators that imply that the real economy could continue to be weak for the near future, and we acknowledge the possibility that some of these could prove to be leading indicators for the muni CDS market. We point out, however, that these are unprecedented times for many asset classes, and the very new muni CDS market is no exception here.

We note that our thoughts and ideas illustrated in this piece relate to the muni CDS market only. On the cash side of the municipal bond market, the real risk of an actual default remains low, and credit risk is only one of many factors influencing bond prices. Interest rates and tax policy are also key components, and indeed the tax-exempt status offered on most municipal bonds can make some of these assets quite attractive.

Exhibit 1

Munis, Sovereigns and Corporates



Source: Morgan Stanley

Throughout this piece we aim to highlight several considerations when thinking about muni CDS, and offer some updated thoughts on the market in light of recent economic events, including:

CDS Contract. CDS triggers, restructuring language, and non-acceleration of the debt during a credit event are our main focus here, particularly given lessons learned in the FRE and FNM recovery auction process.

Recovery. One can envision a variety of scenarios under which a CDS could trigger, and we highlight the fundamental, mechanical, and technical aspects that could ultimately impact the CDS recovery price.

Economic Cycle. We explore our view that many corporate sectors are well into the downturn, and offer our thoughts on how to execute this view with the CDX IG and MCDX indices.

Localization. We've primarily focused our attention on the muni market as a whole, but we see compelling reasons to drill down to the local and regional levels to examine how local industries could potentially impact the CDS on certain municipalities more than others.

The Municipal CDS Contract

We first highlighted some of the unique technicals inherent in the muni CDS contract in our *Muni Mania* piece from earlier this year (see *Credit Derivatives Insights,* February 1, 2008). We discussed then and reiterate now that the muni CDS contract has only two credit event triggers; failure-to-pay and restructuring. Restructuring here is not the same as corporate CDS today, which uses ModR restructuring, but rather muni CDS contracts can be triggered by OldR restructuring. The significance here is that a 30-year bond could hypothetically be delivered if a credit event were triggered, introducing significant interest rate risk into the final recovery price.

Furthermore, municipal bonds are non-accelerating in the event of a default, meaning that if a credit event were triggered, the principal amount on the bond would not become due. This phenomenon can occur in the corporate market as well, and though it is rare, it was recently brought to light when FNM / FRE were placed under conservatorship by the U.S. government. This triggered the CDS contracts and resulted in some initial confusion as to deliverability and created some uncertainty surrounding recovery. While these issues were eventually resolved in the FNM / FRE auctions in an orderly fashion, they did highlight the unique issues that can arise when debt does not accelerate in a default scenario.

While restructuring language and non-acceleration are two unique issues to the municipal CDS market, another thing to consider is the economic circumstances under which the contract is triggered. We envision two very distinct scenarios as follows.

Exhibit 2
Moody's Rated Municipal Defaults 1970-2006

Type of Obligation	1970-2000	2000-2006
General Obligation	1	0
Non-General Obligations of State and Local Governments	3	1
Electric Power	2	0

Source: Moody's

First is a situation which is not so much a true default but a technical default – a restructuring or a failure to pay which is rectified in a short period of time, but not short enough to not trigger the CDS contract, i.e., a failure to pay that is resolved in more than 30-days. In this scenario, the bonds are essentially money good and recovery could be very high, up to par + interest. This happened in 1987 in Baldwin County, Alabama, in which the County was unable to make a principal and interest payment. Recovery on this was 100% of principal and interest 15 days later. Had the County not been able to pay this debt back for 30 days, this would have been a scenario in which a credit event would have been triggered. In scenarios like these, the biggest concern here is not recovery, but non-acceleration of debt, as discussed above. This is an example of a scenario in which the CDS contract could trigger despite the fact that the cash bonds would have been a fundamentally sound investment.

The second scenario is one in which the municipality is truly distressed and more akin to an actual default. In this situation the bonds would essentially be worth very little, since bondholders have no claim to a municipality's assets. The biggest concern here is recovery risk.

Recovery Variables and Considerations

One of the uncertain aspects of a hypothetical municipal default is recovery. Currently, the assumption used when pricing single-name CDS contracts, MCDX trades, FTDs on munis and any CDS unwinds is 80%. Moody's indicates that the average loss given default on state and local government general obligation credits is between 5 and 10%, implying recoveries in the 90s, though they caution (as do we) that this is based on limited available data.

Exhibit 3
Average Loss Given Default (LGD) Rates for Selected Municipal Sectors

Type of Obligation	Loss Given Default (LGD)
State Government General Obligation	5%
Local Government General Obligation (including Instrumentalities, Territories and Commonwealths)	10%
Water / Sewer Enterprise	10%
State Revolving Funds	10%
State Lease Obligation and Special Tax	10%
Local Government Lease Obligation and Special Tax (including Instrumentalities, Territories and Commonwealths)	15%
Mass Transit	15%
Toll Roads and Bridges – Established	15%
Toll Roads and Bridges – Start Ups	55%

Source: Moody's

Again we highlight the issue of non-acceleration. When the CDS contracts of FNM and FRE were triggered in September

2008, this issue introduced a degree of recovery uncertainty leading up to the auction settlement, since there were a number of longer dated bonds in the market. If principal were accelerated and interest payments were to cease, as in the case in most defaults in the CDS market, recovery rightly tracks the expected amount recouped to the bondholder. In a situation in which the principal on the debt does not become due, duration takes on a larger role in final loss determination.

While an orderly recovery was eventually determined in the FNM and FRE auctions, we note that we are currently in a very low interest rate environment. If a similar situation were to arise and a CDS contract were triggered with non-accelerating debt in a high rate environment, especially in the longer duration municipal market, interest rates would play a much larger role in the recovery determination process.

Exhibit 4

Recoveries in Selected Moody's Rated Municipal Defaults 1970-2006

Obligor	Year	Defaulted Debt	Recovery
Baldwin County (AL)	1988	$6-$8mm	Full P & I
Belfield – Special Assessment Bonds (ND)	1987	$2.38mm	~55%
Polk Cnty – Sports Facility Rev Bonds (IA)	1991	$39mm	Called @ par
Orange County – Pension Ob (CA)	1994	$110mm	Full P & I
Cicero Local Development Corp (NY)	2003	$15.3mm	~10.3%
Washington Public Power Supply System (WA)	1983	$2.25bn	40% (after class action suit)
Vanceburg Electric System – Greenup Hydro Project (KY)	1987	$124.5mm	Principal plus accrued interest

Source: Moody's, Bloomberg

Corporates and Munis in the Economic Cycle

Back in spring 2008 we published a report titled *MCDX: Credit Risk or Risk Premium?* (May 21, 2008) in which we highlighted a number of trade opportunities we saw when looking at the municipal and corporate sectors via the CDS market. At that time we advocated going long 10yr MCDX 10 at 47bps and shorting 10yr CDX IG10 at 93bps by being carry neutral or slightly carry positive. Today we advocate closing out this pair trade.

Today we like going long (selling protection) CDX IG11 vs. shorting (buying protection) MCDX11, notional flat (or at a ratio of 1:1) for a variety of reasons. First, we believe that a lot of economic pain is already priced into the corporate market. We highlight that economic weakness is not limited to one asset class or another in this environment, and that the credit markets will have a negative impact on both corporations and municipalities alike, however, we do feel that corporates are further into this economic cycle than their municipal counterparts, and thus they have a greater degree of pain priced in already.

Further, we like the CDX IG11 portfolio, and think that a number of tail risk names that had plagued earlier series were removed at the roll, making this a more attractive portfolio. MCDX11 is compositionally the same as MCDX10, with a large percentage of revenue bonds that do not have the same taxing authority as their general obligation counterparts.

We like executing this trade in the 5yr maturity for the shorter duration. We acknowledge that there is still a great deal of uncertainty in the corporate CDS market that could cause this trade to underperform.

Localized Municipalities vs. Local Industry

For the most part we've focused our municipal CDS coverage on the technicals, mechanics and broad fundamentals both on an outright basis and as a vehicle for cross-asset comparison. Municipalities, and by extension muni CDS, taken individually can be an interesting way to look at and express a view on local economic strengths and weaknesses. We've started to see CDS market participants differentiate individual credits, whereas just months ago muni CDS traded largely within a small range of one another.

Exhibit 5

Indicative Muni CDS Trading Levels

Reference Entity	10yr CDS Spreads
California	175
New Jersey	125
New York State	135
Florida	125
Illinois	95
Massachusetts	109
Texas	85
Ohio	95
New York City	175
Michigan	155

Source: Morgan Stanley
As of October 23, 2008

For instance, municipalities in the Northeast would be more affected by a Wall Street downturn or eventual recovery. Energy corporates could be more correlated with Texas municipalities, and certain retailers and industries could track the CDS spreads of other regions as well. In an interesting parallel, we're starting to see some of this differentiation in the European sovereign market as well.

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Global

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Municipal Bond Market Update

MORGAN STANLEY RESEARCH

Morgan Stanley & Co. Incorporated

Interest Rates Strategy

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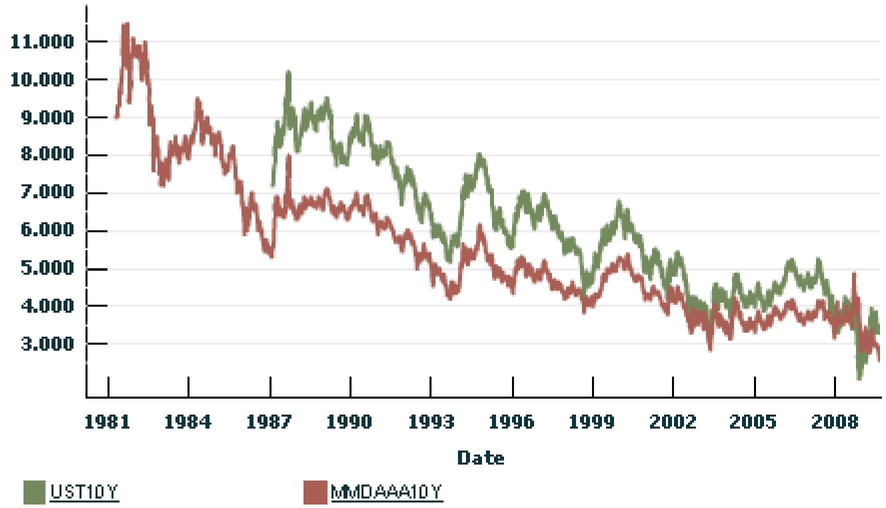
Factors Affecting Municipal Bonds & Overview

- Huge inflows in Muni Bond fund and relatively muted muni issuance contributed to drive tax-exempt AAA munis to extremely rich levels. The inflows in muni bond funds should keep muni rate low in the short term, in our view.
- Over the past 2 months, A munis have rallied massively; the yield pick-up for those bonds over Build America Bonds (BABs) has been shrinking.
- BABs spread has stabilized, with the exception of Cal Bonds, which rallied since the budget was passed.
- We see value in CAS and NJTRAN BABs which look attractive vs. corporate credit.
- The success of Build America Bonds issuance has contributed to easing concerns about oversupply in the long end. Since municipalities now have access to the taxable market, investors expect less issuance in the long end of the tax-exempt municipal bond market.
- The low SIFMA resets have contributed to the high carry of long municipal bond positions; disincentivizing investors to sell their now rich (on an asset swap level) muni position.
- Ratios have been lagging the recent rally. We see value in selling ratios outright or through structured notes. Buying protection against a short ratio position is extremely attractive in our view.

Light After the Darkness

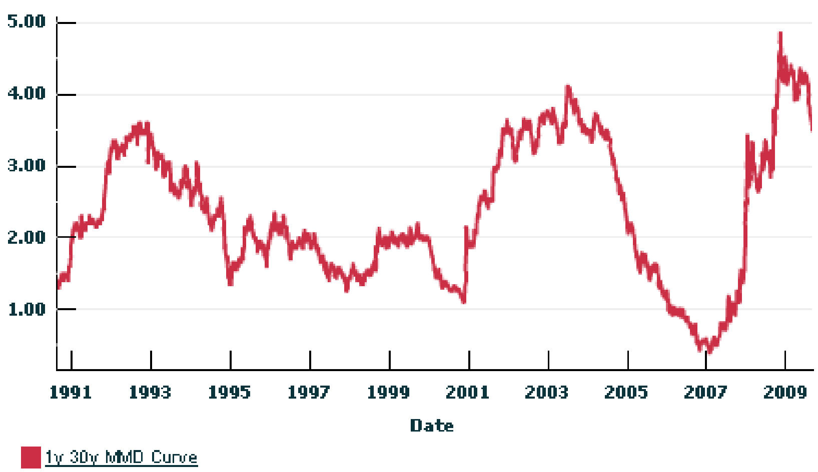


Source: Morgan Stanley

After a period of extreme stress and spread widening, we are entering a period of normalization. AAA munis have been outperforming Treasuries.

Tax-exempt muni bonds are now trading at their richest level ever.

Municipal Curve Is Still Very Steep



Source: Morgan Stanley

Source: Morgan Stanley

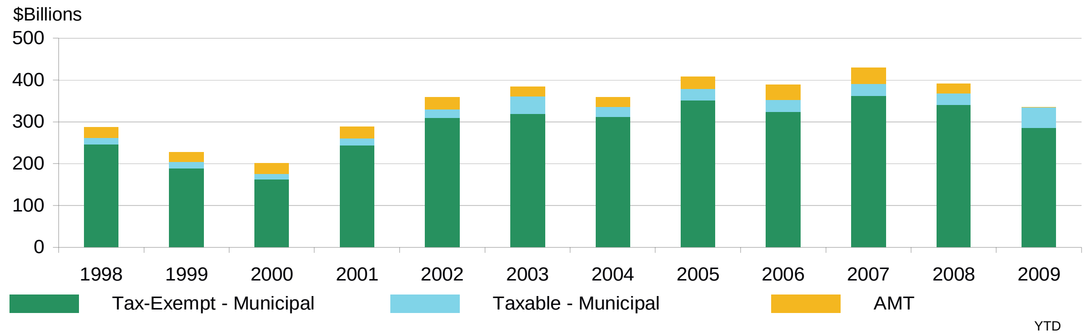
- The curve is still historically steep, but has flattened 75bps over the past 2 months.
- Due to the extreme richness of the front end (SIFMA resets at 31p), leverage strategies are attractive again.
- 10-year MMD is currently trading at extremely rich historical levels vs. Treasuries.

Issuance Still in Line with History

- Year to date, tax-exempt volume is down 5.6% from last year.
- Increased new money issuance, largely in response to strong market reception to taxable Build America Bonds

Issuance by Year

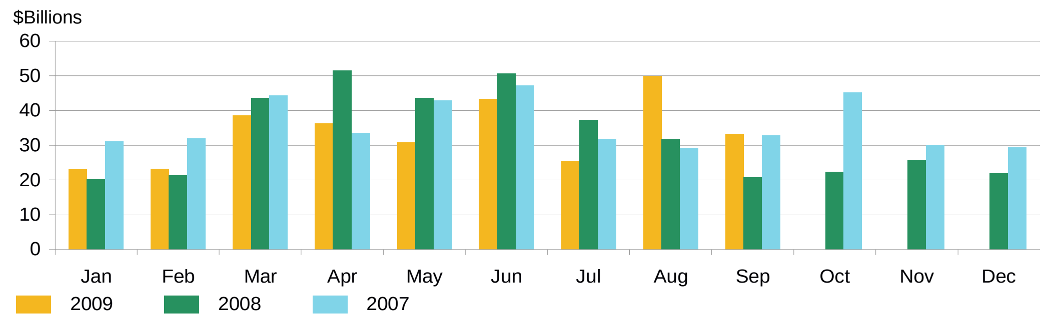
Tax-Exempt vs. Taxable vs. AMT (Alternative Minimum Tax)



Source: SDC

Issuance by Month

All Municipals



Source: SDC

Inflows to Bond Funds at a Record Pace May Keep Rates Low

- **Re-risking** via allocation out of money market funds into fixed income / equity
  - **Money market funds** experienced an outflow of $266 billion year-to-date (YTD)
    - Prime money market funds can yield as low as 0.10%-0.30%
  - **Corporate bonds** saw the largest inflow of $52 billion YTD
  - **Muni flows** were second at a combined $44 billion YTD
    - Both flows are an indication of investor re-risking
  - **Treasury bonds** allocation has remained stable at $20 billion YTD
    - Not any lower YoY despite lack of a new flight-to-quality
    - 1-5yr sector benefited the most from the money market outflows
    - Risk now is that investors extend into the 5-10yr sector
  - **Equity flows** have been strong from both mutual funds and foreign accounts

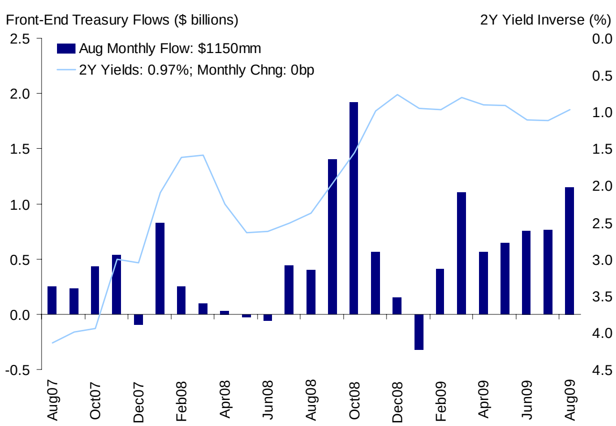
US Mutual Fund Flows – Overview

($ billions)	2008YTD	2009YTD	YoY Δ
Muni Long	10	13	3
Muni Short/Intermediate	10	31	21
Government Bonds	21	20	(1)
Corporate Bonds	26	52	25
High Yield Bonds	1	16	15
Global Bond	12	4	(8)
Other	2	67	65
Total	87	205	

…Plus Bonds Breakdown

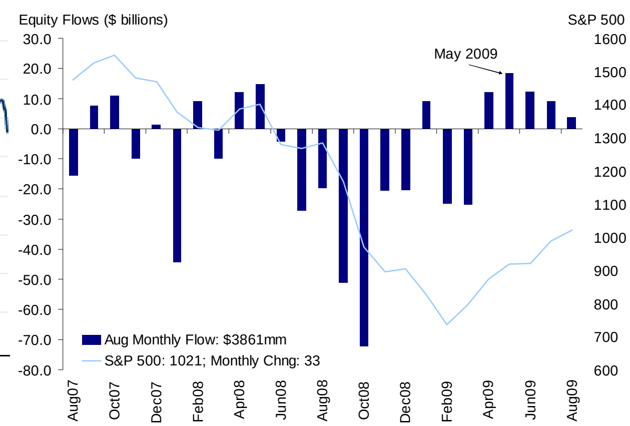
($ billions)	2008YTD	2009YTD	YoY Δ
Money Market	321	(266)	(587)
Bond	87	205	118
Equity	(23)	16	39
Domestic Equity	(41)	(1)	40
International Equity	18	17	(1)
Total	361	(30)	

1-5yr sector benefiting most from mutual fund flows into Treasury funds



2s10s curve flattened in September; risk for further flattening into year-end

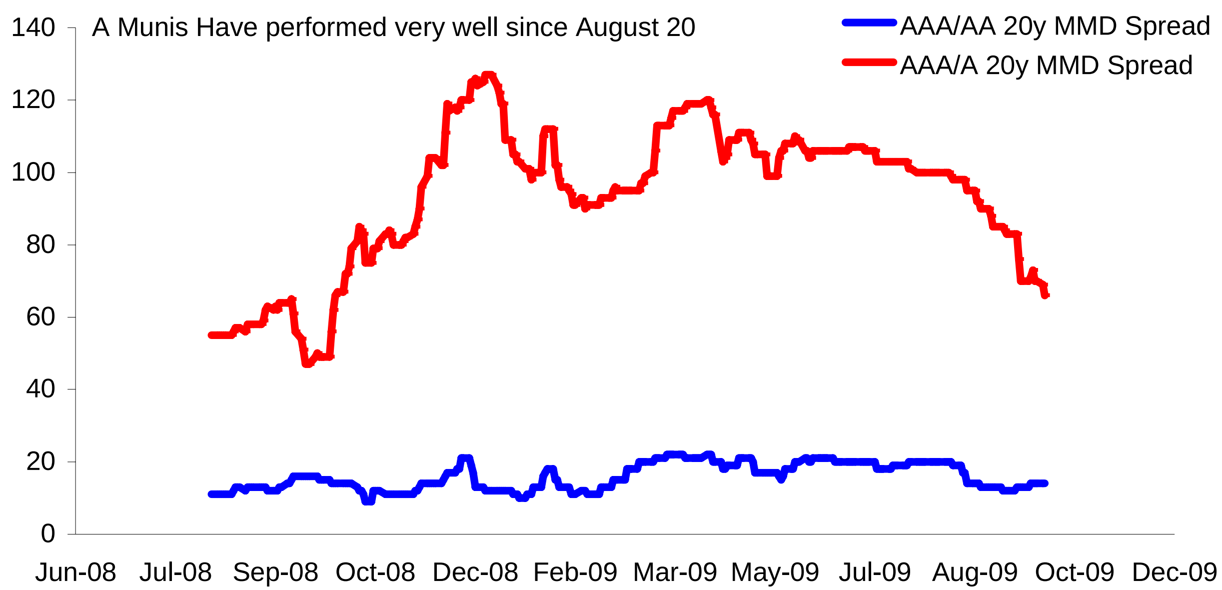
Equities have also benefitted from the increased flow from mutual funds



Source: ICI, Morgan Stanley Research

Lower Quality Credit Outperforming

- A munis are now trading at MMD+66 bp, vs a historical average of 36bps (2000 to 2009)
- AA are trading at 14 bp above MMD, close to their average of 11bps (2000 to 2009)



Source: Morgan Stanley

- Since August 2009 single ‘A’ munis have rallied significantly

Large Texas NTTA Issue Initiated the ‘A’ Rally?

- North Texas Toll Authority BAB Issue
  - $825 million BAB deal, dated 8/12/2009
  - NTTA 6.71 ’49 (BABS) - 8/3 pricing 6.71
  - A2/A- credit (amongst weakest credit to come in BAB form so far)

- Simultaneously NTTA issued tax-exempt bonds:

  -NTTA 6.25 ’39 - 8/3 pricing 6.34

The yield of the tax-exempt bond was extremely wide compared to BABs

The saving for the issuer was significant (6.34 - .65 * 6.71 = 198 bps)

That deal highlighted the weakness of the lower-credit tax-exempt bond.

Currently, after the A tax-exempt bond rally, the BAB saving is much smaller (4.90 - .65 * 6.13 = 91 bps)

Since June, BABs Have Been Underperforming Tax Exempt and Credit

		Maturity	Priced	27-Apr	26-May	17-Jun	24-Jul	24-Aug	28-Sep	S&P Rating	Last/Jun17
CAS	7.5	4/1/2034	365	335/330	345/325	375/360	335/320	295/280	270/250	A	72%
CAS	7.55	4/1/2039	365	337/332	345/325	380/365	335/320	295/280	270/250	A	71%
NJS	7.414	1/1/2040	370	316/311	235/	180/	210/190	175/160	170/	A+	94%
UVA	6.2	9/1/2039	250	205/	157/	115/100	130/	110/	110/	AAA	96%
MTA	7.336	11/15/2039	350	318/308	235/	170/160	195/180	170/	165/150	AAA	97%
SAC	6.322	5/15/2036	225		210/200	185/					
ILL	6.184	1/29/2034	200		195/195	170/	180/	175/	180/	AA-	106%
UTAH	5.937	6/15/2039	185		185/175	150/	160/	155/	165/	AAA	110%
NJTRAN	6.875	12/15/2039	240			225/	225/	200/	205/	AA-	91%
SAN	5.985	2/1/2039	145			145/	165/	135/125	140/	AA	97%
UTEXAS	6.276	8/1/2041	160			152/147	150/	135/	140/	AAA	92%

	17-Jun	24-Jul	24-Aug	28-Sep	Last/Jun17
IG 10	197.7	171.5	168.4	134.7	0.68
MCDX 10y	191	180	150	105.43	0.55
Cal CDS 5y	345	300	280	171	0.50
Virginia 5y	105	98	98	45	0.43
MMDAAA10Y/.65-UST10Y	170	95	102	132	0.78
AAA/A MMD Spread	106	101	95	69	0.65

Source: Morgan Stanley

We still see value in BABs, which have been lagging other risky assets. We favour CAS and NJTRAN BABs which look attractive, especially vs. corporates names (corporate AA OAS is 137 and A is 180).

Saving from BAB for Muni Issuers Is Diminishing

Yield Pick-up as of June 2009

	MTA	U Texas	California
Treasury Yield (%)	4.47	4.47	4.47
BAB Yield (%)	6.17	6.07	8.27
Spread (bp)	170	160	380
After Tax Yield	4.01	3.94	5.37
Muni Yield	5.50	4.90	6.05
Yield Pick Up (bp)	149	96	68

Source: Morgan Stanley

Yield Pick-up as of September 2009

	MTA	U Texas	California
Treasury Yield	4.042	4.042	4.042
BAB Yield	5.642	5.442	6.642
Spread (bp)	160	140	260
After Tax Yield	3.6673	3.5373	4.3173
Muni Yield	4.5	4	5
Yield Pick Up (bp)	83.27	46.27	68.27

Source: Morgan Stanley

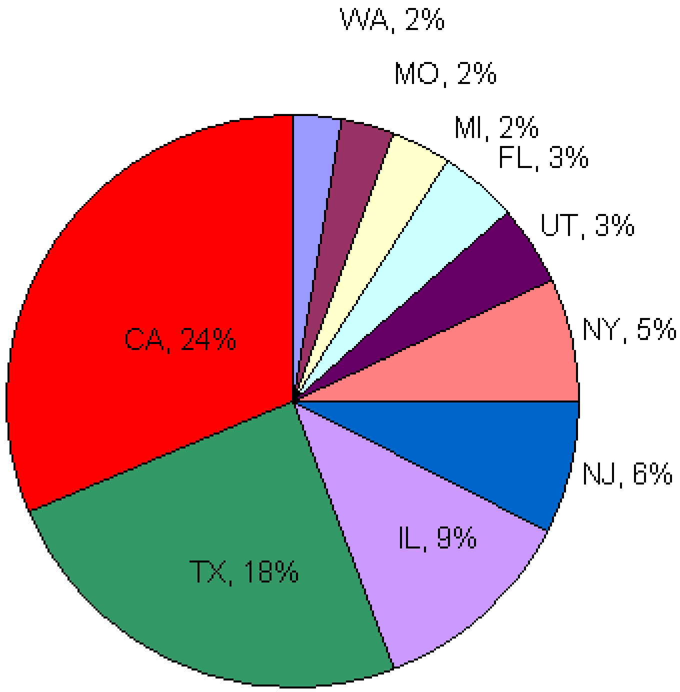
Yield Pick-Up for the Issuer (Difference btw MMD Yield +Spread and the Post-Subsidy Treasury Yield + Spread)

	10y				20y				30y			
	Treasury Yield 3.67%				Treasury Yield 4.09%				Treasury Yield 4.51%			
	MMD Yield 3.33%				MMD Yield 4.35%				MMD Yield 4.72%			
	Spread to MMD				Spread to MMD				Spread to MMD			
Spread to UST	30bp	50bp	85bp	125bp	30bp	50bp	85bp	125bp	30bp	50bp	85bp	125bp
100bp	59	79	114	154	134	154	189	229	144	164	199	239
200bp	-6	14	49	89	69	89	124	164	79	99	134	174
300bp	-71	-51	-16	24	4	24	59	99	14	34	69	109
400bp	-136	-116	-81	-41	-61	-41	-6	34	-51	-31	4	44

Yield Pickup For Issuer (bp)

Source: Morgan Stanley

Distribution of BAB Issuances, Total Issuance Is $35bn So Far



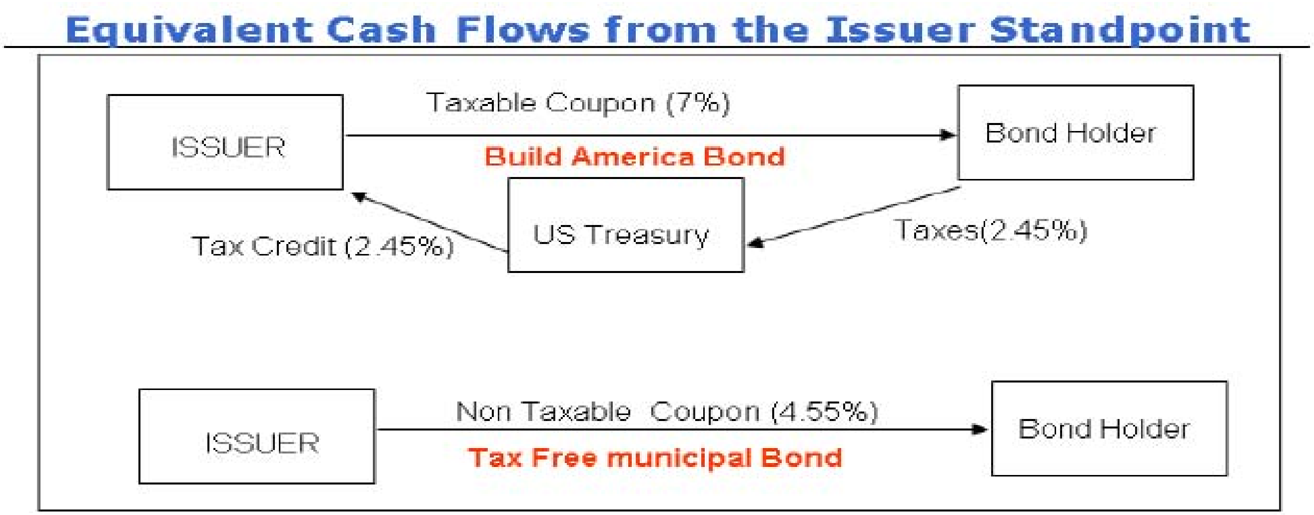
75% of BAB issuance in 10 States

State	BAB Issued
CA	$7,918,370,000
TX	$6,219,915,000
IL	$2,943,270,000
NJ	$1,887,506,000
NY	$1,736,500,000
UT	$1,168,435,000
FL	$1,074,345,000
MI	$839,675,000
MO	$793,995,000
WA	$714,690,000
Others	$8,389,079,000

The distribution of BAB Issuance looks very similar to the distribution of tax exempt bonds. The main issuers are active in both markets.

Introducing the Build America Bonds

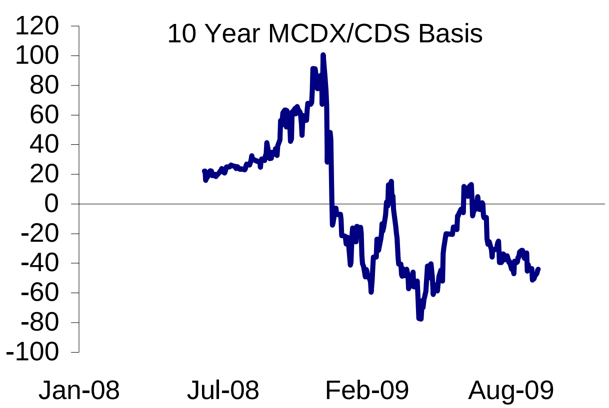
- Part of the American Recovery and Reinvestment Act of 2009
- Financing alternative for state and local governments
- Provide access to the broader taxable bond market
- Due to the extreme steepness of the tax-exempt municipal curve, most issues are in the long end (highest pick-up)



Source: Morgan Stanley

State CDS Have Been Collapsing

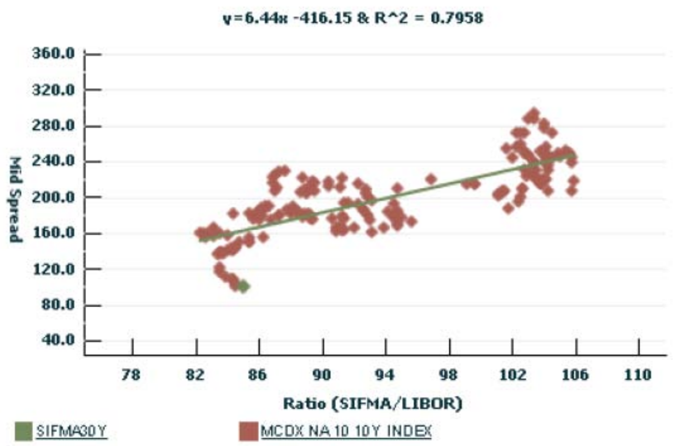
- Virginia CDS trade now tighter than UK!
- The basis between MCDX and its underlying components has increased as well.
- 10 MCDX is currently trading at 104bp.
- The estimated average 10y CDS spread is 148 bp.
- MCDX is currently trading narrow to the underlying CDS.
- Buying protection through MCDX is currently attractive vs individual CDSs.



Source: Morgan Stanley

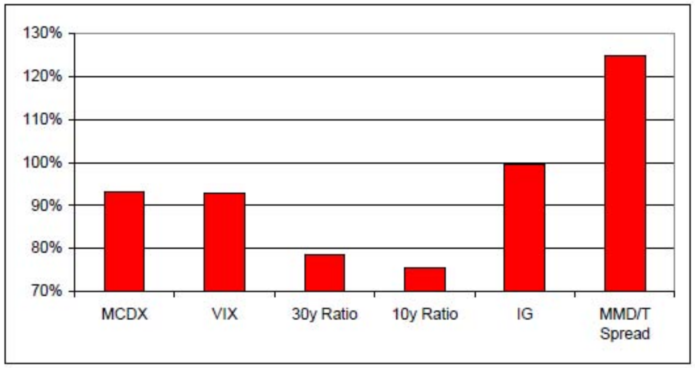
Short SIFMA/LIBOR Ratio with Credit Protection

10y MCDX Trading 60 pts Tight to 30y Ratios



Source: Morgan Stanley

Retracement from the Wides (%)



The retracement is computed as (Max Value –Today's Value)/(Max Value - Aug 08 Value). The retracement can be interpreted as the change since the peak as a percentage of the gain up to the peak. We chose the 8th of August because it is the last date when the VIX was trading below 20.

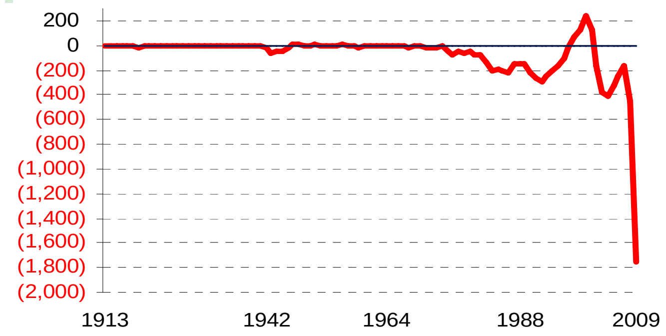
Source: Morgan Stanley

- Ratios are lagging other risk premia.
- Fundamentally, we like selling ratios as a long-term tax play.
- Ratios are currently trading extremely wide vs. MCDX.
- MCDX should protect the ratio position against concern about renewed concern of municipalities credit.

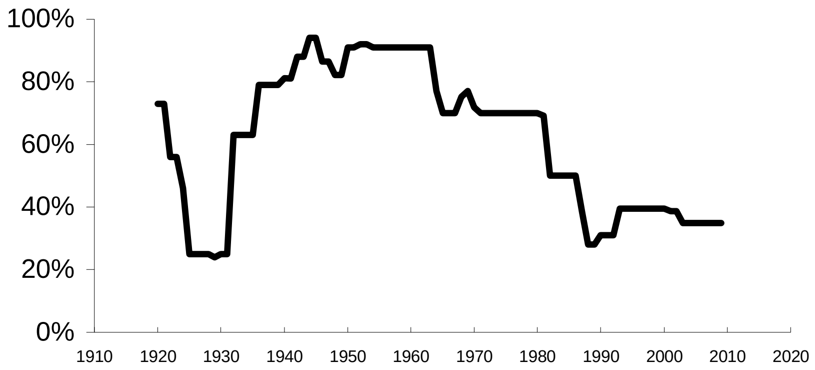
Highest Marginal Tax Rate Likely to Rise

- The Bush tax cut expires in 2010, with the marginal tax rate rising to 39.5%.
- Other tax hikes are not impossible in the future.
- From 1989 to 2009, the highest marginal tax rate was 36%. SIFMA/LIBOR ratio has been averaging 69% in the meantime.
- Democrats and moderate Republicans have called for a reform of the tax code to shift the tax burden away from the middle class towards wealthier Americans (i.e., increasing the highest MTR)

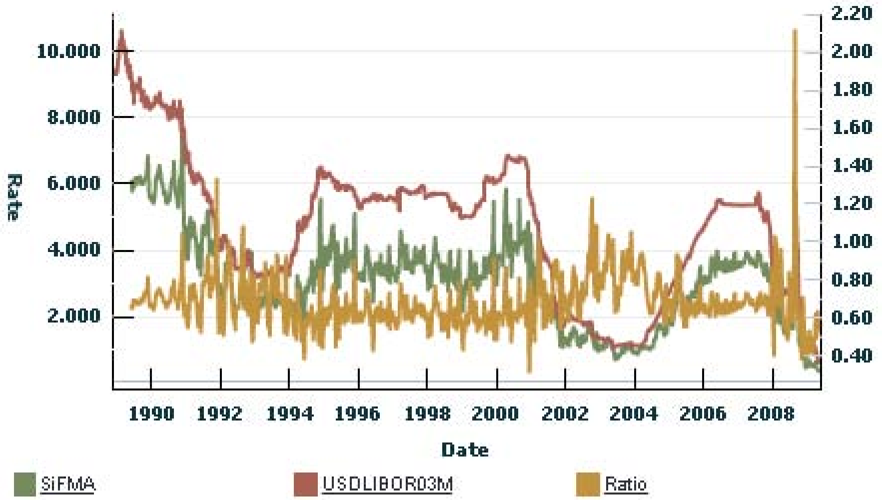
Budget Deficit/Surplus
($Bn)



Source: Office of Management and Budget – 2009 estimated



Source: Morgan Stanley



Source: Morgan Stanley

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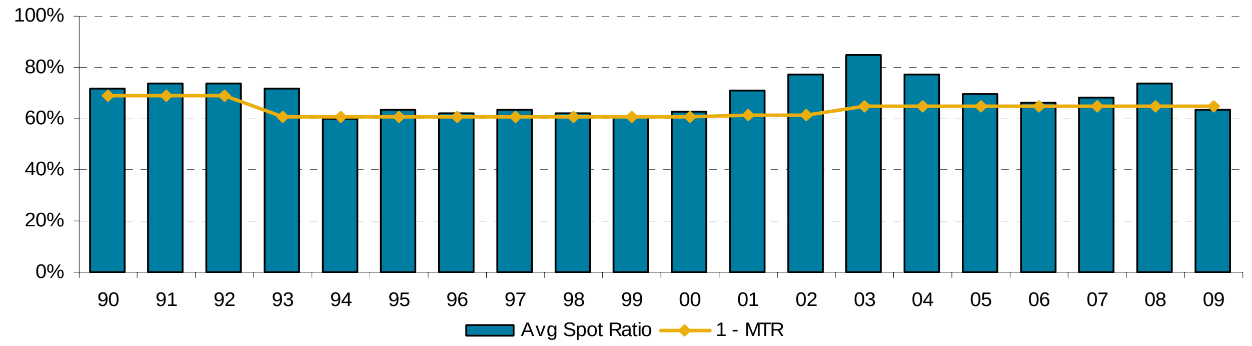
Factors That Influence the Spot SIFMA/LIBOR Ratio

- **The spot SIFMA/LIBOR relationship closely tracks 1 minus highest Marginal Tax Rate (MTR)**
- **In 1993, the highest MTR was increased retroactively**
- **During 2001-2004, the low-rate environment caused this relationship to dislocate**

Current Low Resets Result in Attractive Carry and Roll-down Characteristics
(%)



Source Morgan Stanley

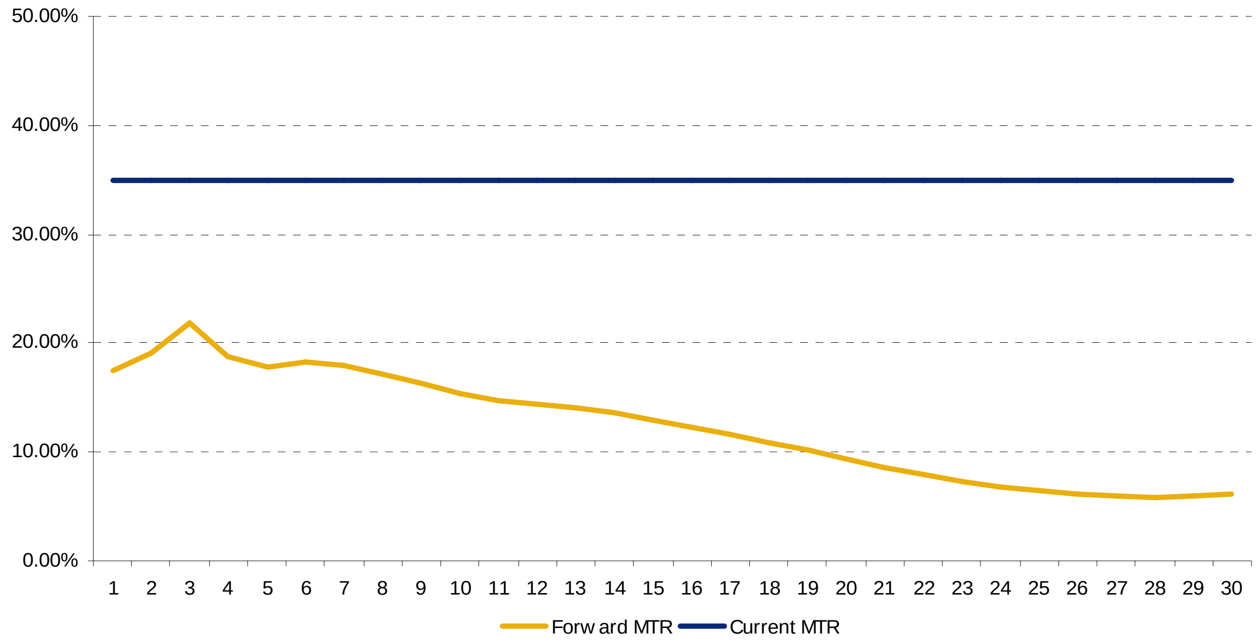
- The average ratio in 2009 has been 62%, below the (1 – MTR) level of 65%.
- The short-term municipal market has experienced a sustained flight-to-quality bid as investors seeking safety and liquidity consider VRDOs as well as Treasuries.
- The average quality of securities within the SIFMA index has improved, helping to drive the average yield lower.

"Implied" Forward 1-Year Ratio Premium

- The forward ratio curve suggests that a marginal tax rate decline is priced into the basis swap market
- This contrasts with the economic and political realities of the past several decades

"Implied Forward" MTR	(%)
Current	35
15 Yr	13
30 Yr	6

"Implied Future" Marginal Tax Rate (1 – Forward 1Yr Ratio)
(%)



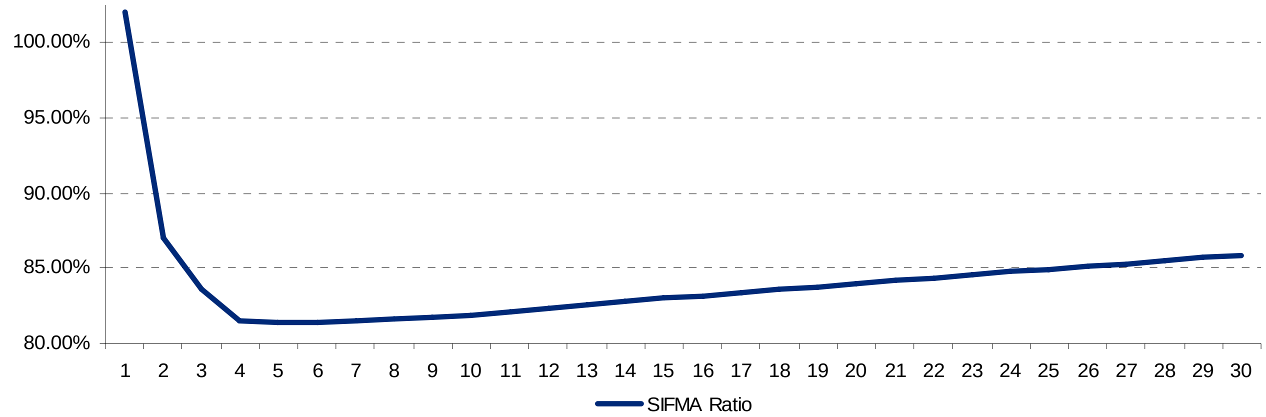
Source: Morgan Stanley

Risk Premium in the SIFMA/LIBOR Curve

- Supply/Demand imbalance in the municipal cash market
    1. Demand is concentrated in the short end
    2. Supply is concentrated in the long end
        - i) Finances long dated assets: water/sewer systems, schools, etc.
        - ii) Reduces annual debt service on typical level debt municipal structure

- Derivatives SIFMA/LIBOR ratio term structure mimics the municipal cash/LIBOR term structure.

Term Maturity	SIFMA-Ratio
2	87.00%
5	81.38%
7	81.50%
10	81.88%
12	82.38%
15	83.00%
20	84.00%
30	85.88%



Source: Morgan Stanley

Our Favorite Play for Higher Tax Rate: 1) Sell 30-year Ratios

- Ratio are still trading high, historically.
- We have gone through most of the deleveraging process
- Issuers are expected to close some of their FRN program, unwinding the ratio hedge (driving ratio lower)

Source: Morgan Stanley

Trade Idea: Short Ratios In Structured Note Form

SIFMA – LIBOR Structured Note

Coupon = Fixed Cpn + Leverage * (68% 3ML – Avg. SIFMA)

Fixed Coupon of the SIFMA-LIBOR Leveraged Basis Note

15Y Bullet, 12% Coupon Cap

Fixed Coupon	Leverage	Issuer
8.00%	10x	MS

Fixed Coupon of the SIFMA-LIBOR Leveraged Basis Note

30Y Bullet, 12% Coupon Cap

Fixed Coupon	Leverage	Issuer
9.25%	10x	MS

Source: Morgan Stanley – Indicative Pricing

- Principal protection at maturity
- Coupon floored at 0.00% and capped at 12.00%
- Prices shown are for USD denominated notes
- Can be issued in all major currencies

- Wide spectrum of issuer credit available
- Principal protection at maturity
- Coupon floored at 0.00% and capped at 11.00%
- Prices shown are for USD denominate notes
- Can be issued in all major currencies

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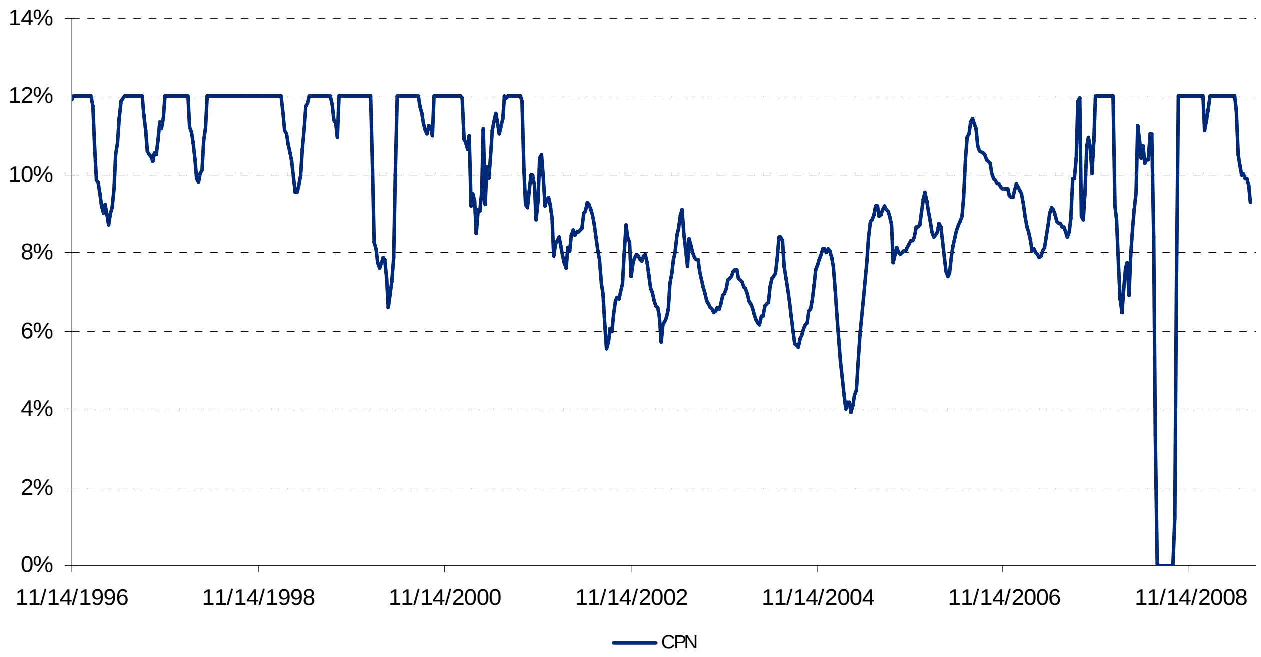
Historical Accruals on 30Yr, 10x Leveraged Note (1996 to 2009)

– **The analysis is based upon the 30Yr term coupon for LIBOR flat issuance**

- **8% + 10 * (68% 3ML – Avg. SIFMA)**

Coupon Performance	
Average	9.483%
St Dev	2.401%

Historical Coupon
(%)



Source: Morgan Stanley

Risk Consideration

- Rise in SIFMA/LIBOR ratio relative to embedded ratio strike would result in a reduced coupon (floored at zero)
- Breakdown in historical yield compression relationship
- Rise in long-term ratios can result in a negative mark-to-market / “Opportunity Loss”
- Liquidity
- Credit quality of the note issuer

The SIFMA Municipal Swap Index (formerly BMA)

– **"True" index computed using several hundred weekly reset securities calculated by an independent party**

•What is The Securities Industry and Financial Markets Association Municipal Swap Index?

•The Securities Industry and Financial Markets Association Municipal Swap Index, produced by Municipal Market Data, is a seven-day high grade market index comprised of tax-exempt VRDOs from MMD's extensive database.

Why was the Index created?

•The Index was created in response to industry participants' demand for a short-term index which accurately reflected activity in the VRDO market. In 1991, SIFMA established a Market Index Subcommittee to analyze the need for such an index and determine a solution. SIFMA contacted Municipal Market Data in this effort because of MMD's extensive database of active variable rate demand notes and MMD's longstanding reputation within the industry. MMD worked closely with SIFMA to determine appropriate criteria on which to base the Index.

How is the Index used?

In swaps:

•One of the most critical elements of a swap transaction is the Index on which the floating rate is based. (In a swap, two counterparties exchange fixed rate interest payments for floating rate payments or vice versa). The Index serves as a benchmark floating rate in the swap transaction. Industry-wide acceptance of the Index naturally increases liquidity and thus the attractiveness of the transaction.

As a market indicator:

•Issuers, investment bankers and other market participants need an efficient way to monitor the market on a regular basis. The Index provides a consistent, superior means of tracking market movements as they occur.

The SIFMA Municipal Swap Index (cont'd) (formerly BMA)

What are the criteria for the Index?

- In order for an issue to qualify for inclusion in the Index it must:
  - be a weekly reset, effective on Wednesday (no lag resets considered)
  - NOT be subject to Alternative Minimum Tax
  - have an outstanding amount of $10 million or more
  - have the highest short-term rating (VMIG1 by Moody's or A-1+ by S&P)
  - pay interest on a monthly basis, calculated on an actual/actual basis.
- In addition, only one quote per obligor per remarketing agent will be included in the Index. Issues from all states are eligible for inclusion.

How do I know that the Index represents the market?

- The Index is comprised of actual issues from the most comprehensive source of data on VRDOs available. MMD's database contains extensive information for more than 15,000 active VRDOs. By applying the criteria mentioned above, MMD is able to calculate a truly representative Index.

How is the Index calculated?

- The Index is calculated on a weekly basis, and released to subscribers on Thursday. The following are considered in the Index calculation:
  - The standard deviation of the rates is calculated.
  - Any issue falling outside of +/-1.0 standard deviations is dropped.
- Each participating remarketing agent is limited to no more than 15% of the Index by an averaging method.

How many VRDO issues are in the Index?

- The actual number of issues that make up the Index will vary in time as issues are called, converted, mature or are newly issued. In addition, if changes occur which violate the criteria or calculation methods, an issue will be dropped. Typically, the Index has included 650 issues in any given week.

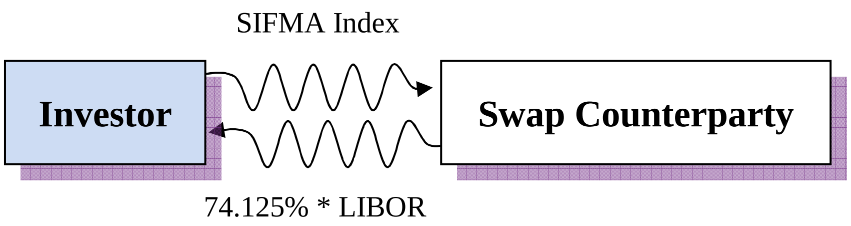
For a complete description:

www.sifma.org/capital_markets/swapindex.shtml

SIFMA/LIBOR Term Basis Swap Conventions

- SIFMA Index payments are calculated as the daily, weighted average of the SIFMA Index determined each Wednesday and are effective the next business day
- Three-month LIBOR is standard, rate determinations are two business days prior to each calculation period

- There is a very large, active, and liquid term market for trading BMA vs. % of LIBOR
- Basis swap price quotes are expressed as a fixed percentage of LIBOR for the term of the swap
- Bids (payers or buyers) and offers (receivers or sellers) of the ratio refer to the LIBOR leg of the swap
- Example: 10Yr SIFMA/LIBOR basis swap @ 74.125%

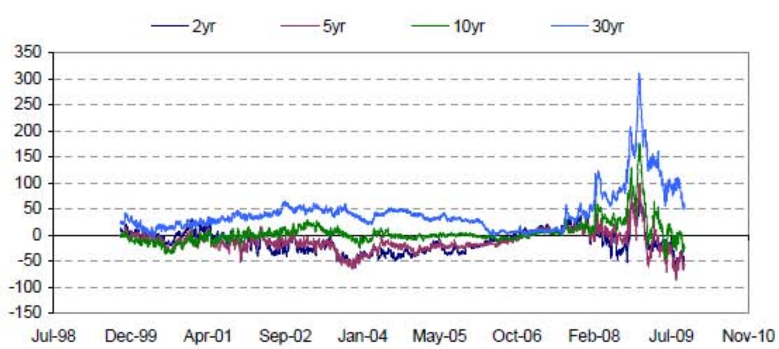


Municipal Analytics on MSQ

Levels are based on indicative levels as of 01-Oct-2009.

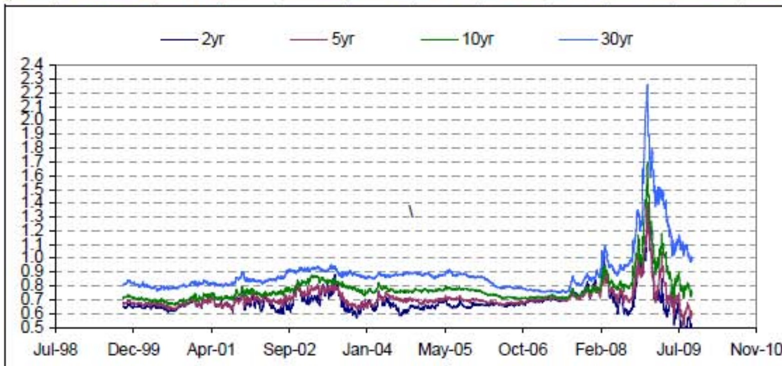
SIFMA Asset Swap Spreads

		2Y	3Y	4Y	5Y	7Y	10Y	12Y	15Y	20Y	30Y
MMD AAA-GO		0.64	0.98	1.26	1.57	2.05	2.57	2.8	3.05	3.44	3.82
		0.0	0.0	0.0	0.0	0.0	0.0	(1.0)	(1.0)	(3.0)	(5.0)
SIFMA Swap		1.07	1.51	1.83	2.09	2.45	2.75	2.90	3.04	3.17	3.30
		(5.5)	(6.1)	(6.3)	(6.7)	(7.5)	(7.5)	(7.8)	(8.4)	(7.2)	(6.9)
Spread		-43.19	-53.23	-56.68	-51.56	-39.73	-18.26	-10.15	0.85	26.97	51.75
		5.5	6.1	6.3	6.7	7.5	7.5	6.8	7.4	4.2	1.9
60 Day	Max	-16.3	-38.9	-42.2	-33.9	-21.0	7.7	19.8	38.7	74.0	109.6
	Mean	-43.9	-62.1	-66.1	-55.7	-42.5	-11.3	2.0	18.9	51.5	84.2
	Min	-71.3	-94.1	-101.5	-86.7	-69.4	-31.7	-23.0	-14.0	17.2	49.0
	Std Dev	11.0	13.6	14.1	12.0	11.1	11.2	11.8	14.1	14.8	17.6
	Z-Score	**0.06**	**0.65**	**0.66**	**0.34**	**0.25**	**-0.62**	**-1.03**	**-1.28**	**-1.66**	**-1.84**
1 Year	Max	72.7	74.3	91.5	98.6	114.8	175.5	212.4	235.7	277.4	310.3
	Mean	-8.3	-19.6	-20.4	-12.3	-2.2	32.2	55.0	78.0	112.3	136.1
	Min	-71.3	-94.1	-101.5	-86.7	-71.3	-44.5	-35.0	-14.6	17.2	49.0
	Std Dev	34.6	40.6	45.4	43.4	44.6	50.4	57.6	59.8	58.6	56.1
	Z-Score	**-1.01**	**-0.83**	**-0.80**	**-0.90**	**-0.84**	**-1.00**	**-1.13**	**-1.29**	**-1.46**	**-1.50**
3 Year	Max	72.7	74.3	91.5	98.6	114.8	175.5	212.4	235.7	277.4	310.3
	Mean	0.4	-1.4	-1.8	0.2	3.9	20.6	32.9	44.5	60.8	72.1
	Min	-71.3	-94.1	-101.5	-86.7	-71.3	-44.5	-35.0	-14.6	-0.2	0.2
	Std Dev	25.4	40.6	45.4	43.4	44.6	50.4	57.6	59.8	58.6	56.1
	Z-Score	**-1.72**	**-1.28**	**-1.21**	**-1.19**	**-0.98**	**-0.77**	**-0.75**	**-0.73**	**-0.58**	**-0.36**
Lifetime	Max	72.7	74.3	91.5	98.6	114.8	175.5	212.4	235.7	277.4	310.3
	Mean	-12.6	-15.5	-15.9	-12.6	-5.5	4.1	11.6	21.2	36.0	43.7
	Min	-71.3	-94.1	-101.5	-86.7	-71.3	-44.5	-35.0	-19.7	-6.2	-5.6
	Std Dev	21.9	23.6	23.1	20.4	18.3	22.5	27.2	30.9	36.5	40.5
	Z-Score	**-1.40**	**-1.60**	**-1.76**	**-1.92**	**-1.87**	**-0.99**	**-0.80**	**-0.66**	**-0.25**	**0.20**



Municipal Cash/USD Swap Ratios

		2Y	3Y	4Y	5Y	7Y	10Y	12Y	15Y	20Y	30Y
MMD AAA-GO		0.64	0.98	1.26	1.57	2.05	2.57	2.8	3.05	3.44	3.82
		0.0	0.0	0.0	0.0	0.0	0.0	(1.0)	(1.0)	(3.0)	(5.0)
USD Swap		1.22	1.79	2.22	2.54	2.98	3.34	3.50	3.65	3.76	3.83
		(7.3)	(8.9)	(9.8)	(10.6)	(11.1)	(11.2)	(11.6)	(11.2)	(9.7)	(9.1)
Ratio		52.4%	54.7%	56.7%	61.8%	68.7%	76.9%	80.0%	83.5%	91.4%	99.6%
		3.0	2.6	2.4	2.5	2.5	2.5	2.3	2.2	1.5	1.0
60 Day	Max	66.6%	59.4%	63.7%	69.7%	76.5%	86.8%	91.2%	97.1%	105.6%	115.6%
	Mean	50.7%	50.2%	53.9%	60.6%	67.4%	77.7%	82.0%	87.0%	95.9%	105.5%
	Min	38.6%	38.9%	42.9%	51.1%	59.3%	71.0%	75.5%	79.4%	88.5%	97.3%
	Std Dev %	5.41	5.80	5.00	4.01	3.44	3.29	3.44	3.97	4.08	4.59
	Z-Score	**0.32**	**0.78**	**0.56**	**0.32**	**0.37**	**-0.25**	**-0.59**	**-0.89**	**-1.09**	**-1.29**
1 Year	Max	137.7%	134.1%	140.1%	140.8%	145.4%	169.6%	183.7%	191.9%	210.1%	226.3%
	Mean	74.6%	72.5%	75.3%	80.3%	85.7%	97.8%	105.5%	113.1%	124.3%	133.3%
	Min	38.6%	38.9%	42.9%	51.1%	59.3%	71.0%	75.5%	79.4%	88.5%	97.3%
	Std Dev %	22.28	20.60	20.16	18.57	18.23	20.94	24.13	25.95	28.26	29.63
	Z-Score	**-1.00**	**-0.87**	**-0.92**	**-1.00**	**-0.93**	**-1.00**	**-1.06**	**-1.14**	**-1.16**	**-1.14**
3 Year	Max	137.7%	134.1%	140.1%	140.8%	145.4%	169.6%	183.7%	191.9%	210.1%	226.3%
	Mean	72.8%	72.8%	73.9%	75.6%	77.8%	83.5%	87.4%	91.2%	96.5%	101.0%
	Min	38.6%	38.9%	42.9%	51.1%	59.3%	70.5%	71.8%	72.4%	73.8%	75.0%
	Std Dev %	14.02	12.72	12.41	11.83	12.45	16.38	19.64	22.39	26.46	29.53
	Z-Score	**-1.46**	**-1.43**	**-1.38**	**-1.16**	**-0.73**	**-0.40**	**-0.38**	**-0.35**	**-0.19**	**-0.05**
Lifetime	Max	137.7%	134.1%	140.1%	140.8%	145.4%	169.6%	183.7%	191.9%	210.1%	226.3%
	Mean	68.7%	68.5%	69.8%	71.3%	74.2%	77.7%	80.1%	82.9%	87.0%	89.9%
	Min	38.6%	38.9%	42.9%	51.1%	59.3%	66.1%	68.4%	71.6%	73.8%	75.0%
	Std Dev %	8.83	7.96	7.79	7.61	8.06	10.36	12.19	13.70	16.11	18.02
	Z-Score	**-1.84**	**-1.74**	**-1.67**	**-1.25**	**-0.68**	**-0.08**	**-0.01**	**0.04**	**0.27**	**0.54**



Source: Municipal Market Data's (MMD) benchmark "AAA" GO, Thomson Financial LLC
Source: USD Swaps, SIFMA Swaps and Treasury yields, Morgan Stanley

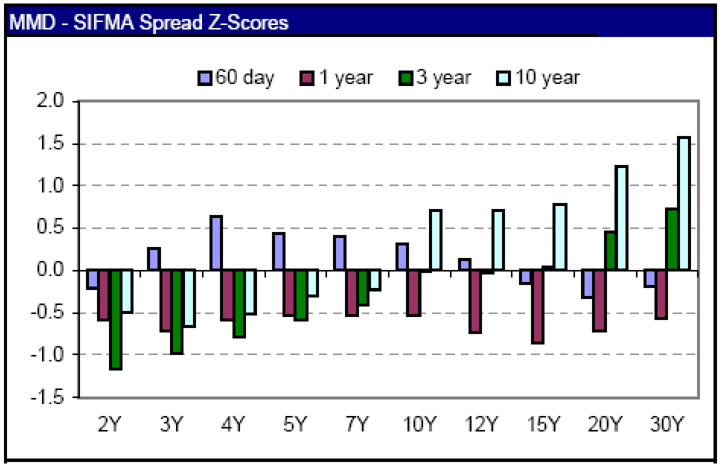
Municipal Analytics on MSQ

Municipals Relative Value Summary

Morgan Stanley

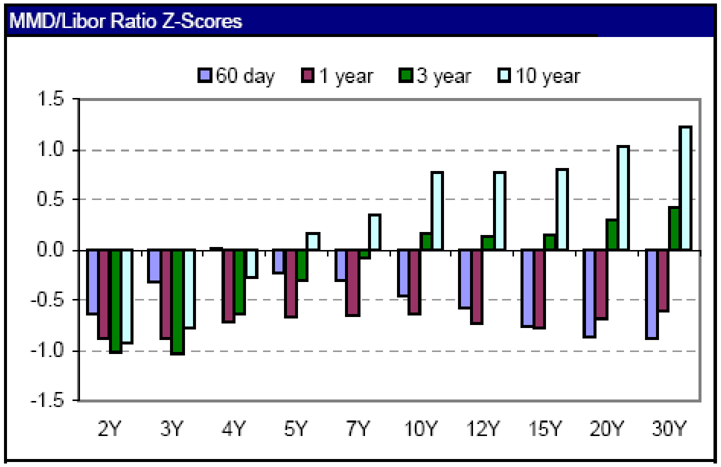
Levels are based on indicative levels as of 16-Jun-2009.

Maturity	Treasury Yield		USD Swap Rate		Swap Spread		MMD AAA-GO Rate	MMD AAA-GO Ratio		SIFMA Swap Rate	SIFMA Swap Ratio		MMD - SIFMA Spread	
1Y			0.961%	(0.2)			0.40%	41.6%	0.08	0.702%	73.0%	0.00	-30.17	0.1
2Y	1.204%	(2.0)	1.631%	(0.2)	42.69	1.84	1.00%	61.3%	0.06	1.217%	74.6%	0.12	-21.69	(0.1)
3Y	1.800%	(4.0)	2.260%	(2.0)	46.04	2.08	1.43%	63.3%	0.10	1.715%	75.9%	0.25	-28.47	(0.1)
4Y	2.245%	(3.3)	2.749%	(2.8)	50.36	0.46	1.87%	68.0%	(0.03)	2.127%	77.4%	0.25	-25.68	(0.5)
5Y	2.691%	(2.6)	3.096%	(3.5)	40.54	(0.95)	2.25%	72.7%	0.17	2.419%	78.1%	0.00	-16.87	0.7
7Y	3.083%	(3.1)	3.548%	(4.6)	46.59	(1.46)	2.73%	76.9%	0.14	2.817%	79.4%	0.00	-8.66	0.6
10Y	3.671%	(3.9)	3.891%	(5.8)	22.05	(1.91)	3.33%	85.6%	0.50	3.132%	80.5%	0.00	19.77	1.7
12Y	3.754%	(3.9)	4.037%	(6.2)	28.30	(2.21)	3.60%	89.2%	0.85	3.296%	81.6%	0.00	30.44	3.0
15Y	3.880%	(4.0)	4.173%	(5.7)	29.31	(1.64)	3.90%	93.4%	0.78	3.454%	82.8%	0.00	44.64	2.7
20Y	4.090%	(4.1)	4.228%	(4.9)	13.82	(0.73)	4.35%	102.9%	0.93	3.552%	84.0%	0.12	79.81	2.5
30Y	4.510%	(4.4)	4.252%	(3.9)	-25.75	0.46	4.72%	111.0%	1.01	3.673%	86.4%	0.00	104.69	3.4



Money Market Indices	Spot	Ratio
SIFMA	0.36	
Fed Funds	0.25	144.0%
USD 1M	0.32	113.2%
USD 3M	0.61	58.7%

Forward SIFMA/USD Ratios History	16-Jun	15-Jun	5-Jun	15-May	Jun-08
5x10	84.8%	84.8%	86.7%	91.9%	77.9%
10x10	88.6%	88.4%	92.0%	94.6%	81.2%
15x15	93.2%	93.3%	95.8%	100.6%	82.2%
20x10	95.7%	96.4%	97.4%	104.1%	82.5%



Maturity	MMD - SIFMA Spread Z-Scores 60 day	1 year	3 year	10 year		MMD/Libor Ratio Z-Scores 60 day	1 year	3 year	10 year
2Y	-0.22	-0.59	-1.16	-0.49		-0.64	-0.88	-1.02	-0.92
3Y	0.25	-0.70	-0.99	-0.65		-0.32	-0.87	-1.03	-0.77
4Y	0.63	-0.58	-0.78	-0.51		0.02	-0.71	-0.64	-0.27
5Y	0.44	-0.54	-0.59	-0.29		-0.23	-0.67	-0.30	0.17
7Y	0.40	-0.54	-0.40	-0.23		-0.31	-0.66	-0.07	0.35
10Y	0.31	-0.53	-0.02	0.70		-0.45	-0.64	0.17	0.78
12Y	0.13	-0.74	-0.03	0.70		-0.57	-0.73	0.14	0.77
15Y	-0.16	-0.86	0.05	0.78		-0.75	-0.77	0.16	0.80
20Y	-0.31	-0.71	0.45	1.23		-0.87	-0.68	0.31	1.02
30Y	-0.18	-0.57	0.73	1.58		-0.88	-0.60	0.42	1.23

Source: Morgan Stanley

Appendix: Municipal Market Resources

Bloomberg Tickers

Rates	Ticker
SIFMA Ratio & Rates	PREB13
SIFMA Muni Swap Rates	MUNIPSA Index
US Swap Rates	USSW
Search	
Muni Bond Search	SRC
SEC Filings Search	Cusip CF
Ratings	
State Bond Ratings	STGO
City Bond Ratings	CTGO
Track Ratings Changes	Cusip RCHG
News & Events	
Muni Calendar	CDRN
Muni Material Events	NI MTE
Muni Refundings	NI MRI
Specific Bond News	Cusip SCN
Analysis	
Muni Bond Price	Cusip YAS
Muni Bond Yield to Call	Cusip YTC

Useful Websites

Securities Industry and Financial Markets Association	http://www.sifma.org/
The Muni Center	http://www.themunicenter.com/
HTD Online	http://www.htdonline.com/
Kenny Web	http://www.kennyweb.com/
Markit Partners	http://www.markit.com/

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	Coverage Universe		Investment Banking Cleints (IBC)		
Stock Rating Category	Count	% of Total	Count	% of Total IBC	% of Rating Category
Overweight/Buy	843	36%	259	39%	31%
Equal-weight/Hold	1062	45%	314	47%	30%
Not-Rated/Hold	26	1%	3	0%	12%
Underweight/Sell	412	18%	89	13%	22%
Total	2,343		665		

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