E470 Public Highway Authority

Debt Management & Derivative Policy

(Amended as of May 14, 2020)

INTRODUCTION

The purpose of this Debt Management and Derivative Policy (the "Policy") of the E-470 Public Highway Authority (the "Authority") are to establish guidelines for (a) management of the Authority's debt, (b) for the use, management, modification and termination of interest rate swaps and other derivative instruments as part of the Authority's overall debt management plan, and (c) to establish overall financial goals and parameters for future planning. This policy supersedes any and all prior debt management and/or derivate policies of the Authority.

The derivative section of this Policy is also intended to provide general procedural direction regarding the use, evaluation criteria, procurement and execution of interest rate swaps. The policy is intended to relate to various interest rate hedging techniques, including the contractual exchange of different fixed and variable rate payment streams through interest rate swap agreements. Transactions entered into by the Authority pursuant to any swap agreement are referred to herein as "swap transactions." For purposes of this Policy, the terms "interest rate swap agreement," "swap agreement," "interest rate swap," and "swap" are intended to encompass (to the extent permitted by law):

- Interest rate swaps
- Swaptions
- Caps
- Collars
- Floors
- Rate Hedges for future issuances (including MMD Rate Locks and Treasury Rate Locks),
- Basis swaps,
- Other interest rate based financial products used by municipal entities when accessing the capital markets

OBJECTIVES

This Policy is intended to manage exposures to adverse fluctuations in interest rates as well as to manage the cost of debt (long-term and short-term) and cash flow risk as it pertains to maintaining adequate revenues and cash levels to support the Authority's operation of E-470 for its customers. This Policy is also designed to the Authority's management with specific requirements and constraints relating to interest rate products and should be considered in conjunction with other Authority policies.

The Policy's goal is to constrain the volatility in borrowing rates while achieving the lowest overall cost of capital. The financial-based objectives of the Authority are to:

- Maintain the quality of the Authority bond ratings;
- Maximize positive financial results by reducing the cost of borrowing;
- Achieve and maintain flexibility by utilizing a variety of financial tools;
- Manage interest rate exposure consistent with prudent and approved debt practices; and
- Maintain conformance with applicable legal requirements

Note: See the "Financial Goals" section for further specific financial criteria.

SCOPE

This Policy governs all of the Authority's debt issuance and interest rate management activities. This Policy provides the framework from which the Authority's management and personnel will identify, measure, manage, monitor, and report financial risks and results of financial and debt management activities. The Policy specifically addresses management of the interest rate and business risks of these functions and provides a framework to maintain proper controls over these functions as they change over time.

DEBT MANAGEMENT POLICY

DEBT STRUCTURE

The Authority will utilize various debt structures to accomplish its financing goals, including but not limited to the use of premium bonds, discount bonds, capital appreciation bonds, variable rate, taxable bonds, commercial paper, and multi-modal bonds when appropriate.

The Authority will consider swap transactions only as they relate to its debt management program and not as an investment instrument. As a result, any swap transaction will strive to be structured to avoid impairment of the outstanding uninsured bond rating of the Authority.

DEBT COVERAGE

The Authority is obligated by its Amended and Restated Master Bond Resolution to maintain a minimum debt service coverage ratio of 1.30 times. The Authority's goal is to achieve an annual debt service coverage ratio of at least 2.00 times. See the "Financial Goals" section of this Policy for further specific financial criteria.

DEBT REFUNDING

The Authority staff and the Authority's financial advisor shall monitor the municipal bond market for opportunities to obtain interest savings by refunding or refinancing outstanding debt. As a general rule, the present value savings of a particular refunding should equal or exceed 3% of the refunded maturities. However, situations may arise where the Authority may find it prudent to elect to proceed with a refunding at a lower present value savings.

CONTINUING DISCLOSURE

The Authority is committed to providing continuing disclosure of financial and pertinent credit information relevant to the Authority's outstanding securities, and has and will continue to comply with applicable provisions of securities law and rules and regulations of the Securities and Exchange Commission (the "SEC"). The Authority has engaged the services of disclosure counsel and others to provide guidance and advice to the Authority concerning securities law and disclosure issues.

MUNICIPAL ADVISOR

The Authority shall select and retain a municipal advisor that is registered with the Municipal Securities Rule Making Board (the "MSRB") as an advisor (the "Municipal Advisor"). The Municipal Advisor shall acknowledge and follow the MSRB requirements under Rule G-42. Under this rule the Municipal Advisor has fiduciary responsibilities to the Authority and will provide duty of care and duty of loyalty as described in Rule G-42. In selecting this municipal advisor, the Authority will evaluate the firm and individuals providing the service based on experience with similar issuers and bond transactions.

RESPONSIBILITIES

Authority Board of Directors

The Authority Board of Directors is responsible for approving a framework for efficiently and economically using debt and financial transactions while ensuring that risks are properly managed. The finance, budget and audit committee of the board will also be briefed of all details related to material debt and financial transactions.

Director of Finance

- Establish the tone of the organization with respect to the importance of risk control activities;
- Approach implementation of this Policy in a consistent fashion;
- Establish specific risk tolerances to reflect strategic direction and long-term financial market expectations;
- Review the risk profile vs. risk tolerance of E-470 on a regular basis, make adjustments and notify the Board of Directors of adjustments in the policy;
- Ensure that business level strategies and the risk position are compatible;
- Require adequate management involvement, financial controls, and systems to monitor, report, and ensure the integrity of this Policy at all levels;
- Authorize the use of financial instruments such as commercial paper, futures, forwards, swaps, contracts-for-differences, and options, to manage the risks defined in this Policy;
- Oversee and monitor continuing disclosure and ensure compliance with Authority requirements and SEC Rule 15c2-12, coordinating with disclosure counsel and the Authority's disclosure service provider;
- Ensure adequate capital reserves are maintained for credit, operations, and liquidity.

Municipal Advisor

The following outlines the general responsibilities of the Municipal Advisor. More specific responsibilities may be addressed in the contract with the Municipal Advisor or on specific projects.

- Advise on overall debt management and debt structure as it relates to the master capital plan.
- Provide updates on market conditions, particularly as it relates to the Authority's debt.
- Prepare and evaluate RFP's for underwriting services
- Evaluate unsolicited financing proposals from investment banks and other financial services providers.
- Lead the issuance process by coordinating amongst transaction parties.
- Assist in compliance with SEC Rule 15c2-12, as requested by the Authority.
- Maintain a database of the Authority's debt and debt service payments.
- Coordinate meetings with Rating Agencies and National Public Finance Guaranty Corp., as the bond insurer with respect to certain of the Authority's outstanding bonds, related to on-going surveillance and new bond transactions.
- Assist in the preparation of presentations to the Authority Board and sub-committees as requests.
- Regularly attend board meetings and sub-committee meetings.

FINANCIAL GOALS

The following goals establish the metrics and criteria to help facilitate and maintain the strong short-term and long-term financial position of the Authority. All criteria below are above the minimum requirements specified within the master bond resolution, continuing disclosure, investment and swap contracts, and other financial commitments, and are not intended to create internal or external penalties or events if not met annually. These are goals to assist the Authority's financial and debt management plan going forward and can be modified if needed. The Authority staff will review the below financial goals annually with the finance committee of the board.

- Ratings - Maintain an overall underlying bond credit rating of "A" from Standard & Poor's (S&P) and "A2" from Moody's (as rated in 2019) and stable outlooks, with a stretch goal of further rating upgrades.

- Debt Service Coverage - Maintain an annual debt service coverage ratio of at least 1.80 times during the current economic downturn (related to COVID-19 impacts), and then to maintain a ratio above 2.00 times long-term. This goal includes planning and budgeting for revenues (including toll revenues and rates), operating expenses, and future debt service due. Note that annual calculated ratios below the 1.80 or 2.00 ratio goal does not indicate default (current minimum requirement is 1.30 times) nor indicate significant financial constraints, but is a goal to help maintain other financial goals.

- Capital Funding - Continue to plan, manage, and self-fund the current and long-term capital program for the Authority's assets and corridor from the Authority's General Surplus Accounts.
    - Maintain an annual asset certification maintenance inspection score of "Excellent condition" (above a score of 90) for Authority roadway assets conducted by an independent engineering consultant as required by the amended and restated bond resolution.

- Debt Issuance - Do not issue new debt unless necessary (excludes refunding or restructuring of debt with scheduled call opportunities), and do not extend the current debt maturity past the final maturity date (currently is September 1, 2041). This goal may be modified if circumstances arise causing the debt profile to drastically change, which could be due to significant financial stress or recessionary impacts.

- Future Debt Defeasance - Continue to plan, manage, and fund the unrestricted account - Senior Bonds Defeasance Fund, to be strategically utilized for managing cash flows and debt service coverage during economic downturn periods (if needed), and for future debt defeasance opportunities, cost of issuance, or swap changes in conjunction with the Authority's municipal advisor, swap advisor, and bond counsel.

- Interest Rate Swaps - Continue to plan, manage, and evaluate the Authority's interest rate swaps for structure changes or opportunities provided by or reviewed by the Authority's swap advisor.

- General Surplus Account Balances - Maintain very strong days cash on hand (DCOH) above 800 days or $200 million (calculated at year-end) considering the total unrestricted cash and investments balances from the General Surplus Account (sum of the following subaccount funds – Capital Improvements Funds, Senior Debt Defeasance Fund and Rainy Day Reserve Fund). This does not include operating accounts for this goal as calculated by the Authority, and may go below for a short period of time (under one year) due to timing of large project funding outlays. Minimum goal for unrestricted fund balance to help manage liquidity during future financial downturns is $150 million.

- Toll Rates and Revenues – Toll rates and projected revenues will be reviewed annually by staff and the board of directors in conjunction with the above goals and annual budget preparation and any toll rate schedule will be reaffirmed by the board annually.

DERIVATIVES POLICY

AUTHORIZING SWAP TRANSACTIONS

In order to provide a framework for using traditional and derivative-based financing tools, all authorized swap transactions should be consistent with the strategies and processes outlined in this Policy.

As interest rates fluctuate, the mix of fixed and variable financing products utilized to achieve the optimum cost/benefit debt structure will also change. Risk management alternatives should be evaluated by the Authority, in consultation with the Swap Advisor (as defined in the SWAP ADVISOR section), utilizing both quantitative and qualitative analyses considering the risks and benefits of the various instruments. The decision of natural or synthetic funding structures is largely dependent on the specific internal and external financial conditions facing the Authority at any given time.

The Authority may enter into negotiated swap agreements or utilize a bid process, following consultation with the Swap Advisor. In all cases, a policy of complete and full disclosure regarding profits and pricing by the parties involved will be maintained.

Note: In 2017, the Financial Conduct Authority (the "FCA") announced that it will no longer persuade or compel banks to submit rates for the calculation of the London Inter-bank Offered Rate (“LIBOR”) rates after 2021. All of the Authority's Swap Agreements as of 2019 use a LIBOR based rate as a reference rate for determining the payment obligations of the counterparties thereunder. Additionally, certain series of the Authority's outstanding bonds use a LIBOR based rate as a reference rate for determining the interest rate on such series of bonds. The Authority will monitor the transition, market, and evaluate alternative reference rates (e.g., the Secured Overnight Finance Rate, or “SOFR”) in conjunction with the callable variable-rate debt in 2020 and 2021.

LEGALITY

The Authority must receive an acceptable opinion from a nationally recognized bond counsel that the swap agreement is a legal and valid obligation of the Authority and the swap transaction complies with applicable state and federal laws. The Authority must also work with the swap counterparty for legal review and approval.

PROHIBITED SWAP TRANSACTIONS

Speculative trading is not permitted. The Authority shall not execute swap agreements or related instruments under the following circumstances:

- When a swap or other financial instrument is used for speculative purposes, such as potential trading gains, rather than for managing and controlling interest rate risk in connection with the Authority’s debt or investments; or
- When a swap or other financial instrument creates extraordinary leverage or financial risk.

SWAP DOCUMENTATION

To the extent possible, the derivatives entered into by the Authority shall contain the terms and conditions set forth in the International Swap and Derivatives Association, Inc. (“ISDA”) Master Agreement, including any ISDA Schedules, Credit Support Annex and Confirmation statements. The Schedule should be modified to reflect specific legal requirements and business terms desired by the Authority. If possible, the Authority should attempt to negotiate the Master Agreement and Schedule with qualified counterparties to facilitate the use of derivatives in situations in which their use is desirable.

The Authority’s Director of Finance shall be responsible for overseeing all records related to any of the Authority’s swap transactions which were in effect on or after the board resolution date from 2010. The Director of Finance shall ensure that such records are accessible within 5 days of any request by the Board or any regulatory authority and are maintained for at least 5 years after the termination of each swap transaction. At a minimum, the Authority shall have copies of all swap transaction agreements, including ISDA agreements, modifications, novations and any related agreements, including collateral demands and price quotations.

DERIVATIVE USES

Because of the effects of continual innovation in the financial markets, this Policy recognizes that the reasons for use of swaps may change over time, and the need may arise to take advantage of market developments as they evolve and are tested. Among the strategies which the Authority, in consultation with the Swap Advisor, will consider in utilizing swaps are:

- Managing the Authority's exposure to floating and fixed interest rates through products such as interest rate swaps, caps, floors, collars, and swaptions;
- Hedging floating rate risk with caps, collars, basis swaps, and other instruments;
- Locking in fixed rates in current markets for use at a later date through the use of products such as forward swaps, swaptions, rate locks, options, and forward delivery products;
- Reducing the expected cost of fixed or floating rate debt through swaps and related products to create "synthetic" fixed or floating rate debt;
- More rapidly accessing the capital markets than may be possible with conventional debt instruments;
- Managing the Authority's exposure to the risk of changes in the legal and regulatory treatment of tax-exempt debt;
- Other applications to enable the Authority to achieve its goals, including lowering costs and strengthening the Authority's balance sheet.

SWAP ADVISOR

The Authority shall select and retain a consultant to provide guidance with respect to swap transactions and to act as the Authority's "Qualified Independent Representative," as defined in the regulations of the U.S. Commodities Futures Trading Commission promulgated under the Dodd-Frank Wall Street Reform and Consumer Protection Act (the "Swap Advisor").

Section Criteria

To be eligible to serve as the Swap Advisor, an entity or person must:

- Have substantial experience advising state and local governments with respect to swaps;
- Be independent from any counterparty or proposed counterparty to any swap transaction, and not be recommended to the Authority by any such counterparty;
- Not be subject to statutory disqualification under the Commodities Exchange Act or the Securities Act of 1933,
- Disclose any material conflicts of interest that could affect its judgment with respect to its duties as the Authority's Swap Advisor, and
- Comply with all applicable state and federal laws with respect to political contributions to public officials.

The Authority's Board will review the performance of the Swap Advisor annually to ensure compliance with this Policy and the service provided by the Swap Advisor. In connection with this annual review, the Swap Advisor will represent, in writing, that it meets the above criteria and that it will at all times act in the best interests of the Authority.

The Authority will consult the Swap Advisor with respect to all proposed swap transactions, including any modifications, cancellations and options. The Swap Advisor will provide the Authority with its evaluation of such swap transaction, including:

- Suitability: whether the swap transaction meets the Authority's stated objectives, financial limitations and complies with this Policy,
- Fair Pricing: the Swap Advisor is not required to provide pricing or price quotations, but will evaluate the price being offered and obtain quotations from other dealers as necessary; and
- Risks: the Swap Advisor's evaluation of the risks of the swap transaction in accordance with this Policy

The Swap Advisor shall also consult with the Authority with respect to the management of the Authority's swaps outside of specific swap transactions including such matters as recordkeeping and legal compliance issues (but will not provide legal, accounting or tax advice to the Authority).

RISK/BENEFIT ANALYSIS

To adequately assess the risk/benefit of the various financial tools available, a thorough analysis is required. The identification and evaluation of all elements of risk in each financial product is essential to determine an accurate financial impact.

The Authority should expect measurable interest rate savings, enhanced flexibility, or more desirable risk attributes relative to comparable fixed rate or variable rate structures to compensate for the incremental risk associated with synthetic financing products.

The Authority shall be proactive when approaching the rating agencies to discuss future swap transactions and other financing transactions. The Authority will analyze the risk/benefit attributes of the proposed transactions and the rationale behind the selection and structure of the transactions.

Some of the more typical financial risks that the Authority shall evaluate for each transaction are listed below:

Interest Rate Risk

Interest rate risk is the risk to earnings or financial resources resulting from adverse movements in interest rates. Interest rate risk is the possibility that a change in interest rates will erode the value of an investment, increase borrowing costs, or force the Authority to reinvest at a lower yield.

The Authority will maintain a variable rate exposure target, net of any swap transactions, of no more than 30% of total debt outstanding or projected to be outstanding over the following 12 months.

Any decision by the Authority to increase or decrease its variable rate allocation within the 30% limit will be as a result of the belief of the Director of Finance and the Authority's Municipal Advisor that current market conditions warrant more or less variable rate exposure.

Credit Risk

Credit risk is the risk that an issuer or counterparty will fail to perform on an obligation. Credit risk exposure depends on the performance of a counterparty to make future net interest payments in the event that changes in rates require those payments.

In order to diversify the Authority's counterparty credit risk and to limit E-470's credit exposure to any one counterparty, all financial institutions with which E-470 conducts business must be creditworthy. The minimum credit rating (long term) of a counterparty or its credit support provider at the time of execution of a new derivative transaction shall be in the double-A (AA) category by at least one of the major credit rating agencies, or a counterparty shall provide a guarantee, swap surety, or other form of credit enhancement such that its creditworthiness is of a double-A (AA) category equivalent at the time of execution. The Authority may accept a lower rated counterparty if that counterparty provides collateral covering, at all times, 100% of the mark to market value on the swap transaction.

Liquidity Risk

Liquidity risk refers to the risk of not being able to make a required payment on short notice.

The Authority will actively manage the liquidity required under natural variable rate debt through Standby Bond Purchase Agreements, external liquidity facilities, or committed funding vehicles.

Operational Risk

Operational risk is the risk that deficiencies in information systems or internal controls will result in unexpected loss. Sources of operational risk include inadequate procedures, human error, system failure, or fraud.

Organizational structure, responsibilities, and procedures address this risk. The Authority also maintains insurance for its financial personnel.

Legal Risk

Legal risk is the risk that contracts are not legally enforceable or documented correctly. The Authority will adequately evaluate the enforceability of swap agreements before individual swap transactions are consummated. The Authority will also ensure that a counterparty has authority to enter into a swap transaction and that terms of the swap agreement are legally enforceable.

Termination Risk

Termination risk refers to the risk that a swap could be terminated by the counterparty due to any of several events, which may include issuer or counterparty ratings downgrade beyond pre-defined minimum thresholds, covenant violation, bankruptcy, swap payment default, or default events as defined in the issuer's bond documents.

The following limits are established on termination exposure to any counterparty. These limits shall only apply at the time a swap transaction or related transaction is entered into, and, thus, may be exceeded during the term of the swap or swaps with the same counterparty.

Counterparty Credit Ratings	**Maximum Uncollateralized Net Termination Exposure**	**Maximum Collateralized Net Termination Exposure**	**Maximum Total Net Termination Exposure**
AAA	$25 Million	$50 Million	$75 Million
AA Category	$20 Million	$40 Million	$60 Million
A Category	$0	$15 Million	$15 Million

These are separate limits for uncollateralized, collateralized, and maximum total net termination payment exposure. The limits vary based upon the credit rating of the counterparty. If the counterparty has more than one rating, the highest rating will govern for purposes of calculating the permissible levels or exposure.

Tax-Exempt Market Valuation Risk (Tax Risk)

The Authority typically issues debt that does not require the debt holders to pay federal, and in many cases, state income tax on the bond income. The interest is "tax-exempt". A future change to federal and/or state income tax rates, rules or regulations may alter the market's valuation of this exemption, and consequently will affect the Authority's cost of borrowing on a tax-exempt basis.

The Authority has established the tax risk limit at 30% of total outstanding debt. Tax risk includes unhedged tax-exempt floating rate debt, and tax-exempt floating rate debt hedged with percentage of LIBOR swaps as well as any basis swap that uses the Securities Industry and Financial Markets Association ("SIFMA") as one of the variable payment legs. The Authority is exposed to this tax risk on any future issuance of fixed or variable rate tax-exempt debt, and is exposed at each reset or re-pricing date for current tax-exempt variable rate debt obligations.

Basis/Credit Spread Risk

The Authority is exposed to the risk that investor perception of its specific credit will cause its bonds to move higher in rate relative to general market rates for high-grade debt. The Authority is exposed to this risk on any future issuance of fixed or variable rate debt, and is exposed at each reset or re-pricing date for current tax-exempt variable rate debt obligations.

Basis risk also relates to swapping against an index other than that used to establish the bond rate and includes the risk that the Authority's interest rates will vary from an index.

Rollover Risk

Rollover risk is the risk that a swap transaction is not coterminous with the related bonds, and that the Authority has planned on the hedge being in place to bond maturity. The Authority would need to re-hedge its variable rate debt exposure and potentially incur a higher rate than the expiring hedge. Whenever an Authority swap transaction is not coterminous with the related bonds, the Authority shall have a strategy to account for rollover risk.

REPORTING AND DISCLOSURE

External Disclosure

The Authority will take steps annually to provide full and complete disclosure of all interest rate swaps to rating agencies, and will consider appropriate disclosure in its documents. With respect to its financial statements, the Authority will adhere to the guidelines for the financing reporting of interest rate swaps, as set forth by the Government Accounting Standards Board ("GASB").

Internal Disclosure

Authority staff shall track and regularly report to the Authority's Finance Committee (or its future equivalent) and/or the Board of Directors on the financial implications of the swap transactions into which the Authority enters. Such reports shall include, especially when terms of the swap agreements change or new swaps are entered into, the following:

- A summary of key terms of the swap agreements, including notional amounts, interest rates and expiration dates, any scheduled amortized amounts, and any changes to swap agreements since the last reporting period;
- The mark-to-market value (termination value) of its swap transactions, as measured by the economic cost or benefit of terminating outstanding contracts at specified internals;
- The amount of exposure that the Authority has to each specific counterparty, as measured by aggregate mark-to-market value, netted for offsetting swap transactions;
- The credit ratings of each counterparty (or guarantor, if applicable) and any changes in the credit rating since the last reporting period; and
- Any collateral posted or received as a result of requirements in the swap agreements.

TERMINATION

The mechanics for determining termination values at various times and upon various occurrences must be explicit in the swap agreement, and the Authority shall obtain estimates from the Swap Advisor of the potential termination costs.

- Optional Termination: The Authority may terminate a swap if it is determined that it is financially or structurally advantageous;
- Mandatory Termination: In the event a swap is terminated as a result of a termination event, such as a default or a decrease in credit rating of either the Authority or the counterparty, the Authority will evaluate whether it is financially advantageous to obtain a replacement swap or post collateral as specified in the swap contracts, or depending on market value, make or receive a termination payment.

The Authority shall also evaluate the economic costs and benefits of incorporating a provision into the swap agreement that will allow the Authority to make termination payments over time.

APPENDIX – FINANCIAL TERMS RELATED TO DERIVATIVE POLICY

Note: Some of the terms below are not included in the policy and are included for informational purposes only.

Accrued interest:	The amount of interest that has accumulated during the current payment period of a security.
Actual/360:	Interest rate convention, which implies that the time interval for a given period is equal to the number of actual days in the period divided by 360.
Actual/365:	Interest rate convention, which implies that the time interval for a given period is equal to the number of actual days in the period divided by 365.
Actual/Actual:	Interest rate convention, which implies that the time interval for a given period is equal to the number of actual days in the period divided by the number of actual days in the current year.
American style option:	An option, which can be exercised at any time up to its expiration date.
Assignment:	Transfer of the asset/liabilities arising out of a swaps (or any other derivatives) contract to another counterparty.
Average exposure:	The average, expected, amount of money that could be lost according to markets expectations if a counterparty to a financial contract were to default at some point in the future.
Barrier option:	An option, which can get terminated or come into existence based on a specified triggering mechanism
Basis point:	One basis point is equal to one one-hundredth of a percentage point (0.01% or 0.0001), therefore 1.00% is equal to 100 basis points.
Basis risk:	Risk of a loss on a position, hedged with a derivatives contract, due to movement in the basis between spot price and price implied by the derivatives contract.
Basis swap:	A variable for variable rate swap, which exposes each party to the basis risk between the two variable rates.
Bid-offer:	In swaps market refers to a quote that a market-maker will pay-receive on a transaction.
Breakeven:	The price or rate at which the gains (losses) from a security or contract are exactly offset by the losses (income) due to the cost of carry; more generally, the point at which the return from an investment becomes equal to the cost.
Bullet maturity:	Refers to the type of security or contract in which the principal amount stays constant, and is redeemed at maturity.
Call:	The right to buy a certain quantity (notional amount) of an asset at a specified price (strike price) on a certain date (as in European call) or up to a certain date (as in an American call).

Callable swap:	A swap contract, which gives one of the counterparties the right to cancel it before its scheduled maturity.
Cap:	A derivatives contract, which gives its holder protection against the rise in short term interest rates.
Capped swap:	A swap contract, which involves exchange of fixed payments for variable payments, which is capped at a certain specified rate.
Caption:	An option on a cap.
Carry:	Refers to the profit or loss accruing on a financial position over time in the absence of any change in its price/return.
Chooser Cap:	A set of cap coupons or “caplets” that afford the holder cap protection only for those periods the holder chooses to exercise a caplet.
Collar:	A derivatives contract in which a party pays/receives a payment if interest rates are above a ceiling or below a floor.
Collared swap:	A swap contract, which involves exchange of fixed rate payments for variable rate payments, which are collared, i.e. limited to vary in a certain range between specified upper and lower limits.
Confirmation:	Documentation that details the economic parameters for a specific derivative transaction. The Confirmation statement must be signed and retained by all counterparties to the contract; also the process of signing and sending this documentation.
Contingent swap:	A swap contract, which comes into existence if a specified event takes place; e.g. swaption is a type of contingent swap, which is based on interest rates crossing a specified strike.
Convention:	Refers to the standard parameters and formulae, which are used as default in a given financial market.
Convexity:	The convexity measures the curvature of the relationship between the variations of 2 financial quantities (a price and a yield, a derivative and the underlying, etc.). In order to calculate this curvature we use a second order derivative.
Correlation:	The degree of synchronization of two variables. For example two market indices that move up and down together by the same relative amounts are highly correlated.
Costless collar:	A collar whose initial cost is equal to zero; constructed with the combination of a cap and a floor of the same value.
Counterparties:	Entities who have entered into an agreement to conduct one or more financial transactions.

Counterparty risk: The risk that one party in an agreement will default. In an option contract, the risk to the option buyer that the writer will not buy or sell the underlying instrument as agreed.

Credit derivative: A derivative instrument, which transfers credit risk from one party to another.

Credit enhancement: Process of reduction of credit risk with the use of collateral and/or third party guarantees.

Credit exposure: The amount of money that could be lost if a counterparty on a financial contract were to default.

Credit premium: The additional return demanded by investors as a compensation for the initial credit risk while lending money to borrowers.

Credit risk: The risk of losing money due to default by a counterparty on a financial contract.

CSA: The Credit Support Annex is a document, used in conjunction with an ISDA Master Agreement and Schedule to the Master, which outlines the parameters for which credit support will be necessary to enter into a swap. Credit support is defined as collateral, and other security, protecting the amount of the mark- to-market value of the swap.

Cross default clause: A clause in financial agreements under which a default in one financial contract triggers a the default in a different financial agreement.

Dealer: An entity that acts as a principal in the purchase and sale of an asset and makes a profit from the margin between its sale and purchase prices.

Dealer market: A market in which transactions between dealers acting as principals to buy and sell securities on their own accounts

Derivative: In calculus and mathematics, the rate of change of one variable with respect to another variable. Derivatives: A financial contract whose value is dependent on an underlying asset or index.

Derivatives exchanges: Exchanges, which offer the facility to trade derivatives contracts, e.g. LIFFE, CME, CBOT, MATIF etc.

Disclosure: Refers to the reporting of business and financial information that may be of interest to investors and other stakeholders. Disclosure may be required by financial regulators and may include all price sensitive information and generally includes information on derivatives contracts.

Discount swap: A swap contract whose coupon rate is relatively lower than fair market rate with a compensating payment up-front.

Down and in option: A type of barrier option in which a standard option contract comes into existence if a specified asset price or an index falls below a given barrier.

Down and out option: A type of barrier option in which the option contract ceases to exist if a specified asset price or an index falls below a given barrier.

Duration: The ratio of the percentage change in the price of a security to the change in its yield, for a very small change in yield, same as modified duration.

Effective date: Refers to the date from which a transaction comes into effect; in context of fixed income securities and contracts, it is the date from which the interest starts to accrue.

European style option: An option, which can be exercised only on its option date.

Exercise: Refers to the act of utilizing the right conferred by a contract e.g. exercise of a warrant to buy a stock.

Exercise date: A date on which the owner of an option can exercise its right to demand a certain transaction.

Expected volatility: Refers to the value of volatility implied in a given individual's expectation of the price of an option.

Exposure: Sensitivity of the value of a firm (or portfolio) to movements in markets and events such as bankruptcies.

Extendable swap: A swap contract whose term to maturity can be extended by one of the counterparties.

FASB: Financial Accounting Standards Board is a quasi-regulatory board of accountants, which regulates generally accepted accounting principles (GAAP) in the USA.

Fair market value: Value of a security or contract if transacted at current mid-market levels.

Fixed for variable swap: A plain vanilla swap contract in which two counterparties exchange net amounts based on the difference between a fixed rate and a variable rate index.

Floater: A security that pays regular interest coupons that are linked to the yield of a security like the T-bill.

Floor: A derivatives contract, which gives its holder protection against the fall in short term interest rates.

Forward: A contract between two counterparties to conduct a certain transaction on a specified date in the future.

Forward curve: Calculation of future interest rates; often refers to the expected LIBOR curve.

Forward date: Refers to any value date farther out in the future than the spot day.

Forward rate: Future interest rates, usually refers to future LIBOR.

Forward starting swap: A swaps contract, which becomes effective after a certain initial delay e.g. a five year swap starting in six months; also called a forward swap and delayed start swap.

Hedge: Refers to a security or portfolio that partially or completely neutralizes the market risk of an existing position.

High coupon swap: A swap contract whose coupon rate is relatively higher than fair market rate with a compensating payment up-front (from receiver to payer); also called a premium swap.

Historical volatility: Refers to the value of volatility derived from historical data; standard deviation of the relative changes in the level of a certain variable over time.

ISDA: International Swaps and Derivatives Association.

ISDA Master Agreement: A standardized agreement formulated by ISDA and adopted by most counterparties in the derivatives market (and customized by the ISDA Schedule), that governs the swaps and other derivatives contracts between the signatories.

Implied volatility: Refers to the value of volatility expressed in the prices of options traded in the market; determined by equating the price of an option calculated using a pricing model with its actual market price.

Interest rate option: An option contract in which the underlying asset is a fixed-income security, e.g. LIBOR, Treasury Bill, bond option, swaption, cap, floor, etc.

Interest rate swap: A derivatives contract in which two counterparties agree to exchange interest payments based on a notional amount; often one set based on a fixed rate and the other based on the prevailing LIBOR at start of calculation period.

Knock-in: Refers to a derivatives contract, which comes into existence only if a certain triggering mechanism is activated

Knock-out: Refers to a derivatives contract, which terminates if a certain triggering mechanism is activated.

LIBOR: London Inter-Bank Offered Rate (UK).

Liquidity: Refers to the ease with which an asset can be bought/sold without affecting its price.

Liquidity risk: Refers to the risk of not being able to close a financial/commodity position on short notice and without substantially moving the market price.

Long dated: Refers to a security or contract with a relatively long tenure, usually more than ten years.

MMD: Municipal Market Data; a service that provides a range of benchmark data and fundamental analysis serving the municipal market.

Mark-to-market: Value of a contract or security based on the current market parameters; also refers to the process of calculation of this value for the purpose of accounting or determining margin requirements.

Market risk: Risk of a loss due to adverse price movements in the financial markets

Market value: Value that can be realized by sale of a security at current market levels.

Mirror swap: A swap executed between two counterparties to cancel the exposure of an existing swap between them; the mirror swap has the same maturity as the original swap, but the opposite direction i.e. the payer of original swap receives the fixed rate and vice versa.

Monte Carlo: Simulation analysis of the probable outcomes of value of a security or contract by subjecting it to randomly generated market scenarios.

NPV: Net Present Value (NPV) - Sum of present values of cash flows from an investment; used as a tool for estimating the relative worth of an investment.

Natural fixed: A traditional fixed rate bond issue (i.e. current interest bonds, capital appreciation bonds, etc.)

Natural variable: A traditional variable rate bond issue (i.e. daily, weekly, auction rate, commercial paper, etc.)

Notional: Principal amount of a fixed income contract that is used merely for the purpose of interest calculation, and is not actually exchanged by the counterparties.

Off market swap: A swap contract in which the fixed coupon rate is not equal to the fair market rate at the time of transaction.

PVBP: The change in price of a security for a one basis point change in its yield.

Par swap: A swap contract whose coupon rate is equal to the current swaps yield in the market.

Percent of LIBOR swap: A structure where a municipality or non-profit entity issues tax-exempt variable rate bonds and enters into a swap-to-fixed where the municipality pays a fixed rate and receives a percentage of LIBOR (i.e. 67%) to offset the cost of its underlying tax-exempt variable rate bonds. Percent of LIBOR swaps may allow issuers to retain tax risk.

Plain vanilla: Refers to a basic derivatives contract: typically a swap consisting of exchange of interest payments based on a fixed rate and LIBOR.

Premium swap: A swap contract whose coupon rate is relatively higher than fair market rate with a compensating payment up-front (from receiver to payer); also called a high coupon swap.

Rally: Significant rise in asset prices in a market. In fixed income market this implies a fall in yields.

Reinvestment risk: Risk of a loss or reduced earnings due to reinvestment of future cash flows in a security at relatively low rates of return compared to the current contract rates.

Reverse swap: A swap executed between two counterparties to cancel the exposure of an existing swap between them; the reverse swap has the same maturity as the original swap, but the opposite direction i.e. the payer of original swap, receives the fixed rate and vice versa.

Settlement date: The date by which delivery of securities/cash payments must be made upon the execution of a transaction.

Short dated swap: Swaps contracts with relatively short terms-to-maturity (e.g. less than two years). Spot: Refers to transactions that take place on the spot date (see definition below).

SIFMA: The Securities Industry and Financial Markets Association (SIFMA) Municipal Swap Index; produced by MMD, is a 7 day high grade market index comprised of 200 high grade, tax-exempt VRDBs, created in response to municipal market participants' demand for a short-term index which accurately reflected activity in the market. SIFMA (previously known as BMA) has been the market benchmark since 1989 when it replaced the J.J. Kenny Index.

Spot date: A settlement convention, which specifies the transaction/valuation date; generally within a few days of the verbal execution, i.e. the trade date of a transaction.

Spot delivery: Refers to the exchange of an asset for its cash value as specified in a spot transaction; often takes place a few business days after trade date.

Step-up coupon swap: A swap contract in which fixed coupon rate is increased according to a specified schedule over its lifetime.
Strike: Refers to a rate or price for a future transaction specified in a derivatives contract.

Strike rate: Refers to a price or rate fixed for a future transaction in a derivatives contract.

Swap: A contract between two counterparties to exchange two sets of payments over a certain period of time.

Swap rate: The fixed interest rate that market-makers will pay/receive versus an index in the current market; same as the quoted rate for a plain vanilla swap

Swap spread: Usually refers to the difference between the swap rate for a given maturity and the yield of the benchmark government bond in that maturity sector.

Swaps yield curve: The graph of the swaps yields prevailing in the market versus the corresponding terms-to-maturities of the contracts; this is typically a par curve.

Swaption: Options contract which gives its owner the right to enter into a swap with the writer; physically settled unless otherwise indicated.

Synthetic fixed: A fixed rate structure where a borrower issues variable rate bonds and enters into a swap-to-fixed whereby the borrower pays a fixed rate and receives a variable rate to offset the interest cost on its underlying variable rate bonds.

Synthetic variable: A variable rate structure where a borrower issues fixed rate bonds and enters into a swap-to-variable whereby the borrower pays a variable rate and receives a fixed rate to offset the interest cost on its underlying fixed rate bonds.

Tax Risk:	Risk of an effect on tax-exempt rates due to a change in tax law; tax risk is often inherent to variable rate tax-exempt exposure and percent of LIBOR swaps-to-fixed.
Trade date:	Refers to the date on which a financial contract is struck between two counterparties.
Unwind value:	The net positive or negative cash amount resulting from the dissolution of a contract.
Variance:	A measure of the degree of dispersion of a data set; same as square of the standard deviation of the data.
Volatility:	Refers to the amount of movement in the price of a tradable asset; measured by standard deviation.
Warrant:	An option that allows an investor the right to buy a bond for a specified period of time.
Yield:	Internal rate of return implied by the cash flows of a security and its current price.
ZCS:	Zero coupon swap, a swap contract in which the fixed rate receiver does not receive any coupons, but receives a discount in the initial principal exchange.