

## Public Finance Criteria: Municipal Swaps

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Interest-rate swaps are being used in conjunction with bond issues to save interest costs, increase financial flexibility, synthetically refund bond issues, and access various investor markets.

However, swaps expose issuers to counterparty credit risk, termination risk, basis risk, rollover risk, and for many housing bond issuers, amortization risk. If used to speculate on the direction of interest rates, or if they are not structured properly, swaps can reduce an issuer's ability to pay debt service on time, thereby affecting its credit quality. Standard & Poor's Ratings Services assigns Debt Derivative Profiles (DDP) to all U.S. municipal bond issuers that have engaged in swap or other derivative transactions. The DDP scoring methodology codifies the following Swap Criteria and is discussed in an accompanying section.

### ***Swap Structures***

The most common types of swaps in the municipal market are floating-to-fixed-rate swaps and fixed-to-floating rate swaps. The floating-to-fixed rate swaps are typically used to create synthetic fixed-rate debt while the fixed-to-floating rate swaps are typically used to create synthetic variable rate debt. Other common swap structures are also described below, including forward starting swaps, rate locks, basis swaps, and swaptions.

### ***Floating-to-fixed swaps***

Synthetic fixed rate debt is created through use of fixed payer, or floating-to-fixed rate swaps. This structure provides a low cost alternative to issuing conventional fixed-rate debt, by allowing the issuer to access the short-term debt market. The issuer issues variable rate debt and hedges its floating-rate exposure with floating-to-fixed-rate swaps. Under floating-to-fixed swaps the variable rate index received by the issuer from the counterparty matches or closely

approximates the variable rate on the debt, leaving the issuer with a fixed-rate exposure for the term of the swap and, in most cases, term of the bonds.

***Fixed-to-floating swaps***

Synthetic variable rate debt is created through use of floating payer, or fixed-to-floating-rate swaps. The synthetic floating-rate debt structure provides a low cost alternative to issuing variable-rate debt. It creates nonputtable variable rate debt and allows the issuer to avoid variable-rate program costs, such as credit, liquidity, and remarketing or auction agent fees. This structure is used to convert existing fixed-rate debt to a variable rate or as part of a new issuance. Some issuers take advantage of this structure to hedge negative arbitrage on large cash and short-term asset positions.

***Forward starting swaps***

Forward starting swaps are typically structured as floating-to-fixed swaps for synthetic advance refundings of fixed rate debt. This structure provides an alternative to conventional advance refundings. Some municipal issuers—such as utilities, airports, and health care issuers—that are precluded from carrying out an advance refunding or have used up their advance refunding capacity can synthetically advance refund bonds using a forward starting swap. Under this structure, the issuer enters into a forward starting floating-to-fixed rate swap contract to lock in a fixed rate. On the swap's effective date, which coincides with the bond's call date, refunding variable rate bonds are issued, and the proceeds are used to call the outstanding higher-coupon fixed rate bonds. The swap payments begin on the call date, effectively converting the floating-rate exposure of the issuer to a fixed rate.

***Rate locks***

Interest rate locks structured as floating-to-fixed rate swaps are gaining popularity for advance or current refundings as well as new money issues where the issuer wants to lock in a current low fixed interest rate. In the rate lock swap structure, the issuer enters into a long-dated floating-to-fixed rate swap with a predetermined early termination date at market. The fixed rate for the issuer's financing is locked in on the date on which the issuer enters into the floating-to-fixed rate swap, whereas the predetermined early termination date under the swap coincides with the date of planned issuance of fixed rate debt. Upon termination, the issuer pays or receives a termination amount equal to the fair value of the swap on the termination date. Issuers either receive a termination amount from the counterparty (to the extent rates have risen higher than the locked in fixed rate) or pay a termination amount to the counterparty (if rates have declined lower than the locked in rate). Upon termination of the swap, the issuer will issue fixed rate debt at the prevailing market rate. The swap's termination amount paid to the counterparty or received from the counterparty causes the issuer's total debt service (principal and interest) to be economically equivalent to having issued fixed rate bonds on the date the rate lock swap was executed. Because termination payments are specifically designed to mitigate interest rate risk and do not, in and of themselves, materially impact the issuer's financial condition, Standard & Poor's is not generally concerned about termination risk under rate lock structures.

***Basis swaps***

In recent years, some issuers have entered into basis swaps to hedge fixed rate or floating rate debt exposure. Basis swaps, or floating-to-floating swaps, are crossing positions where the issuer pays a

floating rate, usually equal to the BMA index, and in exchange, receives another floating rate, usually equal to a percentage of LIBOR (e.g. 68%). In some cases, different percentage points (e.g. 20 basis points) are added to the payer or receiver rates; these swaps are referred to as fixed spread basis swaps. Another type of basis swap structure are leveraged basis swaps, which apply a leverage factor to the payer and receiver rates effectively increasing cash flow volatility.

All basis swap structures involve the risk that the prevailing floating rate paid to the counterparty will be higher than the prevailing rate received from the counterparty. Issuers that use basis swaps to hedge fixed rate exposure typically do so as a synthetic current refunding of fixed rate bonds that for tax law reasons cannot be refunded, or bonds for which the issuer does not want to incur costs associated with a traditional refunding. Under the synthetic current refunding structure, the issuer's goal is to achieve an economic return under the basis swap, which approximates the debt service savings that would have occurred if the targeted fixed rate bonds were traditionally refunded. Issuers that use basis swaps to hedge floating rate exposure typically do so with the goal of eliminating basis exposure by modifying the floating receiver leg of existing floating-to-fixed rate swaps. In this structure, the issuer enters into a basis swap with a floating receiver rate that better matches the floating rate paid on outstanding variable rate debt.

Because of the dynamic interplay between BMA and LIBOR over time, all basis swaps entail a high degree of cash flow volatility. Therefore, issuers that enter into basis swaps must have a revenue stream sufficient to absorb year-to-year losses or lower than expected returns under these structures without materially affecting cash flow and liquidity.

### ***Swaptions***

A swap option, or swaption, is an option to enter into or terminate a swap in the future. Swaptions associated with off-market swaps are priced based on option pricing theory, which involves time value and volatility, among other metrics. Issuers often use swaptions to hedge the expected issuance of debt in the future for specific purposes. In exchange for entering into a swaption, the issuer is paid an upfront premium, which represents the time value of the option to enter into a future swap with the counterparty and the off-market nature of the swap. Issuers tend to use swaption premiums for reserves, operations, or capital financing needs. Once a counterparty has purchased a swaption, it now has the right to exercise the option based on future dates and/or interest rate conditions. The issuer, as option seller, has a liability equal to the premium received for the swaption, which will be amortized over the life of the swap, should the swap become effective. However, the liability will disappear to the extent the swap is not effectuated and the option expires worthless. Also, depending upon the credit characteristics of the issuer, a large termination payment liability exists to the extent the debt financing does not occur and the swap becomes an unusable hedge. Therefore, issuers that sell swaptions should be certain that the financing for which the swaption was written will occur to coincide with a potential exercise of the option by the counterparty.

### ***Source Of Swap Payment And Swap Lien***

Before entering into a swap, the issuer's management should identify the revenue source for making net swap payments and budget for them. The source of termination payments should also be identified. Revenue bond issuers should include the fixed or variable swap payments in the rate covenant and additional bonds test covenants to avoid swaps having a negative impact on the ability of the issuer to

pay debt service. Typically, for GO bond issuers, the swap payment source is the general fund, and for revenue bond issuers, the swap payments come from the same revenue source that supports the debt service on the bonds. The net swap payments should be structured so that they are junior to or on parity with the debt service obligation to ensure that debt service payments are not affected. Termination payments are typically on parity or subordinate to debt service. Termination risk and mitigation strategies are discussed in detail below.

### ***Legality***

It is important that the issuer has the appropriate legal power to enter into and properly authorize all swap contracts. Illegality can result in the swap being terminated, exposing the issuer to a potentially large termination payment and/or floating-rate exposure. Most states have statutes that give the issuers the authority to enter into swap agreements. However, if the law is ambiguous, Standard & Poor's suggests that an issuer verify its legal authority for swaps.

### ***Swap structure risks***

Standard & Poor's has identified six general risks associated with swap contracts for municipal bond issuers. These risks include:

- Counterparty risk;
- Rollover risk;
- Economic viability (basis/tax risk);
- Amortization risk;
- Termination risk; and
- Collateral posting risk.

Standard & Poor's will focus on all of these credit factors when analyzing a swapped bond transaction. As part of this process, Standard & Poor's must receive various documents necessary to analyze the terms of the contracts (see "Swap Legal Documentation Review Process" below). Furthermore, we will ask all issuers who enter into swaps or other hedging contracts to prepare a Swap Management Plan (see "Swap Management Plan" below). A discussion of the risks associated with swaps follows.

### ***Counterparty risk***

Counterparty risk is the risk that the swap counterparty will not fulfill its obligation to honor its obligations as specified under the contract. Under a floating-to-fixed swap, for example, if the counterparty defaults, the issuer would be exposed to an unhedged variable rate bond position, and in the case of full two-way termination and negative swap valuation, could owe the counterparty a termination payment. The creditworthiness of the counterparty is indicated by its issuer credit rating (ICR). Standard & Poor's looks for swap counterparties that are rated at least 'BBB/A-2' for swap-independent transactions and at least 'A/A-1' for swap dependent transactions. Most swapped municipal bonds rated by Standard & Poor's are considered swap-independent since failure of the swap counterparty does not preclude the issuer from paying the debt. The degree of swap-dependence for any given transaction, however, is determined by the creditworthiness of the pledged revenue source as well as the structure of the bonds. Many structured finance transactions, for example, are considered highly swap dependent since bond debt service is structured assuming the swap remains in place for the life of the transaction.

In cases where a counterparty is a “terminating” derivative product company (DPC), as opposed to a continuing entity, Standard & Poor’s ICRs for these entities will include a ‘t’ subscript (e.g. ‘AAA<sub>t</sub>’). The ‘t’ subscript indicates that the DPC could terminate its existence upon short notice to bond issuers with no penalty. If an issuer enters into a swap contract with a terminating DPC, Standard & Poor’s will assume that termination of the DPC itself could occur at any time and that the swap would have a negative valuation, thereby requiring the issuer to make a termination payment to the counterparty. Therefore, issuers that enter into a swap with a terminating DPC should demonstrate sufficient liquidity to handle termination payments at any time. Swap-dependent bonds and non-plain vanilla swaps are held to a higher rating threshold due to the potential for decreased liquidity of the swap should the swap counterparty need to be replaced. In order to mitigate rating concerns following a counterparty downgrade to below the minimum rating threshold, counterparties should provide collateral, if swap termination or replacement of the swap provider by the issuer is not possible or economic. Many counterparties are in fact required to post collateral at relatively higher rating levels under credit support documents, thereby mitigating counterparty risk for the issuer.

Standard & Poor’s will determine the appropriate counterparty-rating threshold for each transaction based on whether or not the issue is swap-dependent or if the swap is plain vanilla. The applicable counterparty rating thresholds should be defined in the bond and swap documents, as well as the issue’s swap management plan, as the minimum rating for an eligible swap provider, with appropriate trigger mechanisms for replacement, collateralization, swap insurance, or termination.

Although most counterparties that participate in the municipal swap market are highly rated, above ‘A’, as the municipal swap market has grown, Standard & Poor’s is concerned that some issuers have a growing and significant swap portfolio and single-entity credit exposure, some with lower rated counterparties. For this reason, Standard & Poor’s looks for issuers to manage its counterparty exposure to lower rated counterparties in absence of low collateral thresholds. Therefore, for counterparties rated lower than ‘A/A-1’ the concentration limit is 50% of risk adjusted notional (the concept of risk adjusted notional amounts is discussed in the DDP section). Concentration above 50% of risk adjusted notional for counterparties rated lower than ‘A/A-1’ may be mitigated by full value collateral posting by counterparties, if swap termination or replacement of the counterparty by the issuer is not possible or economic, under the terms of the swap contract.

***Basis risk***

Basis risk refers to a mismatch between the interest rate received from the swap contract and the interest actually owed on the issuer’s bonds. Basis risk can occur with any type of debt derivative, specifically floating-to-fixed and fixed-to-floating swaps. For example, in a floating to fixed rate swap, the risk is that the counterparty’s variable interest payments will be less than the variable interest payments actually owed on the issuer’s bonds. Most floating-to-fixed rate swaps require the issuer to pay a fixed interest rate and in return receive a floating rate based on a percentage of one month LIBOR or the Weekly BMA Municipal Swap index. Most “tax-exempt” swaps are referred to as “BMA swaps” or “percentage of LIBOR” swaps. In some cases, issuers secure “cost of funds” swaps, where the counterparty pays the exact interest rate on the bonds. If the swap is not a cost of funds swap, the mismatch between the actual bond rate and the swap interest rate could cause financial loss in the form of additional debt service for the issuer. This mismatch could occur for various reasons

including, increased supply of tax-exempt bonds, credit quality deterioration of the issuer, or a reduction of federal income tax rates for corporations and individuals.

***Tax event and market risk***

All issuers which issue variable rate bonds that trade based on the BMA index inherently accept risk stemming from changes in marginal income tax rates. This is due to the tax code's impact on the trading value of tax-exempt bonds. This risk is also known as "tax event" risk, a form of basis risk under swap contracts. Percentage of LIBOR, certain BMA swaps, and basis swaps, can also expose issuers to tax event risk. Some BMA swaps have tax event triggers which can change the basis under the swap to a LIBOR basis from a BMA basis.

Based on historical evidence, Standard & Poor's believes that any downward shift in the top federal income tax rate for individuals and corporations could cause all variable rate bond issuers to experience "tax event" risk. In addition to tax event risk, extremely low interest rates could expose issuers engaging in swaps based on BMA and LIBOR to experience losses due to rate compression between the two indices. For this reason, Standard & Poor's routinely reviews its variable rate tax-exempt bond price assumptions in order to determine a stressful relationship between BMA and LIBOR to account both for tax and market event risk. Under these criteria, all variable rate debt issuers should assume that income tax rates are lowered over time such that the ratio of Weekly BMA to one month LIBOR increases to 75%. This assumption is incorporated into the Economic Viability component of Standard & Poor's DDP analysis (see "Public Finance Criteria: Debt Derivative Profile").

***Rollover risk***

Rollover risk is the risk that the swap contract is not coterminous with the related bonds. In the case of the synthetic fixed rate debt structure, rollover risk means that the issuer would need to re-hedge its variable rate debt exposure upon swap maturity and incur re-hedging costs. The issuer should have concrete strategy to account for rollover risk. Otherwise, Standard & Poor's will assume that bonds will be unhedged at the time of swap maturity. The issuer can mitigate rollover risk by closely monitoring the interest rates and by having policies in place to extend the swap or enter into a new swap if the rates drop. The strategy of using medium-term swaps to fix the variable rate for a five-to-10-year period does not eliminate the rollover risk, but gives the issuer additional financial flexibility, reduces termination risk, and could result in a lower fixed rate than can be obtained through a long-dated swap.

The issuer can fully avoid rollover risk by entering into long-dated swaps (those with a greater than 10 years) whose term matches that of the bond term, thus locking the rates for the life of the bonds. However, this strategy contains hidden costs. Issuers using long-dated swaps give up some ability to refund the debt and to take full advantage of declining interest rates, unless the swap is structured with an optional cancellation clause.

***Amortization risk***

Amortization risk represents the cost to the issuer of servicing debt or honoring swap payments due to a mismatch between bond principal amortization and the swap notional amount amortization. Amortization risk is characteristic of swaps used to hedge variable rate bonds issued by state housing

finance agencies for single-family mortgages, although it can also occur with variable rate bonds issued by other revenue bond issuers to finance other amortizing assets. Amortization risk occurs to the extent bonds and swap notional amounts become mismatched over the life of a transaction. This could occur to the extent an issuer has used bond proceeds to finance an asset that is liquidated or prepaid and used to redeem bonds in advance of the swap notional schedule, causing an unhedged swap position.

In this case, the issuer would continue to owe payments under the swap with no asset to cover such payments. Conversely, the issuer could be faced with some unhedged variable rate bonds to the extent the financed asset does not prepay as originally intended or generate the expected cash flow to repay bonds in accordance with the pre-set swap notional schedule. This scenario is most common in single-family mortgage bonds where principal prepayments are lower than expected. Amortization risk is a potential risk, which could expose the issuer to additional payments, and potentially force the issuer to terminate the swap prior to maturity under unfavorable market conditions. The amount of loss exposure due to amortization risk is determined on a case-by-case basis depending on the purpose of the issue and the issuer's intended technique to mitigate this risk.

Standard & Poor's must be comfortable that the issuer will still be able to service the debt or swap in the absence of the hedge or financed asset respectively. Assuming the issuer will not terminate the swap in the event of a mismatch, reserves or cash flows must demonstrate sufficiency to cover the worst-case amortization risk scenario.

***Termination risk***

Termination risk is the risk that the swap could be terminated early by the counterparty due to any of several credit events, which may include issuer ratings downgrades, covenant violation, bankruptcy, swap payment default, and default events as defined in the issuer's bond indenture. These events are referred to as involuntary termination, as opposed to voluntary termination. (Discussed below in Termination Analysis).

Standard & Poor's will analyze each swap contract's legal provisions prior to execution to ensure that the events of default or termination that trigger an involuntary termination are remote possibilities.

The events of default and termination, which could lead to involuntary termination of the contract should ideally only include the "big four" termination clauses:

- Failure to pay;
- Bankruptcy;
- Merger without assumption; and
- Illegality.

The aforementioned events are typically considered remote events since Standard & Poor's factors these aspects into the rating on the debt. Standard & Poor's may consider other events of default and termination to be remote events on a case-by-case basis, depending on the credit profile of the issuer and the ratings on the bonds.

These events may include:

- Additional Termination Event of a Ratings Downgrade to below a certain rating;
- Breach of agreement;
- Misrepresentation;
- Cross default; and
- Default under a specified transaction.

To the extent that Standard & Poor's cannot establish the remoteness of an event of default or event of termination, which would trigger involuntary termination of the swap contract, this possibility will be assumed under the swap and scored a '4' in the termination and collateral posting risk section of the DDP. In this case, Standard & Poor's would assume that bonds are unhedged and furthermore, that the issuer would have to pay a termination fee to the counterparty. Standard & Poor's will also analyze the conditions under which the issuer entered into the swap to determine the likelihood of voluntary termination under adverse market conditions, such as in the case of a swaption sold to a dealer under fiscal duress. If this is the case, this swap will also be scored a '4' during the DDP process.

Remedies available to the swap counterparty resulting from an issuer defaulting on its swap obligation should not infringe on bondholders' rights. These remedies should be limited to the swap agreement and should not be written into or cross-defaulted to the bond indenture. Depending on how interest rates at the time of termination compare with the fixed rate on the swap, the issuer could owe a termination payment to the counterparty or receive a termination payment from the counterparty.

### ***Collateral posting risk***

Collateral posting risk is the risk that the issuer is required to post collateral in favor of the swap counterparty in advance of a swap termination event and final bond repayment. Collateral posting risk is a double-edged sword for many issuers. On the one hand, collateral postings can be a credit positive since these reserves mitigate a sudden liquidity drain of having to make a large termination payment in the event of swap termination. On the other hand, collateral posting poses a credit risk as some issuers credit quality would be impacted by collateral posting in the same way credit would be impacted following a termination payment.

Many swap documents have symmetrical credit provisions, requiring issuers to post collateral at identical rating thresholds as the swap counterparties. Although important from a swap counterparty's perspective for protection against issuer termination, collateral posting in advance of termination is problematic from a ratings perspective. This is because in the event of collateralization by the issuer, swap providers effectively become senior secured creditors, thereby impairing bondholder protection. To the extent collateralization by issuers impairs bondholder protection materially, Standard & Poor's will take this into account during the ratings process. However, in the event collateralization does not impact liquidity materially, termination risk would be fully mitigated and therefore, represent a credit positive. Standard & Poor's DDP scoring methodology captures the likelihood of collateral posting risk as more fully described below.

### ***Involuntary termination analysis***

If Standard & Poor's considers involuntary termination to be a possibility, as indicated by a overall DDP score of '3' or '4' or a termination and collateral posting risk score of '3' or '4', this risk must be quantified through analysis of the swap's maximum potential exposure (MPE) provided by the issuer. Analysis of termination risk and its impact on the issuer's rating is covered in the DDP criteria.

### ***Voluntary terminations***

Although any swap is callable at any time if both parties agree to the cancellation and cash settlement has occurred, municipal swaps typically are not optionally callable at any time for any reason by either party, without the other party's consent, unless a specific option to do so is built into the contract itself.

Issuers typically need to purchase this option from counterparties. Standard & Poor's looks to see that issuers build market price optional termination clauses into swap documents, which will give them flexibility for cancelling the swap should this become necessary, either for the refunding of associated bonds or other market-driven reasons. In most cases, optional terminations of swaps occur to the extent the termination results in an economic benefit to the issuer, even if a termination amount is paid to the counterparty.

***Termination payment source and lien***

Much focus is placed on the early termination of swap contracts. While the probability of this risk will be scored in the DDP through a rating transition analysis, it is important for issuers to think through a contingency plan if the swap does unwind and the issuer will owe a settlement amount that is due immediately. Many bond transactions that include a swap make the lien of the swap payments and termination payment on parity with the debt service. This does not cause Standard & Poor's great concern if the issuer has revenue-raising capability and good liquidity. It also is not a concern if the swap termination events have been limited to credit events that are being reflected in the rating on the bonds. However, on the other end of the spectrum are the balance sheets that could not withstand a large cash outflow in a month's notice.

***Involuntary termination risk mitigation strategies***

Two of the most common ways to mitigate the effect of termination payments to an issuer are subordinating termination payments to the debt service on the bonds and including provisions in the swap agreement that allow the issuer to stretch out the payments over a period of time.

***Subordinated lien***

Since the termination payment can be large, and it is difficult to predict the timing and size of the payment, cash settlement of a termination payment can be subordinate to debt service. While a subordinated lien will get the issuer over the hurdle of payment of debt service for that period of time, it is important to note that the settlement payment to the counterparty still must be paid in full. This could hurt the issuer's liquidity and therefore impair its ability to pay debt service in the future.

***Amortization of termination payment***

This alternative focuses on the issuer's financial flexibility to withstand the cost of an early termination regardless of its capacity to increase rates and charges. An issuer that has limited liquidity resources should include provisions in the swap agreement that allows the issuer to pay the termination value over a period of time. A stress test of an issuer's income and cash flow statements is done to determine the amount of cushion that is available to pay additional unexpected cash settlement. The worst-case termination value would be used in determining the amount and term of the payment structure. For example, repayment terms could be a five-year term with an annual maximum payment of \$10 million.

The issuer can also reduce termination risk by:

- Entering into a swap with a strong counterparty;
- Limiting the termination triggers and events of default;
- Reducing the term of the swap; or

Developing contingency plans for making the termination payment.

**Suggested Documentation For Variable Rate Debt And Swaps**

- (1) Cash flow projections as discussed under "Cash Flows."
- (2) Debt Management Plan
- (3) Swap Management Plan
- (4) Swap legal documents:
  - Bond Trust Indenture
  - ISDA Master Agreement
  - Schedule with Confirmation

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### ***Management***

One of the most important aspects of the analysis of the use of swaps is the evaluation of the understanding and expertise that management contributes. Managing derivatives like interest rate swaps requires an ongoing commitment from the issuing entity's senior executives. All senior management—not just the chief financial officer—should become familiar with the risks and rewards of the derivatives being considered. Because of the complexities involved, some small issuers may not be in a position to develop the necessary expertise and systems to adequately manage some derivatives. In fact, smaller issuers' capital needs generally are not large enough to justify the sizable fixed costs associated with putting together these types of transactions. Therefore, Standard & Poor's will request a discussion of the issuer's Swap Management Plan and Policies as part of the DDP process.

### ***Swap Management Policies Versus Swap Plans***

It is important to distinguish between a swap management policy and a swap management plan. A swap policy is a formally approved written document intended to guide management decisions over time, whereas a swap plan is similar to a plan of finance, intended to rationalize or explain specific transactions done within the swap policy's parameters. Because of this distinction, the two serve different purposes and are viewed differently in the DDP scoring process. A formally adopted swap policy details operating parameters for entering into and executing swaps, outlines exactly what types of transactions can and cannot be entered into, lays out credit decision matrices and levels of maximum risk exposure, and is part of institutionalized management and financial policies.

### ***Swap Management Policy***

Issuers can adopt formal swap management policies and procedures that simultaneously minimize the risks and maximize the rewards from swaps. A meaningful and effective swap policy includes the following components:

- Purpose
- Authorization
- Controls
- Oversight
- Disclosure
- Strategy

***Purpose***

A swap policy should include a purpose statement that indicates the reasons for entering into interest rate derivative transactions. Answering the question, “why does using swaps and other debt derivatives make sense?” will allow the issuer to outline the goals and expectations of hedging fixed or variable rate exposure with swaps in relation to its portfolio of debt instruments. Issuers should state under what scenarios and opportunities derivatives might be used to hedge interest rate risks. With these goals, the issuer provides an important measure of transparency regarding the use of swaps in the broader context of the municipal entity’s financial operations.

***Authorization***

It is important that the issuer have the appropriate legal power to enter into swap contracts. An issuer’s swap policy should clearly cite the legal reference or statute that provides authorization. Also, the issuer should outline any formal authorization process for entering into interest rate swap agreements.

***Risk controls***

Management should outline policies designed to minimize the liquidity and cash flow risks associated with swaps. The revenue source for making net swap payments should be identified and budgeted for once the swap structure is stressed against different interest rate scenarios and payments can be estimated. The source of termination payments should also be identified with an attendant “liquidity-at-risk” policy, outlining the maximum amount of liquidity reserves, which could be placed at risk should a collateral posting or termination event occur.

Risk mitigation strategies could include the following parameters:

- Acceptable additional termination events, including maximum rating triggers;
- Use of insurance or collateral to protect counterparties, and if so, what are the minimum thresholds;
- Cross default provisions;
- Termination payment terms (subordinate and/or payout as lump sum or amortized over time); and
- Counterparty rating minimums and other credit protection provisions, such as collateral requirements or third-party guarantees.

***Oversight***

Managing derivatives, such as interest rate swaps, requires an ongoing commitment from the issuing entity’s senior executives and governing body. All senior management and officials – not just the chief financial officer – should become familiar with the risks and rewards of the derivatives. As part of a swap policy, an issuer should delineate what process it will follow to consider entering into swaps and which positions have direct and indirect oversight of the real-time management of swaps. In terms of ongoing oversight, issuers should routinely monitor swaps under current and forecasted interest rate environments, in order to gauge potential cash flow gains and losses as well as market opportunities for voluntary terminations and restructurings. Market valuations of derivatives should also be routinely calculated.

***Disclosure***

Issuers should commit to continually disclose all aspects of derivatives position in accordance with GASB guidelines, or FASB, as applicable. Currently, GASB’s 2003 Technical Bulletin (“2003-01-

Disclosure Requirements for Derivatives Not Reported at Fair Value”) provides guidelines for adequate disclosure of pertinent information related to derivatives. In addition, at the time of a rating review, management should be prepared to discuss the details of the swap plan and plan of finance and state the current and future economic viability of the swaps in addition to the likelihood of voluntary or involuntary termination during the course of the current and upcoming fiscal year.

***Strategy***

The issuer should outline the different types of swaps or derivatives that would be included within a swap plan; that is the types of structures that could be considered when presenting an opportunity for risk management (e.g., in which interest rate environments) and how they should be used (e.g. natural hedges, basis swaps or synthetic refundings, rate locks, synthetic fixed and variable, etc.) in the broader context of the capital financing plan. The desirable capital structure of variable to fixed-rate debt should also be determined as a percentage of total debt outstanding (net variable exposure).

***Management Check List***

Addressing the following issues will strengthen the swap management policy:

- Formal approval of written documents by the issuer’s governing body;
- Swap risks identified and discussed in the context of the issuer’s financing plans;
- Annual management review and discussion of hedging strategies;
- Commitment to complete and comprehensive disclosure of swaps in audited financial statements above and beyond required GASB or FASB parameters;
- Monitoring of swaps with semi-annual valuation by a third party
- Policies on legal provisions, including optional swap terminations, collateral, or swap insurance;
- Counterparty diversification or a minimum ratings policy for counterparties; and
- A net variable rate exposure policy.

***Net Variable Rate Debt Calculation***

Standard & Poor’s believes that quantification of both balance sheet and cash flow risks associated with variable rate debt is necessary to properly evaluate an issuer’s financial flexibility resources when entering into swaps. The quantification process includes determining net variable rate and short-term debt. Once quantified, the overall credit impact of variable rate debt and swaps can be factored into an issuer’s rating. This evaluation process will be made on a case-by-case basis.

***Net variable rate and short-term debt exposure ratio***

Standard & Poor’s monitors an issuer’s use of variable rate debt as part of the ratings process through a net variable interest rate exposure ratio, which measures the potential risk to an issuer’s revenue stream and reserve levels resulting from rising variable rates. The ratio is calculated on a current and pro forma basis to gauge prospective levels of variable exposure, given either proposed derivatives or additional bonds.

The net variable interest exposure ratio primarily focuses on debt and debt derivatives. Variable rate and short-term debt includes commercial paper, unhedged variable rate bonds, and synthetic variable rate debt. Unhedged variable rate bonds include those bonds, which are not hedged through floating-to-fixed interest rate swaps or variable rate investment assets. Synthetic variable rate bonds consist of

traditional fixed rate bonds, which are converted to variable rate bonds through fixed-to-floating rate swaps. Any variable rate bonds that are converted to fixed rate debt through a swap can be netted from variable rate liabilities.

In addition, if the issuer can demonstrate historical sufficiency of offsetting principal and interest coverage from short-term and variable rate investment assets held in unrestricted, non-operating accounts, these assets may be netted from variable rate liabilities. Earnings on short-term or variable rate investments are typically well correlated to variable interest owed on bonds. We consider non-operating accounts, those accounts, which the issuer holds as unrestricted funds for true surplus reserve or hedging purposes only. Investments in those accounts should be highly liquid and invested in short-term securities with maturities of one year or less. Assets held in operating, capital, or debt service purposes are not considered available on an ongoing basis due to the variability of balances over time. Qualifying investment securities may include short-term Treasury notes, commercial paper, repurchase agreements, and guaranteed investment contracts with low volatility of mark-to-market. Revolving lines of credit and other forms of “soft capital” are typically not counted as short-term investments due to the fact that issuers are required to reimburse the provider for any draws made under the facilities.

### ***Swap Insurance***

Swap insurance policies are similar to bond financial guarantees in that policies guarantee payments to a beneficiary, in this case a swap dealer, for failure to pay by the insured, in this case the issuer. Also similar to bond insurance, issuers are required to reimburse insurers for any payments made to beneficiaries under swap policies and must live with insurer legal restrictions. Under regular swap insurance policies, the insurer will make regularly scheduled swap interest payments if the issuer fails to do so. The majority of policies issued by insurers to date have been regular swap insurance policies, as they present immaterial, incremental risk to insurers, since in most cases the insurer is also insuring regularly scheduled payments on the issuer’s bonds. Swap and bond payments are typically on parity with one another. In addition to regular swap payment insurance, some issuers have purchased swap termination coverage through a policy endorsement for an additional premium. Termination coverage tends to become expensive, as this coverage does present incremental risk for the insurer over scheduled payments on bonds and swaps. Swap termination insurance provides further, although not complete, protection against termination exposure due to issuer and insurer credit events (rating downgrades). Under swap termination policies, insurers will make swap termination payments, up to a specified amount, to the extent that a termination event under the swap is triggered and the issuer has failed to make the termination payment, or in lieu of termination, failed to post collateral or secure a third-party enhancer.

### ***Benefits***

The benefits of swap insurance to an issuer are numerous, including significant, although not complete, mitigation of counterparty, collateral posting, and termination risks. Standard & Poor’s DDP scores to date indicate that if not for regular swap insurance, many issuers—notably lower-rated health care issuers—would have been exposed to much greater levels of these risks. Of the approximate 210 issuers that have received a DDP score to date, about 15% have benefited from swap insurance through a lower overall DDP score as a result of scoring lower in the termination and collateral posting risk

section of the DDP. The significance of swap insurance in the health care and transportation sectors is greater, with about 25% of issuers having benefited from insurance through lower DDP scores.

Regular swap insurance mitigates termination and collateral posting risk in several ways. In terms of collateral posting risk, the issuer is spared from having to post collateral under a credit support annex, due to the joint obligation of swap payments by both the issuer and the insurer. If the insurer has suffered significant ratings downgrades, collateral postings by the issuer are typically required, however. Furthermore, involuntary termination risk becomes more remote with regular swap insurance despite the fact that policies do not cover termination payments. This is because under insured swaps, the issuer's rating trigger for early termination becomes applicable only to the extent that the insurer has also suffered a significant ratings downgrade. The extremely low ratings volatility of 'AAA' rated monoline bond insurers combined with the overall stability of municipal ratings indicates that a termination event due to coincidental rating downgrades is an extremely remote possibility. In terms of counterparty risk mitigation, swap insurance can be beneficial to the issuer because insurers may require swap dealers to post collateral under credit support annexes, to the extent the counterparty suffers a credit event.

### ***Risks***

The primary risk under swap insurance policies is the credit risk of the insurer. If the insurer's credit deteriorates significantly, the issuer is likely to have to post collateral in order to maintain the hedge; otherwise, the swap may be subject to termination. Some issuers will purchase swap termination policies to mitigate this risk. However, the monoline bond insurer industry has had an extraordinary history of credit stability and presents a very low probability of an issuer experiencing this risk. A secondary risk of swap insurance includes the oversight and legal restrictions imposed by insurers under swap policies. Because the insurer is assuming the issuer's credit risk for the duration of the swap transaction—often 20 years or more—insurers maintain certain control rights under the insured swap and insert various legal provisions into an issuer's bond documents. For example, so long as the insurer has not suffered a credit event, insurers reserve the right to allow voluntary termination of swaps and sometimes place limitations on additional swaps. These restrictions may become problematic if the issuer needs to restructure the swap or enter into additional swaps for economic reasons. Insurers also typically require that a series of credit protection provisions be inserted directly into the schedule to the International Swaps and Derivatives Association (ISDA) agreement, including collateralization by the counterparty. These protections are typically positive for the issuer's credit quality, although they may impact the economics of the transaction. Also, in some cases the insurer has the right to direct the issuer to terminate the swap early if the issuer has experienced an event of default (as defined under ISDA swap documents). Standard & Poor's is not overly concerned about insurer-directed termination clauses due to an event of default since these risks are already reflected in the issuer's rating.

