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The Nuts and Bolts of High-Yield Municipal Bonds

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1: WHAT ARE HIGH-YIELD MUNICIPAL BONDS?

A municipal bond is a loan made to a municipality or municipal agency that is borrowing money for a specific project or purpose. Municipal bonds are issued by state and local governments, and by their agencies, also known as authorities. The interest earned by bondholders on most municipal bonds is exempt from federal taxation, and may or may not be exempt from state taxes. The purchasers of the bonds, or the lenders, can be a single investor or a number of investors, also referred to as bondholders. The municipality or municipal authority receiving the loan is known as the issuer.

High-yield municipal bonds are municipal bonds that are rated below investment-grade by a Nationally Recognized Statistical Ratings Organization (NRSRO) such as Moody's, Standard & Poor's and/or Fitch. In addition, many bonds are issued in the municipal bond market without a rating; these are known as "non-rated" bonds and can be considered high-yield as a result.

The dividing line between rated investment-grade municipal bonds and rated high-yield municipal bonds is just below the lower-medium-grade rating of 'BBB-'. Bonds with a rating lower than 'BBB-' are considered below investment-grade, or high-yield ('BBB-' by Standard & Poor's, or equivalently, 'Baa2' by Moody's and 'BBB-' by Fitch). These lower tiers of credit ratings may suggest a higher probability of default, where the issuer or obligor does not pay coupon interest or the principal amount in full, and when due, as required by the bond indenture.

2: WHO IS ON THE HOOK?

In the high-yield municipal bond market, the issuing municipality or agency often is not the entity ultimately responsible for repayment of the bonds. In many cases, only the revenue generated from specific projects funded by the bonds is pledged to repay them. In other circumstances, the loans are made by a municipal agency on behalf of specific corporations, which can include taxable and nontaxable corporate entities. These types of loans are known as "conduit" financings and in these cases, the specific corporation benefiting from the loan is responsible for repayment of the bonds, and known as the obligor.

The terms and conditions including the repayment schedule of principal and interest payments, along with the security provisions, are detailed in the bond indenture.

3: WHO ISSUES HIGH-YIELD MUNIPAL BONDS?

Much like the corporate bond market, the high-yield municipal bond market contains many types of issuers.

The following are some examples of the types of municipalities and agencies/authorities that have had outstanding high-yield municipal bonds (as of this writing, no U.S. states or territories were rated below investment-grade):

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- Counties, cities and villages issuing general obligation bonds.
- Municipal districts issuing bonds that are repaid from specific taxes and assessments such as:
  - Land-backed:
    - Community facilities
    - Community development
    - Land improvement
    - Special assessment
  - School
  - Sewer
  - Utility
  - Water
- States, counties, and local agencies and authorities issuing revenue bonds such as:
  - Airport
  - Bridge
  - Economic development (Conduit financing)
  - Environmental control/protection (Conduit financing)
  - Healthcare (Can be considered conduit financing)
    - Assisted living
    - Addiction rehabilitation
    - Hospitals
    - Mental health
    - Nursing homes
  - Higher education (Can be considered conduit financing if issued on behalf of a for-profit)
  - Housing
  - Highway
  - Industrial development (Conduit financing)
    - Airlines
    - Automobile manufacturers
    - Hotels
  - Parking
  - Port
  - Pollution control (Conduit financing)
  - Resource recovery
  - Stadium
  - Tribal
- State authorities bonding out future revenue streams from sources such as:
  - Tobacco settlement proceeds

4: WHAT ARE THE RISKS?

Credit or Default Risk

Default risk is ever-present in the bond market and the municipal bond market is no exception. Security provisions and specific pledges made by the bond issuer are detailed in each bond indenture, but can also vary from one bond issue to the next.

There are two distinct types of defaults:

- Monetary default: where the borrower has not paid principal and/or interest in full when due.
- Technical default: where the borrower has violated provisions of the indenture such as, but not limited to:
  - Drawing down the debt service reserve fund
  - Failing to transfer monthly payments to the bond trustee on time and in full
  - Filing bankruptcy (will become a “monetary default” on the first missed payment)
  - Failing to maintain specific financial ratios
  - Failing to provide financial statements

The default risk of municipal bonds as compared to corporate bonds is often discussed. There is now a way to compare municipal bond default rates to those of corporate bonds by using the bonds tracked in the S&P Municipal Bond Index.

Exhibit 1: New Municipal Bond Defaults in 2011 and 2012 Compared to U.S. Speculative-Grade Corporate Bonds

		S&P Municipal Bond Index		S&P Municipal Bond High Yield Index		U.S. Speculative-Grade Corporate Bonds
	# of Deals Entering Default*	Total # of Deals in Index	Default %	Total # of Deals in Index	Default %	Default %
2011	46	20,307	0.227	3,032	1.52	1.98
2012	30	20,802	0.144	3,005	1.00	2.60

Sources: S&P Global Fixed Income Research, S&P Capital IQ, S&P Dow Jones Indices. Data as of Aug. 30, 2013. Nine (9) municipal bond deals in the S&P Municipal Bond Index have defaulted in 2013. Deals in index defaulting on principal and/or interest for the first time.

Historically, general obligation bonds backed by the full faith and credit of a municipality have experienced a lower propensity to default than have revenue bonds.

The revenue bond category is diverse. Essential-purpose revenue bonds like those issued for water and sewer utilities have experienced a low propensity to default. However, other revenue bonds, for which the debt is repaid from specific revenue streams—particularly a single revenue stream—have historically had a higher incidence of default.

In the municipal bond market, the following types of issuers have seen higher incidences of default due to their dependence on a single revenue source:

- Conduit bonds (Corporate-backed bonds)
  - Example: Bonds issued for specific airlines where the airline is the entity that is responsible for repaying the bonds.
- Land-backed bonds
  - Example: Bonds issued for the development of housing. Once the homes are sold, a tax assessment would be collected from the homeowners to repay the bonds.
- Healthcare bonds
  - Examples: Bonds issued for a specific assisted living facility or nursing home where the revenue earned by the specific facility is pledged to repay the bonds.
- Multifamily housing bonds
  - Example: Bonds issued for an apartment complex where rental revenue is pledged torepay the bonds.

Exhibit 2: Outstanding Defaulted Municipal Bonds as Tracked by the S&P Municipal Bond Index and S&P Municipal Bond High Yield Index

	Number of Bond Deals	Par Value (USD)	Percentage of Total Par Value of Index (%)
Multi-Family	9	100,120,000	1.52
Health Care	22	613,259,489	9.30
Land-Backed	71	1,243,359,000	18.85
Conduit (Corporate-Backed)	46	3,013,411,241	45.69
Other	55	1,625,662,447	24.65
Total Defaulted Bond Deals	203		100.00
Total Defaulted Bond Par Value		6,595,812,177	0.46
Total Index Par Value		1,429,524,719,590	
S&P Municipal Bond High Yield Index Par Value		151,192,068,565	4.36

Source: S&P Dow Jones Indices. Data as of Aug. 30, 2013. This table is provided for illustrative purposes.

Liquidity Risk

In general, high-yield municipal bonds are less liquid than their investment-grade counterparts. The ability to sell a bond prior to maturity at a price that is representative of the transaction price level of other bonds of similar quality and structure is known as liquidity risk. The large numbers of municipal bond issuers and different bonds outstanding, relatively small deal sizes and the buy-and-hold nature of bonds themselves combine to make liquidity risk incrementally higher for municipal bonds than their peers in the corporate bond market.

In the municipal bond market, transaction costs for buying and selling bonds are not always apparent, and the spread between where bonds are being bought and sold can vary dramatically in part due to liquidity risk as well as credit or default risk. In the table below, we compare the transaction cost of both investment-grade and high-yield municipal bonds by using actual transaction data of bonds in the investment-grade S&P National AMT-Free Municipal Bond Index and the S&P Municipal Bond High Yield Index.

Exhibit 3: Municipal Bond Transaction Costs

		Investment-Grade (%)	High-Yield (%)
2011	July	2.07	2.55
	Aug.	2.1	2.45
	Sept.	2.12	2.45
	Oct.	2.12	2.56
	Nov.	2.03	2.37
	Dec.	2.01	2.46
2012	Jan.	2.08	2.61
	Feb.	2.01	2.53
	March	1.97	2.58
	April	1.87	2.45
	May	1.87	2.63
	June	1.96	2.68
	July	1.85	2.73
	Aug.	1.86	2.67
	Sept.	1.85	2.51
	Oct.	1.79	2.47
	Nov.	1.85	2.53
	Dec.	1.97	2.49
2013	Jan.	1.71	2.59
	Feb.	1.7	2.74
	March	1.62	2.71
	April	1.64	2.41
	May	1.65	2.39
	June	1.81	2.68

Source: S&P Dow Jones Indices LLC. Data from July 2011 through June 28, 2013. This table is provided for illustrative purposes.

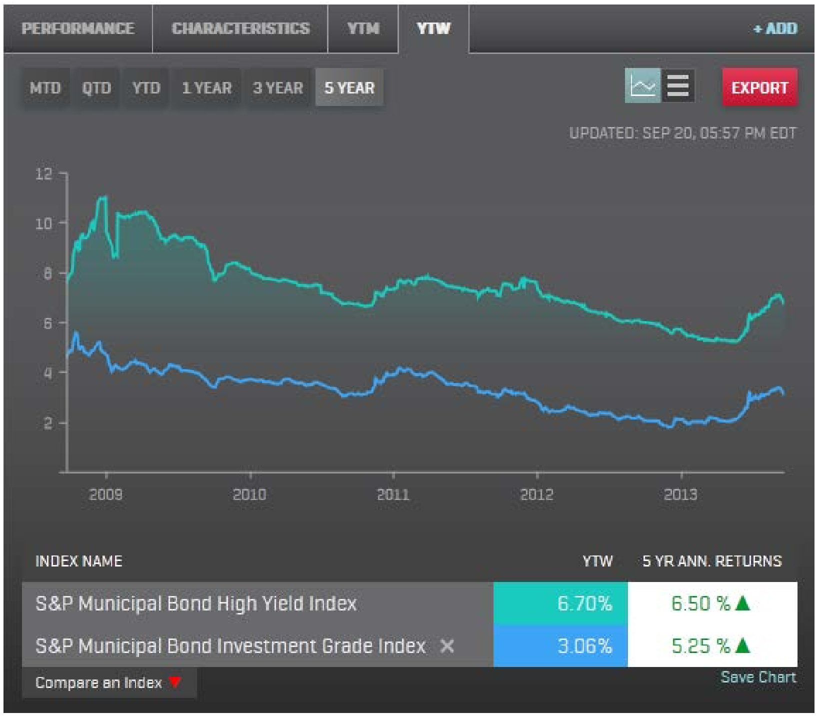
Cost Calculation

- Daily trade data provided by the Municipal Securities Rulemaking Board (MSRB) is used to generate the transaction cost data.
- To measure retail transaction costs, S&P Dow Jones Indices calculates the monthly average difference between the price at which retail customers buy and sell the same bond on the same trading day. There are many types of municipal bonds along with varying term structures. Each may have different market dynamics, resulting in differing markups being applied. To help ensure consistency in the analysis, only fixed-rate, investment-grade, tax-exempt bond issues are used. To accomplish this goal, constituents from the S&P National AMT-Free Municipal Bond Index serve as the basis for the analysis of investment-grade bonds and constituents from the S&P Municipal Bond High Yield Index serve as the basis for the analysis of high-yield bonds.
- To qualify for this analysis, a bond that is a constituent of each index must have at least one retail customer buy transaction and one retail customer sell transaction on the same trading day. Only trades of USD 100,000 face value or less are included in the analysis.
- In the event that multiple buy or sell transactions are made to or from retail customers on the same day, the weighted average price by trade face value is used in the calculation of the transaction cost.

5: HOW HIGH ARE THE RETURNS?

In return for accepting a higher risk, lenders in the high-yield municipal bond market receive higher yields than lenders in the investment-grade municipal bond market. This incremental yield spread often is referred to as a risk premium. Market dynamics of supply and demand dictate actual risk premiums, which can vary dramatically over time and from issuer to issuer. Exhibit 4 shows that the S&P Municipal Bond High Yield Index outperformed the S&P Municipal Bond Investment Grade Index over a five-year period. To compare the S&P Municipal Bond High Yield Index to other indices or to view this comparison over a different time period, please visit **our website**.

Exhibit 4: Weighted Average Yield of Bonds in the S&P Municipal Bond High Yield Index and S&P Municipal Bond Investment Grade Index Over a Five-Year Period



Source: S&P Dow Jones Indices LLC. Data as of September 20, 2013. Charts and graphs are provided for illustrative purposes. Past performance is no guarantee of future results.

6: HOW CORRELATED ARE HIGH-YIELD MUNICIPAL BONDS?

High-yield municipal bonds have exhibited a low correlation to other asset classes, as can be seen in Exhibit 5.

Exhibit 5: Three-Year Correlations of Select Asset Classes

PERFORMANCE | CHARACTERISTICS | YTM | YTW | + ADD

DAILY | ANNUALIZED | CORRELATION | EXPORT

UPDATED: SEP 20, 05:57 PM EDT

3 YEAR CORRELATION	S&P MUNICIPAL BOND HIGH YIELD INDEX	S&P U.S. ISSUED HIGH YIELD CORPORATE BOND INDEX	S&P/BGCANTOR US TREASURY BOND INDEX	S&P 500 [TR]	S&P GSCI TR
S&P Municipal Bond High Yield Index	1	0.236	0.324	-0.069	-0.063
S&P U.S. Issued High Yield Corporate Bond Index	0.236	1	-0.041	0.325	0.306
S&P/BGCantor US Treasury Bond Index	0.324	-0.041	1	-0.526	-0.310
S&P 500 [TR]	-0.069	0.325	-0.526	1	0.499
S&P GSCI TR	-0.063	0.306	-0.310	0.499	1

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Source: S&P Dow Jones Indices LLC and/or its affiliates. Data as of September 20, 2013. Index performance based on total return USD. Charts and graphs are provided for illustrative purposes. Past performance is no guarantee of future results. Historic returns included back-testing, please refer to the Performance Disclosure at the end of this presentation.

7: CONCLUSION

The high-yield municipal bond market is made up of many different issuers with a variety of risk profiles. In general, high-yield municipal bonds can be less liquid than investment-grade municipal bonds, have a lower default rate than U.S. corporate bonds and have a low correlation with, government bonds, equities and commodities.

More information on the municipal bond market and its performance can be found at **www.spdji.com**.

Performance Disclosure

The launch date of the S&P U.S. Issued High Yield Corporate Bond Index was April 9, 2013, at the market close. All information presented prior to the launch date is back-tested. Back-tested performance is not actual performance, but is hypothetical. The back-test calculations are based on the same methodology that was in effect when the index was officially launched. Complete index methodology details are available at www.spdji.com. It is not possible to invest directly in an index.

S&P Dow Jones Indices defines various dates to assist our clients in providing transparency on their products. The First Value Date is the first day for which there is a calculated value (either live or back-tested) for a given index. The Base Date is the date at which the Index is set at a fixed value for calculation purposes. The Launch Date designates the date upon which the values of an index are first considered live: index values provided for any date or time period prior to the index's Launch Date are considered back-tested. S&P Dow Jones Indices defines the Launch Date as the date by which the values of an index are known to have been released to the public, for example via the company's public website or its datafeed to external parties. For Dow Jones-branded indicates introduced prior to May 31, 2013, the Launch Date (which prior to May 31, 2013, was termed "Date of introduction") is set at a date upon which no further changes were permitted to be made to the index methodology, but that may have been prior to the Index's public release date.

Past performance of the Index is not an indication of future results. Prospective application of the methodology used to construct the Index may not result in performance commensurate with the back-test returns shown. The back-test period does not necessarily correspond to the entire available history of the Index. Please refer to the methodology paper for the Index, available at www.spdji.com for more details about the index, including the manner in which it is rebalanced, the timing of such rebalancing, criteria for additions and deletions, as well as all index calculations.

Another limitation of using back-tested information is that the back-tested calculation is generally prepared with the benefit of hindsight. Back-tested information reflects the application of the index methodology and selection of index constituents in hindsight. No hypothetical record can completely account for the impact of financial risk in actual trading. For example, there are numerous factors related to the equities, fixed income, or commodities markets in general which cannot be, and have not been accounted for in the preparation of the index information set forth, all of which can affect actual performance.

The Index returns shown do not represent the results of actual trading of investable assets/securities. S&P Dow Jones Indices LLC maintains the Index and calculates the Index levels and performance shown or discussed, but does not manage actual assets. Index returns do not reflect payment of any sales charges or fees an investor may pay to purchase the securities underlying the Index or investment funds that are intended to track the performance of the Index. The imposition of these fees and charges would cause actual and back-tested performance of the securities/fund to be lower than the Index performance shown. As a simple example, if an index returned 10% on a US $100,000 investment for a 12-month period (or US $10,000) and an actual asset-based fee of 1.5% was imposed at the end of the period on the investment plus accrued interest (or US $1,650), the net return would be 8.35% (or US $8,350) for the year. Over a three year period, an annual 1.5% fee taken at year end with an assumed 10% return per year would result in a cumulative gross return of 33.10%, a total fee of US $5,375, and a cumulative net return of 27.2% (or US $27,200).