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Statement No. 53 of the Governmental Accounting Standards Board

Accounting and Financial Reporting for Derivative Instruments

Governmental Accounting Standards Board
of the Financial Accounting Foundation

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Summary

This Statement addresses the recognition, measurement, and disclosure of information regarding derivative instruments entered into by state and local governments. Derivative instruments are often complex financial arrangements used by governments to manage specific risks or to make investments. By entering into these arrangements, governments receive and make payments based on market prices without actually entering into the related financial or commodity transactions. Derivative instruments associated with changing financial and commodity prices result in changing cash flows and fair values that can be used as effective risk management or investment tools. Derivative instruments, however, also can expose governments to significant risks and liabilities. Common types of derivative instruments used by governments include interest rate and commodity swaps, interest rate locks, options (caps, floors, and collars), swaptions, forward contracts, and futures contracts.

Governments enter into derivative instruments as investments; as hedges of identified financial risks associated with assets or liabilities, or expected transactions (that is, hedgeable items); or to lower the costs of borrowings. Governments often enter into derivative instruments with the intention of effectively fixing cash flows or synthetically fixing prices. For example, a government with variable-rate debt may enter into a derivative instrument designed to synthetically fix the debt's interest rate, thereby hedging the risk that rising interest rates will negatively affect cash flows. Governments also enter into derivative instruments to offset the changes in fair value of hedgeable items.

A key provision in this Statement is that derivative instruments covered in its scope, with the exception of synthetic guaranteed investment contracts (SGICs) that are fully benefit-responsive, are reported at fair value. For many derivative instruments, historical prices are zero because their terms are developed so that the instruments may be entered into without a payment being received or made. The changes in fair value of derivative instruments that are used for investment purposes or that are reported as investment derivative instruments because of ineffectiveness are reported within the investment revenue classification. Alternatively, the changes in fair value of derivative instruments that are classified as hedging derivative instruments are reported in the statement of net assets as deferrals.

Derivative instruments associated with hedgeable items that are determined to be effective in reducing exposures to identified financial risks are considered hedging derivative instruments. Effectiveness is determined by considering whether the changes in cash flows or fair values of the potential hedging derivative instrument substantially offset the changes in cash flows or fair values of the hedgeable item. In these instances, hedge accounting should be applied. Under hedge accounting, the changes in fair values of the hedging derivative instrument are reported as either deferred inflows or deferred outflows in a government's statement of net assets.

Much of this Statement describes the methods of evaluating effectiveness. The consistent critical terms method considers the terms of the potential hedging derivative instrument and the hedgeable item. If relevant terms match or in certain instances are similar, a potential hedging derivative instrument is determined to be effective. The other methods are based on quantitative analyses. The synthetic instrument method considers whether a fixed rate or price has been established within a prescribed range. The dollar-offset method evaluates changes in expected cash flows or fair values over time between the potential hedging derivative instrument and the hedgeable item. The regression analysis method considers the relationship between changes in the cash flows or fair values of the potential hedging derivative instrument and the hedgeable item. In these methods, critical and quantitative values are evaluated to determine whether a potential hedging derivative instrument is effective. Quantitative methods other than those specified in the Statement are permitted, provided that they address whether the changes in cash flows or fair values of the potential hedging derivative instrument substantially offset the changes in cash flows or fair values of the hedgeable item.

The disclosures required by Technical Bulletin No. 2003-1, *Disclosure Requirements for Derivatives Not Reported at Fair Value on the Statement of Net Assets,* have been incorporated into this Statement. The objectives, terms, and risks of hedging derivative instruments are required disclosures. Disclosures also include a summary of derivative instrument activity that provides an indication of the location of fair value amounts reported on the financial statements. The disclosures for investment derivative instruments are similar to the disclosures of other investments.

The requirements of this Statement are effective for financial statements for periods beginning after June 15, 2009. Earlier application is encouraged. For potential hedging derivative instruments existing prior to the fiscal period during which this Statement is implemented, the evaluation of effectiveness should be performed as of the end of the current period. If determined to be effective, hedging derivative instruments are reported as if they were effective from their inception. If determined to be ineffective, the potential hedging derivative instrument is then evaluated as of the end of the prior reporting period.

How the Changes in This Statement Improve Financial Reporting

The guidance in this Statement improves financial reporting by requiring governments to measure derivative instruments, with the exception of SGICs that are fully benefit-responsive, at fair value in their economic resources measurement focus financial statements. These improvements should allow users of those financial statements to more fully understand a government's resources available to provide services. The application of interperiod equity means that changes in fair value are recognized in the reporting period to which they relate. The changes in fair value of hedging derivative instruments do not affect investment revenue but are reported as deferrals. On the other hand, the changes in fair value of investment derivative instruments (which include ineffective hedging derivative instruments) are reported as part of investment revenue in the current reporting period. The disclosures provide a summary of the government's derivative instrument activity and the information necessary to assess the government's objectives for derivative instruments, their significant terms, and the risks associated with the derivative instruments.

Unless otherwise specified, pronouncements of the GASB apply to financial reports of all state and local governmental entities, including general purpose governments; public benefit corporations and authorities; public employee retirement systems; and public utilities, hospitals and other healthcare providers, and colleges and universities. Paragraphs 4–6 discuss the applicability of this Statement.

Statement No. 53 of the
Governmental Accounting
Standards Board

Accounting and Financial Reporting for Derivative Instruments

June 2008

Governmental Accounting Standards Board
of the Financial Accounting Foundation
401 Merritt 7, PO Box 5116, Norwalk, Connecticut 06856-5116

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INTRODUCTION

1. Derivative instruments are often complex financial arrangements used by governments to manage specific risks or to make investments. Governments enter into derivative instruments with other parties, frequently private-sector financial firms. The fair values and cash flows of derivative instruments are derived from or determined by other data, such as bond or commodity prices or indexes based on those prices. By entering into these arrangements, governments receive and make payments based on prices without actually entering into the related financial or commodity transactions. Changing financial and commodity prices may expose governments to changes in cash flows and fair values that can be effectively managed by using derivative instruments. Derivative instruments, however, also can expose governments to significant risks and liabilities.

2. The objective of this Statement is to enhance the usefulness and comparability of derivative instrument information reported by state and local governments. This Statement provides a comprehensive framework for the measurement, recognition, and disclosure of derivative instrument transactions.

Organization of This Statement

3. This Statement begins with the scope and applicability (paragraphs 4–6) of the standard, then defines derivative instruments for the purposes of financial reporting by state and local governments (paragraphs 7–13) and describes certain **financial instruments**[1] that are excluded from the scope of the Statement (paragraphs 14–18). This Statement then presents the requirements for the recognition and measurement of

[1]Terms that are defined in the Glossary are shown in **boldface type** the first time they appear in this Statement.

derivative instruments, including termination of **hedge accounting** (paragraphs 19–25). The largest section of this Statement describes the general circumstances under which a derivative instrument is considered a **hedging derivative instrument** (paragraphs 26 and 27), items that may be hedged (paragraphs 28–30), and the specific methods for evaluating whether a **potential hedging derivative instrument** is effective (paragraphs 31–62). Separate criteria are presented for hedges of financial instruments (paragraphs 34–48) and commodities (paragraphs 49–62). This Statement continues by providing measurement guidance for **hybrid instruments** and fully benefit-responsive synthetic guaranteed investment contracts (SGICs) (paragraphs 63–67). Finally, the authoritative portion of this Statement concludes by describing required note disclosures (paragraphs 68–79) and transition guidance (paragraphs 80 and 81).

STANDARDS OF GOVERNMENTAL ACCOUNTING AND FINANCIAL REPORTING

Scope and Applicability

4. This Statement establishes accounting and financial reporting standards for all state and local governments that enter into derivative instruments as defined in this Statement. The scope of this Statement excludes the following financial instruments:

a. Derivative instruments that are normal purchases and normal sales contracts (see paragraph 14)
b. Insurance contracts accounted for under Statement No. 10, *Accounting and Financial Reporting for Risk Financing and Related Insurance Issues*, as amended (see paragraph 15)
c. Certain financial guarantee contracts (see paragraph 16)
d. Certain contracts that are not exchange-traded (see paragraph 17)
e. **Loan commitments** (see paragraph 18).

5. For derivative instruments reported in financial statements prepared using the current financial resources measurement focus, the recognition and measurement provisions of this Statement (paragraphs 19–25) should not be applied.

6. This Statement supersedes Technical Bulletin No. 2003-1, *Disclosure Requirements for Derivatives Not Reported at Fair Value on the Statement of Net Assets,* and amends Statement No. 7, *Advance Refundings Resulting in Defeasance of Debt,* paragraph 11;

Statement No. 23, *Accounting and Financial Reporting for Refundings of Debt Reported by Proprietary Activities,* footnote 4; Statement No. 25, *Financial Reporting for Defined Benefit Pension Plans and Note Disclosures for Defined Contribution Plans,* paragraph 24; Statement No. 31, *Accounting and Financial Reporting for Certain Investments and for External Investment Pools,* paragraphs 2, 7, and 11; Statement No. 40, *Deposit and Investment Risk Disclosures,* paragraphs 7, 11, 14, and 16; and Statement No. 43, *Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans,* paragraph 22.

Definition of Derivative Instruments

7. A derivative instrument is a financial instrument or other contract that has all of the following characteristics:

a. *Settlement factors.* It has (1) one or more **reference rates**[2] and (2) one or more **notional amounts**[3] or payment provisions or both. Those terms determine the amount of the settlement or settlements and, in some cases, whether or not a settlement is required.[4] Settlement factors are more fully described in paragraphs 9 and 10.
b. *Leverage.* It requires no initial net investment or an initial net investment that is smaller than would be required for other types of contracts that would be expected to have a similar response to changes in market factors. **Leverage** is more fully described in paragraphs 11 and 12.
c. *Net settlement.* Its terms require or permit net settlement, it can readily be settled net by a means outside the contract, or it provides for delivery of an asset that puts the recipient in a position not substantially different from net settlement. Net settlement is more fully described in paragraph 13.

8. A derivative instrument that is embedded in a financial instrument or contract should be evaluated in accordance with the hybrid instrument guidance in paragraphs 63–66. Fully benefit-responsive SGICs should be measured and reported in accordance with the guidance in paragraphs 67 and 79, respectively.

[2] *Reference rates* also may include reference indexes or **underlyings.**

[3] Sometimes other names are used. For example, the notional amount is called a face amount in some contracts.

[4] The terms *reference rate, notional amount, payment provision,* and *settlement* are intended to include the plural forms in the remainder of this Statement.

Settlement Factors

9. Settlement factors that are relevant to the definition of a derivative instrument include the reference rate, notional amount, and payment provisions. A reference rate is a specified interest rate, security price, commodity price, foreign exchange rate, index of prices or rates, or other variable (including the occurrence or nonoccurrence of a specified event such as a scheduled payment under a contract). A reference rate may be a price or rate of an asset or liability but is not the asset or liability itself and may be any variable that has changes that are observable or otherwise objectively verifiable, such as:

a. A security price or security price index
b. A commodity price or commodity price index
c. An interest rate or interest rate index
d. A credit rating or credit index
e. An exchange rate or exchange rate index
f. An insurance index or catastrophe loss index
g. A climatic or geological condition (such as temperature, earthquake severity, or rainfall), another physical variable, or a related index.

Common reference rates are the **London Interbank Offered Rate (LIBOR),** the **Securities Industry and Financial Markets Association (SIFMA) swap index,** the **AAA general obligations index** published by Municipal Market Data, or a commodity pricing point. For example, a **commodity swap's** variable payment may be linked to the price of No. 2 heating oil at the New York City harbor pricing point.

10. Another settlement factor is the notional amount. The notional amount is the number of currency units, shares, bushels, pounds, or other units specified in the derivative instrument. The notional amount and reference rate are key factors of a derivative instrument's settlement payment. Other factors, such as the change in a reference rate over time also may enter the calculation of a settlement payment. Finally, a payment provision may specify a payment to be made if the reference rate behaves in a specified manner, such as the three-month average of fuel prices at a certain pricing point that exceeds a certain price.

Leverage

11. Leverage is achieved by either a small or no initial net investment that allows for the derivative instrument to have changing cash flows or fair values that replicate an instrument that normally would require a much larger investment. For example, an **interest rate swap** may require no initial net investment. The **swap's** fair value, however, will change as if the holder of the swap had made an initial net investment in a fixed-rate instrument with a principal amount equal to the swap's notional value.

12. Derivative instruments do not require initial net investments that are equal to the notional amounts (or the notional amounts plus a premium or minus a discount) or that are determined by applying the notional amount to the reference rate. Many derivative instruments require no initial net investment. Some derivative instruments require an initial net investment as compensation for the **time value of an option** (for example, a premium on an **option**) or for terms that are more or less favorable than market conditions (for example, a premium on a forward purchase contract with a price less than the current forward price). Other derivative instruments require a mutual exchange of currencies or other assets at inception, in which case the net investment is the difference between the fair values of the assets exchanged.

Net Settlement

13. A financial instrument or other contract meets the net settlement characteristic if its settlement provisions meet one of the following criteria:

a. Neither party is required to deliver an asset that is associated with the reference rate and that has a principal amount, stated amount, face value, number of shares, or other denomination that is equal to the notional amount (or the notional amount plus a premium or minus a discount) of the financial instrument. For example, most interest rate swaps do not require that either party deliver cash or interest-bearing assets with a principal amount equal to the notional amount of the contract.
b. One of the parties is required to deliver an asset of the type described in paragraph 13a, but there is a market mechanism that facilitates net settlement. An example of that type of market mechanism is a futures exchange that offers a ready opportunity to enter into an offsetting contract.

c. One of the parties is required to deliver an asset of the type described in paragraph 13a, but that asset is readily convertible to cash or is itself a derivative instrument. An example of that type of contract is a **forward contract** that requires delivery of a bond. Another example is a **swaption**—an option to require delivery of a swap contract, which is a derivative instrument.

Financial Instruments Not Included in the Scope of This Statement

14. *Normal purchases and normal sales contracts.* Some governments enter into contracts that may meet the definition of a derivative instrument, but the contracts are intended to result in the purchase or sale of a commodity, such as natural gas or electricity, used in the normal course of operations. These contracts are distinguished from other purchases and sales contracts by their net settlement feature. That is, the government may have a choice to take or make delivery of the commodity or exchange the cash value of the contract to terminate the government's rights or obligations. These contracts are not included in the scope of this Statement, provided that it is probable the government will take or make delivery of the commodity specified in the derivative instrument. Indicators of normal purchases and normal sales contracts are (a) the government has entered into such a contract in the past, (b) the government has a practice of taking delivery or selling the commodity, and (c) the quantity of the commodity in the contract is consistent with the volume used in the government's activities. For example, a government's natural gas utility enters into a contract to purchase natural gas from a regional transportation pipeline. Settlement provisions of the contract permit the utility either to take delivery of the gas or to pay or receive a settlement price. This government routinely enters into similar contracts and takes delivery of the gas. The volume of gas specified in the contract is consistent with the volume expected to be sold to its customers for this time period. This contract is a normal purchase contract and, therefore, is outside the scope of this Statement.[5]

15. *Insurance contracts.* Insurance contracts that are accounted for under Statement 10, as amended, are not included in the scope of this Statement. Insurance contracts that are

[5]If a contract represents a significant commitment (National Council of Governmental Accounting Statement 1, *Governmental Accounting and Financial Reporting Principles,* paragraph 158), the commitment should be disclosed in the notes to the financial statements.

not accounted for under Statement 10 and meet the definition of a derivative instrument, however, are included in the scope of this Statement.

16. *Certain financial guarantee contracts.* Financial guarantee contracts that provide for payments to be made to reimburse the holder for a loss it incurs because a specified debtor fails to make payment when due under the terms of a debt instrument are not included in the scope of this Statement. Financial guarantee contracts, however, that provide for payments to be made in response to changes in a reference rate are included in the scope of this Statement if they otherwise meet the definition of a derivative instrument. For example, a financial guarantee contract that provides for payments to be made if the credit rating of a debtor falls below a particular level is within the scope of this Statement.

17. *Certain contracts that are not exchange-traded.* A contract is not included in the scope of this Statement if the contract is not exchange-traded and its reference rate is based on one of the following:

a. A climatic, geological, or other physical variable
b. A price or value of a nonfinancial asset. The nonfinancial asset should not be readily convertible to cash. For example, a government enters into a contract for the purchase of a fleet of vehicles. If either party to the contract fails to perform its obligations, the contract provides for liquidated damages as a percentage of the value of the vehicles. The liquidated damages provision is related to the acquisition of the seller's nonfinancial assets. Even though the contract meets the definition of a derivative instrument, it is not subject to the scope of this Statement.

18. *Loan commitments*. Some governments extend loan commitments, such as to first-time home buyers for mortgage loans, that may meet the definition of a derivative instrument. Such loan commitments are not included in the scope of this Statement**.**

Recognition and Measurement of Derivative Instruments

19. Derivative instruments should be reported on the statement of net assets.[6] The classification of derivative instruments depends on whether they represent assets or liabilities.

20. Derivative instruments should be measured at fair value, except for the measurement of fully benefit-responsive SGICs as provided in paragraph 67. Changes in fair values of **investment derivative instruments,** including derivative instruments that are determined to be ineffective, should be reported within the investment revenue classification on the flow of resources statement.[7] Changes in fair values of hedging derivative instruments should be recognized through the application of hedge accounting. Under hedge accounting, the changes in fair values of hedging derivative instruments are reported as either deferred inflows or deferred outflows in the statement of net assets.[8] For example, the increase in fair value of an interest rate swap that is a hedging derivative instrument should be reported as a deferred inflow in the statement of net assets. In proprietary and fiduciary fund-based financial statements, the fund that reports or is expected to report the hedged item should report the hedging derivative instrument. Hedge accounting should be applied beginning in the period that a hedging derivative instrument is established and until a termination event occurs. Termination events are more fully described in paragraphs 22–25.

[6]For purposes of this Statement, the term *statement of net assets* includes both the government-wide and the proprietary fund statements of net assets, and the statement of fiduciary net assets, required to be presented as components of the basic financial statements as discussed in Statement No. 34, *Basic Financial Statements—and Management's Discussion and Analysis—for State and Local Governments.*

[7]For purposes of this Statement, the term *flow of resources statement* includes the statement of activities; the statement of revenues, expenses, and changes in fund net assets; and the statement of changes in fiduciary net assets required to be reported as components of the basic financial statements.

[8]Business-type activities and enterprise funds that apply Financial Accounting Standards Board Statement No. 71, *Accounting for the Effects of Certain Types of Regulation*, should apply the provisions of this Statement. Only when a derivative instrument is determined to be ineffective should the provisions of FASB Statement 71 be applied.

21. Fair value should be measured by the market price if there is an active market for the derivative instrument. If a market price is not available, a forecast of expected cash flows may be used, provided that the expected cash flows are discounted. Formula-based methods and mathematical methods are acceptable, for example, matrix pricing, the zero-coupon method, and the par-value method. Matrix pricing is a mathematical technique used principally to value debt securities by relying on the securities' relationship to other benchmark quoted securities without relying exclusively on quoted prices for the specific securities. The zero-coupon method calculates the future net settlement payments based on current forward rates implied by the yield curve. The par-value method compares, for example, the fixed rate on an interest rate swap with the current fixed rates that could be achieved in the marketplace. Fair values of options may be based on an option pricing model, such as the Black–Scholes–Merton model. That model considers probabilities, volatilities, time, settlement prices, and other variables. Fair values developed by pricing services are acceptable, provided that those values are developed using the methods described in this paragraph.[9]

Termination of Hedge Accounting

22. Hedge accounting should cease to be applied upon the occurrence of one of the following termination events:

a. The hedging derivative instrument is no longer effective as determined by applying the criteria in paragraphs 26–62.
b. The likelihood that a hedged **expected transaction** will occur is no longer probable.
c. The hedged asset or liability, such as a hedged bond, is sold or retired but not reported as a current refunding or advanced refunding resulting in a defeasance of debt.
d. The hedging derivative instrument is terminated.
e. A current refunding or advanced refunding resulting in the defeasance of the hedged debt is executed.
f. The hedged expected transaction occurs, such as the purchase of an energy commodity or the sale of bonds.

[9]Pricing services may decline to provide information about the methods and assumptions used. In such cases, this Statement requires an assessment based on the information received.

23. If a termination event described in paragraphs 22a–d occurs, the balance in the deferral account should be reported on the flow of resources statement within the investment revenue classification. If reported separately within investment revenue, the removal of the balance in the deferral account should be captioned *increase (decrease) upon hedge termination.* Once the termination event has occurred, hedge accounting should not be reapplied to that hedging relationship. A derivative instrument from a terminated hedge, however, may be employed as a hedging derivative instrument in a new hedge, provided that the derivative instrument meets the criteria of paragraphs 26–62.

24. If the termination event is the current refunding or advanced refunding resulting in the defeasance of the hedged debt (paragraph 22e), the balance of the deferral account should be included in the net carrying amount of the old debt for purposes of calculating the difference between that amount and the reacquisition price of the old debt in accordance with paragraphs 4 and 5 of Statement 23. This approach should be applied regardless of whether the hedging derivative instrument is terminated, notwithstanding paragraph 23. The calculation of the difference between the cash flows required to service the old debt and the cash flows required to service the new debt and complete the refunding and the economic gain or loss resulting from the transaction, as required by paragraph 11 of Statement 7, should include the effects of a hedging derivative instrument.

25. If the termination event is the occurrence of the hedged expected transaction (paragraph 22f), the disposition of the deferral balance depends on whether the hedged expected transaction results in a financial instrument or a commodity.

a. If the expected transaction results in a financial instrument, the accounting treatment depends on whether the government is reexposed to the hedged risk.
   (1) If the government is reexposed to the hedged risk, the balance of the deferral account should be recognized on the flow of resources statement within the investment revenue classification.
   (2) If the government is not reexposed to the hedged risk, the balance in the deferral account should be reported on the flow of resources statement consistent with the hedged item. For example, a government hedges its exposure to **interest rate risk** associated with the expected issuance of fixed-rate debt using a hedging derivative instrument, an interest rate lock. The interest rate lock terminates on the date of the expected issuance of debt. If the

fixed-rate bonds are issued and the interest rate lock is terminated, the government is no longer exposed to interest rate risk. In this case, the deferral account should be amortized in a systematic and rational manner over the life of the debt as an adjustment of interest expense.

The decision as to whether a termination event reexposes a government to a hedged risk should be based on specific facts and circumstances. If, for example, the interest rate lock in the earlier example is terminated shortly before fixed-rate bonds are issued, the government should consider whether during that interim period, the government's exposure to interest rate risk was significant. If the interim time period or the reexposure to the identified financial risk is significant, the amount in the deferral account should be removed by recognizing that balance in the flow of resources statement.

b. If the expected transaction results in a commodity, the balance of the deferral account should be removed by reporting the balance as an adjustment to the actual transaction. For example, if the expected transaction is a hedge of **market risk** associated with the purchase of electricity and the purchase occurs, the balance of the deferral account related to the hedging derivative instrument should be removed by reporting the balance as an adjustment to the cost of energy.

Hedging Derivative Instruments

26. There are a number of assets, liabilities, and expected transactions that expose a government to the risk of adverse changes in cash flows and fair values. Hedging is one method that governments employ to reduce identified financial risks (for example, to counter increases in interest costs, to offset price increases in the acquisition of commodities, or to protect against fair value losses). Derivative instruments utilized in hedging relationships are designed to reduce identified financial risks by offsetting changes in cash flows or fair values of the associated item.

27. A hedging derivative instrument is established if both of the following criteria are met:

a. *The derivative instrument is associated with a hedgeable item*. Association is established by consideration of the facts and circumstances of the derivative instrument, including whether:
   (1) The notional amount of the derivative instrument is consistent with the principal amount or quantity of the **hedgeable item.**
   (2) The derivative instrument will be reported in the same fund, if applicable, as the hedgeable item.

(3) The term or time period of the derivative instrument is consistent with the term or time period of the hedgeable item.

Hedgeable items are further described in paragraphs 28–30. A derivative instrument that is associated with a hedgeable item but has yet to be determined effective in significantly reducing the identified financial risk (paragraph 27b) is referred to in this Statement as a potential hedging derivative instrument.

b. *The potential hedging derivative instrument is effective in significantly reducing the identified financial risk.* Effectiveness is established if the changes in cash flows or fair values of the potential hedging derivative instrument substantially offset the changes in cash flows or fair values of the hedgeable item. The evaluation of effectiveness is further described in paragraphs 31–62.

Hedgeable Items

28. Hedgeable items expose a government to identified financial risks that can be expressed in terms of exposure to adverse changes in cash flows or fair values. Hedgeable items can be all or a specific portion of:

a. A single asset or liability, for example, an entire bond issue or a specific portion of a bond issue.
b. Groups of similar assets or liabilities. If similar assets or similar liabilities are aggregated and hedged as a group, all of the individual assets or individual liabilities in the group are required to be exposed to the same identified financial risk that is being hedged.
c. An expected transaction (paragraph 29).

Assets and liabilities that are measured at fair value—such as investments in many debt securities—do not qualify as hedgeable items.

29. *Hedges of expected transactions.* For an expected transaction to be a hedgeable item, the occurrence of the expected transaction should be probable, supported by observable facts such as:

a. The frequency, volume, and amount of past transactions
b. The financial, operational, and legal ability of the government to carry out the transaction (for example, whether the voters have approved a bond issue or tax levy)
c. The extent of loss or disruption to a government's activities that could result if the transaction does not occur
d. The government's budget or other planning documents.

If an expected transaction is a hedgeable item, the evaluation of effectiveness should consider the probable terms of the expected transaction compared to the terms of the potential hedging derivative instrument.

30. *Hedges of intra-entity transactions.* A transaction or expected transaction between a primary government and a discretely presented component unit can be a hedgeable item. A transaction wholly within a primary government—for example, a commitment to sell electricity by a city's electric utility (an enterprise fund of the city) to the city's general fund governmental operations—cannot be a hedgeable item.

Methods of Evaluating Effectiveness

31. Potential hedging derivative instruments should be evaluated for effectiveness as of the end of each reporting period using a method described in paragraphs 36–62. The extent to which these methods are required to be applied in the evaluation of effectiveness is as follows:

a. *Evaluation of effectiveness in the first reporting period.* If a potential hedging derivative instrument is first evaluated using the **consistent critical terms method** (paragraphs 36–39 and 50–53) and does not meet the criteria for effectiveness of that method, at least one **quantitative method** (paragraphs 40–48 and 54–62) also should be applied before concluding that the potential hedging derivative instrument is ineffective. If a potential hedging derivative instrument is first evaluated using a quantitative method and does not meet the criteria for effectiveness of that method, a government may, but is not required to, apply another quantitative method(s) before concluding that the potential hedging derivative instrument is ineffective. If it is determined that a potential hedging derivative instrument is ineffective in the first reporting period, evaluation of effectiveness in subsequent reporting periods should not be performed for financial reporting purposes.

b. *Evaluation of effectiveness in subsequent reporting periods.* All potential hedging derivative instruments that were determined to be hedging derivative instruments in the prior reporting period should be re-evaluated as of the end of the current reporting period using the method that was applied in the prior reporting period. If that method is applied and the hedging derivative instrument no longer meets the criteria for effectiveness of that method, a government may, but is not required to, apply another method(s) before concluding that the hedging derivative instrument is no longer effective.

32. *One-sided hedges.* Some potential hedging derivative instruments are designed to offset changes in cash flows or fair values of the hedgeable item in one direction.

Examples are options (such as caps and floors) that provide increases in cash flows or fair values if a market price exceeds or declines below a certain price or rate. In such cases, effectiveness should be evaluated consistent with the objective of the potential hedging derivative instrument. For example, a **cash flow hedge** of energy prices may provide payments to the government if heating oil prices exceed $3.00 per gallon. If the objective of the potential hedging derivative instrument is to limit the government's net fuel costs to no more than $3.00 per gallon, effectiveness should be evaluated in terms of whether the government's fuel costs are capped at $3.00 per gallon. Regardless of the method used to evaluate effectiveness, the evaluation of **basis risk** may be readily assessed if the pricing point that determines the cost of fuel is the same as the reference rate upon which the cap is based. Other considerations may still be necessary such as whether relevant dates of the potential hedging derivative instrument are consistent with those of the hedgeable item.

33. Effectiveness generally should be evaluated by considering overall changes in fair values or cash flows of the potential hedging derivative instrument.[10] Some potential hedging derivative instruments, however, have characteristics that permit separate evaluation of time value or interest. That separation may be significant in the evaluation of effectiveness if the hedging portion of the potential hedging derivative instrument excludes either the time value or the interest portion. Separation is permissible if either of the following criteria are met:

a. The potential hedging derivative instrument is an option and effectiveness is evaluated by consideration of only the change in either:
   (1) The option's **intrinsic value,** excluding the option's change in time value from the assessment of effectiveness.
   (2) The option's minimum value, excluding the option's change in volatility value from the assessment of effectiveness. The option's minimum value is its intrinsic value adjusted for the effect of discounting. The volatility value is a key input in an option's fair value.
b. The potential hedging derivative instrument is a forward contract and effectiveness is evaluated by consideration of only the change in **spot prices,** excluding either the change in time value or the interest portion**.**

[10]In a hybrid instrument, the potential hedging derivative instrument should be separated from the companion instrument for purposes of this assessment.

For example, the changes in fair value of an option may be designed to offset the changes in fair value of a fixed-price contract, provided that the option's time value is excluded from the evaluation of effectiveness. This separation allows an evaluation of effectiveness that places the potential hedging derivative instrument on an equal basis with the hedgeable item.

The Hedgeable Item Is an Existing or Expected Financial Instrument

34. If the hedgeable item is an existing financial instrument or an expected transaction that is expected to result in a financial instrument, effectiveness should be evaluated using the criteria in paragraphs 36–48.

35. Certain financial risks may cause variability in portions of the overall changes in cash flows or fair values of financial instruments. Those risks may be individually hedged, provided that effectiveness can be measured. Risks that may be hedged include interest rate, tax, credit, and **foreign currency risks.** If interest rate risk is the hedged risk, the evaluation of effectiveness should be based on an appropriate **benchmark interest rate.** For tax-exempt debt, the SIFMA swap index and the AAA general obligations index are appropriate benchmark interest rates. For taxable debt, the appropriate benchmark interest rates are the interest rate on direct Treasury obligations of the U.S. government and LIBOR. If LIBOR or a percentage of LIBOR is employed as a hedge of tax-exempt debt, hedge effectiveness should be evaluated using one of the quantitative methods (paragraphs 40–48).

Consistent critical terms method

36. The consistent critical terms method evaluates effectiveness by qualitative consideration of the **critical terms** of the hedgeable item and the potential hedging derivative instrument. If the critical terms of the hedgeable item and the potential hedging derivative instrument are the same, or similar in certain circumstances as described in paragraphs 37–39, the changes in cash flows or fair values of the potential hedging derivative instrument will substantially offset the changes in cash flows or fair values of the hedgeable item.

37. *Interest rate swaps—cash flow hedges.* An interest rate swap is an effective cash flow hedge under the consistent critical terms method if all of the following criteria are met:

a. The notional amount of the interest rate swap is the same as the principal amount of the hedgeable item throughout the life of the hedging relationship. This criterion is met if the notional amount of the interest rate swap and principal amount of the hedgeable item are equal for each hedged interest payment, even if the hedged item amortizes or otherwise adjusts subsequent to the inception of the hedge.
b. Upon association with the hedgeable item, the interest rate swap has a **zero fair value.**
c. The formula for computing net settlements under the interest rate swap is the same for each net settlement. That is, the fixed rate is the same throughout the term of the interest rate swap. Likewise, each variable payment of the interest rate swap is based on the same variable, such as the same reference rate or index.
d. The reference rate of the interest rate swap's variable payment is consistent with one of the following:
   (1) The reference rate or payment of the hedgeable item. For example, an interest rate swap provides variable payments to the government equal to the total variable payments of variable-rate bonds—a cost-of-funds hedge.
   (2) A benchmark interest rate as specified in paragraph 35 if interest rate risk is the hedged risk. The reference rate cannot be multiplied by a coefficient, such as 68 percent of LIBOR, but it may be adjusted by addition or subtraction of a constant, such as the SIFMA swap index plus 10 basis points, provided that the constant is specifically attributable to the effects of state-specific tax rates.
e. The interest receipts or payments of the interest rate swap occur during the term of the hedgeable item, and no interest receipts or payments of the interest rate swap occur after the term of the hedgeable item. For example, an interest rate swap that hedges the first 10 years of a 15-year variable-rate bond meets this criterion.
f. The reference rate of the interest rate swap does not have a floor or cap unless the hedgeable item has a floor or cap. If the hedgeable item has a floor or cap, the interest rate swap has a floor or cap on the variable interest rate that is comparable to the floor or cap on the hedgeable item. Comparable does not necessarily mean equal. For example, an interest rate swap's reference rate is the SIFMA swap index, while the hedgeable bond's variable rate is the SIFMA swap index plus 2 percent. A 10 percent cap on the interest rate swap would be comparable to a 12 percent cap on the bonds and would meet this criterion as both caps produce equal changes in cash flows if the SIFMA swap index exceeds 10 percent.
g. The time interval of the reference rate, commonly referred to as the designated maturity, employed in the variable payment of the interest rate swap is the same as the time interval of the rate reset periods of the hedgeable item. Examples that meet this criterion include an interest rate swap with a variable payment referenced to (1) the SIFMA swap index—a seven-day index—that hedges variable-rate bonds with a rate reset every seven days and (2) an interest rate swap with a variable payment

referenced to the one-month LIBOR index that hedges taxable variable-rate bonds with a monthly rate reset.

h. The frequency of the rate resets of the variable payment of the swap and the hedgeable item are the same. For example, this criterion is met by an interest rate swap with a reference rate that resets monthly and hedges bonds with a variable interest rate that also resets monthly.

i. The rate reset dates of the interest rate swap are within six days of the rate reset dates of the hedgeable item. For example, this criterion is met by an interest rate swap with a reference rate that resets on the 15th day of the month that hedges bonds with a variable interest rate that resets on the 18th day of the month.

j. The periodic interest rate swap payments are within 15 days of the periodic payments of the hedgeable item.

38. *Interest rate swaps—fair value hedges.* An interest rate swap is an effective **fair value hedge** under the consistent critical terms method if all of the following criteria are met:

a. The notional amount of the interest rate swap is the same as the principal amount of the hedgeable item throughout the life of the hedging relationship. This criterion is met if the notional amount of the interest rate swap and principal amount of the hedgeable item are equal over the entire term of the hedgeable item, even if the hedgeable item amortizes or otherwise adjusts subsequent to the inception of the hedge.

b. Upon association with the hedgeable item, the interest rate swap has a zero fair value.

c. The formula for computing net settlements under the interest rate swap is the same for each net settlement. That is, the fixed rate is the same throughout the term of the interest rate swap. Likewise, each variable payment of the interest rate swap is based on the same variable, such as the same reference rate or index.

d. An interest rate swap that hedges interest rate risk has a variable payment based on a benchmark interest rate without multiplication by a coefficient, such as 68 percent of LIBOR. The benchmark interest rate, however, may be adjusted by addition or subtraction of a constant, such as the SIFMA swap index plus 10 basis points, provided that the constant is specifically attributed to the effect of state-specific tax rates.

e. The hedgeable item is not prepayable (that is, the hedgeable item is not able to be settled by either party prior to its scheduled maturity). This criterion does not apply to a **call option** in an interest-bearing hedgeable item that is matched by a mirror-image call option in an interest rate swap if both of the following criteria are met:

   (1) A mirror-image call option matches the terms of the call option in the hedgeable item. The terms include maturities, **strike price,** related notional amounts, timing and frequency of payments, and dates on which the instruments may be called.

   (2) The government is the writer of one call option and the holder (or purchaser) of the other call option. For example, a government issues callable fixed-coupon

bonds and enters into an interest rate swap as a fair value hedge. The government has "purchased" and holds a call option in its issued bonds because those bonds carry a higher interest rate due to the bond's call option. In regard to the interest rate swap, it has a similar call option held by the interest rate swap's counterparty. If the callable bonds and the interest rate swap contain these features, the changes in fair value generated by the similar call options offset. A similar exception applies if the **put option** in an interest-bearing asset or liability is matched by a mirror-image put option in the interest rate swap.

f. The expiration date of the interest rate swap is on or about the maturity date of the hedgeable item so that the government will not be exposed to interest rate risk or market risk.
g. The reference rate of the interest rate swap has neither a floor nor a cap.
h. The reference rate of the interest rate swap resets at least every 90 days so that the variable payment or receipt is considered to be at a market rate.

39. *Forward contracts.* A forward contract is effective under the consistent critical terms method if all of the following criteria are met:

a. The forward contract is for the purchase or sale of the same quantity or notional amount and at the same time as the hedgeable item.
b. Upon association with the hedgeable item, the forward contract has a zero fair value.
c. The reference rate of the forward contract is consistent with the reference rate of the hedgeable item.

The change in the discount or premium on the forward contract should be excluded from the assessment of effectiveness and included within the investment revenue classification pursuant to paragraph 20, or the change in expected cash flows of the expected transaction should be based on the forward price of the hedgeable item.

Quantitative methods

40. Three quantitative methods have been identified to evaluate effectiveness: the **synthetic instrument method,** the **dollar-offset method,** and the **regression analysis method.** Quantitative methods other than those specifically described in this Statement also may be used to evaluate effectiveness, provided that they meet the criteria of paragraph 48.

41. The quantitative methods of evaluating effectiveness may use historical data—past rates, prices, or payments. If there are new market conditions, however, the evaluation of effectiveness should be limited to using fair values, such as in the application of the

dollar-offset method or in certain instances, regression analysis of fair values. New market conditions are caused by asymmetrical changes in market supply or demand. An example of an event that suggests new market conditions is a change in income tax rates of individual taxpayers that affect the demand for tax-exempt debt.

Synthetic instrument method

42. The synthetic instrument method evaluates effectiveness by combining the hedgeable item and the potential hedging derivative instrument to simulate a third synthetic instrument**.** A potential hedging derivative instrument is effective if its total variable cash flows substantially offset the variable cash flows of the hedgeable item. This method is limited to cash flow hedges in which the hedgeable items are interest bearing and carry a variable rate. An example is the combination of a pay-fixed, receive-variable interest rate swap with a variable-rate bond to create a synthetic fixed-rate bond. This method may be applied to evaluate a potential hedging derivative instrument's effectiveness if all of the following criteria are met:

a. The notional amount of the potential hedging derivative instrument is the same as the principal amount of the associated variable-rate asset or liability throughout the life of the hedging relationship. This criterion is met if the notional amount of the swap and principal amount of the hedgeable item match for each hedged interest payment, even if the hedged item amortizes or otherwise adjusts subsequent to the inception of the hedge.
b. Upon association with the variable-rate asset or liability, the potential hedging derivative instrument has a zero fair value or the forward price is **at-the-market.**
c. The formula for computing net settlements under the potential hedging derivative instrument is the same for each net settlement; that is, the same fixed rate, reference rate, and constant adjustment, if any, throughout the term of the potential hedging derivative instrument.
d. The interest receipts or payments of the potential hedging derivative instrument occur during the term of the variable-rate asset or liability, and no interest receipts or payments occur after the term of the variable-rate asset or liability. For example, a swap that hedges the first 10 years of a 15-year variable-rate bond meets this criterion.

43. Under the synthetic instrument method, a potential hedging derivative instrument is effective if the **actual synthetic rate** is substantially fixed. The actual synthetic rate represents the aggregate payment experience of the variable-rate asset or liability and the

potential hedging derivative instrument. The actual synthetic rate should be within a range of 90 to 111 percent of the fixed rate of the potential hedging derivative instrument to be substantially fixed. For example, if a swap's fixed payment rate is 5.00 percent, an actual synthetic interest rate that falls within a range between 4.50 percent (90 percent of 5.00 percent) and 5.55 percent (111 percent of 5.00 percent) is substantially fixed. The results of this analysis should be evaluated as follows:

a. If the actual synthetic rate is within the required range for the current reporting period, the actual synthetic rate is substantially fixed.
b. If the actual synthetic rate is outside the required range for the current reporting period, the actual synthetic rate should be calculated on a life-to-date basis. If the actual synthetic rate on a life-to-date basis is within the required range, the actual synthetic rate is substantially fixed.
c. If a short time period has elapsed since inception of the hedge and the actual synthetic rate is outside the required range, the evaluation may include hypothetical payments, as if the hedge had been established at an earlier date. Effectiveness should then be reevaluated. For example, the first reporting period ends 90 days into a 10-year hedge, and when the government prepares its financial statements, it finds that the actual synthetic rate for the 90-day period is outside the 90 to 111 percent range. In that case, hypothetical payments from periods prior to the establishment of the hedge may be added to the evaluation. If that analysis shows a synthetic rate within the required range, the actual synthetic rate is substantially fixed.

Dollar-offset method

44. The dollar-offset method evaluates effectiveness by comparing the changes in expected cash flows or fair values of the potential hedging derivative instrument with the changes in expected cash flows or fair values of the hedgeable item. This evaluation may be made using changes in the current period or on a life-to-date basis. If the changes of either the hedgeable item or the potential hedging derivative instrument are divided by the other and the result is within a range of 80 to 125 percent in absolute terms, these changes substantially offset and the potential hedging derivative instrument is effective. For example, if actual results are such that the fair value decrease of the potential hedging derivative instrument is $120 and the fair value increase of the hedgeable item is $100, the dollar-offset percentage can be measured as 120/100, which is 120 percent, or as 100/120, which is 83 percent. In either case, the potential hedging derivative instrument is determined to be effective.

Regression analysis method

45. The regression analysis method evaluates effectiveness by considering the statistical relationship between the cash flows or fair values of the potential hedging derivative instrument and the hedgeable item. The changes in cash flows or fair values of the potential hedging derivative instrument substantially offset the changes in cash flows or fair values of the hedgeable item if all of the following criteria are met:

a. The R-squared of the regression analysis is at least 0.80.
b. The F-statistic calculated for the regression model demonstrates that the model is significant using a 95 percent confidence interval.
c. The regression coefficient for the slope is between –1.25 and –0.80.

The regression analysis should be based on sufficient data to determine if the potential hedging derivative instrument is effective as of the end of the reporting period. In assessing the sufficiency of the data, the period of time that the potential hedging derivative instrument is expected to hedge an identified financial risk in the future should be considered. Other results of the regression analysis method may need to be considered when evaluating effectiveness. The use of the regression analysis method requires appropriate interpretation and understanding of the statistical inferences.

46. *Cash flow hedges.* If a potential hedging derivative instrument is employed as a cash flow hedge, the relationship analyzed should be relevant cash flows, rates, or fair values of the potential hedging derivative instrument and the hedgeable item. The regression analysis should be conducted as follows:

a. The dependent variable for a cash flow hedge evaluated using cash flows or rates should be relevant cash flows or rates of the hedgeable item. The independent variable should be the relevant cash flows or rates of the potential hedging derivative instrument. If the evaluation is based on rates, the rates used as data in the regression analysis should be representative of the hedging relationship. For example, if a potential hedging derivative instrument's variable payment is 68 percent of LIBOR, the independent variable in the regression analysis would be rates based on 68 percent of LIBOR for a relevant period of time.
b. The dependent variable for a cash flow hedge evaluated using fair values should be the changes in fair values of the **hypothetical derivative instrument.** The independent variable should be the changes in fair values of the potential hedging derivative instrument. The hypothetical derivative instrument generally should have terms that exactly match the critical terms of the variable-rate hedgeable item. That

is, the hypothetical derivative instrument and the hedgeable item should have the same notional amount and repricing dates, and mirror-image caps and floors, if applicable. The maturity of the hypothetical derivative instrument, however, should be the same as the maturity of the potential hedging derivative instrument. The hypothetical derivative instrument's reference rate should be consistent with the reference rate of the hedgeable item. (For a hedge of interest rate risk, this means that the hypothetical derivative instrument's reference rate should be the benchmark interest rate for the hedgeable item, and the rate for the fixed payment should be set to give the interest rate swap a zero fair value at inception.) The hypothetical derivative instrument should have a zero fair value upon association of the hedging relationship.

47. *Fair value hedges.* If a potential hedging derivative instrument is employed as a fair value hedge, the relationship analyzed should be the changes in fair values of the potential hedging derivative instrument and the hedgeable item. The dependent variable in the regression analysis represents changes in fair values of the hedgeable item (for example, fixed-rate bonds), and the independent variable represents changes in fair values of the potential hedging derivative instrument (for example, a pay-variable, receive-fixed interest rate swap).

Other quantitative methods

48. A government may use a quantitative method to evaluate effectiveness not specifically identified in this Statement if the method meets all of the following criteria:

a. Through identification and analysis of critical terms, the method demonstrates that the changes in cash flows or fair values of the potential hedging derivative instrument substantially offset the changes in cash flows or fair values of the hedgeable item.
b. Replicable evaluations of effectiveness are generated that are sufficiently complete and documented such that different evaluators using the same method and assumptions would reach substantially similar results.
c. Substantive characteristics of the hedgeable item and the potential hedging derivative instrument that could affect their cash flows or fair values are considered.

The Hedgeable Item Is an Existing or Expected Commodity Transaction

49. If the hedgeable item is an existing commodity asset or an expected transaction that will be a commodity transaction, effectiveness should be evaluated using the criteria in paragraphs 50–62.

Consistent critical terms method

50. The consistent critical terms method evaluates effectiveness by qualitative consideration of the critical terms of the hedgeable item and the potential hedging derivative instrument. If the critical terms of the hedgeable item and the potential hedging derivative instrument are the same, or similar in certain circumstances as described in paragraphs 51–53, the changes in cash flows or fair values of the potential hedging derivative instrument will substantially offset the changes in cash flows or fair values of the hedgeable item.

51. *Commodity swaps—cash flow hedges.* A commodity swap is an effective cash flow hedge under the consistent critical terms method if all of the following criteria are met:

a. The commodity swap is for the purchase or sale of the same quantity (notional amount) of the same hedgeable item at the same time and delivery location as the hedgeable item.
b. Upon association with the hedgeable item, the commodity swap has a zero fair value.
c. The reference rate of the commodity swap is consistent with the reference rate of the hedgeable item. For example, a commodity swap hedges a government's natural gas purchases at the Henry Hub pricing point. That commodity swap also should have a reference rate based on the Henry Hub pricing point to meet this criterion.
d. The reference rate of the commodity swap does not have a floor or cap unless the hedgeable item has a floor or cap. Floors and caps place limits on expected cash flows. If the hedgeable item has a floor or cap, the commodity swap has a comparable floor or cap on the variable commodity price.

52. *Commodity swaps—fair value hedges.* A commodity swap is an effective fair value hedge under the consistent critical terms method if all of the following criteria are met:

a. The commodity swap is for the purchase or sale of the same quantity (notional amount) of the same hedgeable item at the same time and delivery location as the hedgeable item.
b. Upon association with the hedgeable item, the commodity swap has a zero fair value.
c. The hedgeable item is not prepayable (that is, the hedgeable item is not able to be settled by either party prior to its scheduled maturity). This criterion does not apply to a call option in a hedgeable item that is matched by a mirror-image call option in a commodity swap if both of the following criteria are met:
    (1) A mirror-image call option matches the terms of the call option in the hedgeable item. The terms include maturities, strike price, related notional

amounts, timing and frequency of payments, and dates on which the instruments may be called.

(2) The government is the writer of one call option and the holder (or purchaser) of the other call option.

d. The expiration date of the commodity swap is on or about the maturity or termination date of the hedgeable item so that the government will not be exposed to market risk.

e. The reference rate of the commodity swap has neither a floor nor a cap.

f. The reference rate of the commodity swap resets at least every 90 days so that the variable payment or receipt is considered to be at a market rate.

53. *Forward contracts.* A forward contract is effective under the consistent critical terms method if all of the following criteria are met:

a. The forward contract is for the purchase or sale of the same quantity (notional amount) of the same hedgeable item at the same time and location as the hedgeable item.

b. Upon association with the hedgeable item, the fair value of the forward contract is zero.

c. The reference rate of the forward contract is consistent with the reference rate of the hedgeable item.

The change in either the discount or premium on the forward contract should be excluded from the assessment of effectiveness and included within the investment revenue classification pursuant to paragraph 20, or the change in expected cash flows of the expected transaction should be based on the forward price of the hedgeable item.

Quantitative methods

54. Three quantitative methods have been identified to evaluate effectiveness: the synthetic instrument method, the dollar-offset method, and the regression analysis method. Quantitative methods other than those specifically described in this Statement also may be used to evaluate effectiveness provided that they meet the criteria of paragraph 62.

55. The quantitative methods of evaluating effectiveness may use historical data—past rates, prices, or payments. If there are new market conditions, however, the evaluation of effectiveness should be limited to using fair values, such as in the application of the dollar-offset method or in certain instances, regression analysis of fair values. New market conditions are caused by asymmetrical changes in market supply or demand. Examples of

events that suggest new market conditions exist include new sources of commodity supplies, such as a new natural gas pipeline, and supply disruptions arising from natural disasters, such as hurricanes and earthquakes.

Synthetic instrument method

56. The synthetic instrument method evaluates effectiveness by combining the hedgeable item and the potential hedging derivative instrument to simulate a third synthetic instrument. A potential hedging derivative instrument is effective if its variable cash flows will substantially offset the variable cash flows of the hedgeable item. This method is limited to cash flow hedges in which the hedgeable items have a variable price or rate; that is, the variable cash flows of the potential hedging derivative instrument offset the variable cash flows of the hedgeable item to create an essentially fixed price or rate. An example of a synthetic instrument is the hedge of a commitment to purchase a specific quantity of a commodity in the future at a variable price by entering into a pay-fixed, receive-variable commodity swap. This method may be applied to evaluate a potential hedging derivative instrument's effectiveness if both of the following criteria are met:

a. The notional quantity of the potential hedging derivative instrument is the same as the quantity of the hedgeable item.
b. Upon association with the hedgeable item, the potential hedging derivative instrument has a zero fair value or the forward price is at-the-market.

57. Under the synthetic instrument method, a potential hedging derivative instrument is effective if the **synthetic price** is substantively fixed. The synthetic price as of the evaluation date—the end of the reporting period—is compared to the synthetic price expected at the establishment of the hedge by calculation of an effectiveness percentage. If the effectiveness percentage is within a range of 90 to 111 percent, the synthetic price is substantively fixed.

Dollar-offset method

58. The dollar-offset method evaluates effectiveness by comparing the changes in expected cash flows or fair values of the potential hedging derivative instrument with the changes in expected cash flows or fair values of the hedgeable item. This evaluation may be made using changes in the current period or on a life-to-date basis. If the changes of

either the hedgeable item or the potential hedging derivative instrument are divided by the other and the result is within a range of 80 to 125 percent in absolute terms, these changes will substantially offset and the potential hedging derivative instrument is determined to be effective. For example, if actual results are such that the fair value decrease on the potential hedging derivative instrument is $120 and the fair value increase on the hedgeable item is $100, the dollar-offset percentage can be measured as 120/100, which is 120 percent, or as 100/120, which is 83 percent. In either case, the potential hedging derivative instrument is effective.

Regression analysis method

59. The regression analysis method evaluates effectiveness by considering the statistical relationship between the cash flows or fair values of the potential hedging derivative instrument and the hedgeable item. The changes in cash flows or fair values of the potential hedging derivative instrument substantially offset the changes in cash flows or fair values of the hedgeable item if all of the following criteria are met:

a. The R-squared of the regression analysis is at least 0.80.
b. The F-statistic calculated for the regression model demonstrates that the model is significant using a 95 percent confidence interval.
c. The regression coefficient for the slope is between –1.25 and –0.80.

The regression analysis should be based on sufficient data to determine if the potential hedging derivative instrument is effective as of the end of the reporting period. In assessing the sufficiency of the data, the period of time that the potential hedging derivative instrument is expected to hedge an identified financial risk in the future should be considered. Other results of the regression analysis method may need to be considered when evaluating effectiveness. The use of the regression analysis method requires appropriate interpretation and understanding of the statistical inferences.

60. *Cash flow hedges.* If a potential hedging derivative instrument is employed as a cash flow hedge, the relationship analyzed should be relevant cash flows, prices, or fair values of the potential hedging derivative instrument and the hedgeable item. The regression analysis should be conducted as follows:

a. The dependent variable for a cash flow hedge evaluated using cash flows or prices should be relevant cash flows or prices of the hedgeable item. The independent variable should be the relevant cash flows or prices of the potential hedging derivative instrument. If the evaluation is based on prices, the prices used as data in the regression analysis should be representative of the hedging relationship.
b. The dependent variable for a cash flow hedge evaluated using fair values should be the changes in fair values of the hypothetical derivative instrument. The independent variable should be the changes in fair values of the potential hedging derivative instrument. The hypothetical derivative instrument generally should have terms that exactly match the critical terms of the variable-price hedgeable item. That is, the hypothetical derivative instrument and the hedgeable item should have the same notional amount and repricing dates, and mirror-image caps and floors. The maturity of the hypothetical derivative instrument, however, should be the same as the maturity of the potential hedging derivative instrument. The hypothetical derivative instrument's reference rate should be consistent with the reference rate of the hedgeable item. The hypothetical derivative instrument should have a zero fair value upon association of the hedging relationship.

61. *Fair value hedges.* If a potential hedging derivative instrument is employed as a fair value hedge, the relationship analyzed should be the changes in fair values of the potential hedging derivative instrument and the hedgeable item. The dependent variable in the regression analysis represents changes in fair values of the hedgeable item (for example, a fixed-price commodity contract), and the independent variable represents changes in fair values of the potential hedging derivative instrument (for example, a pay-variable, receive-fixed commodity swap).

Other quantitative methods

62. A government may use a quantitative method to evaluate effectiveness not specifically identified in this Statement if the method meets all of the following criteria:

a. Through identification and analysis of critical terms, the method demonstrates that the changes in cash flows or fair values of the potential hedging derivative instrument substantially offset the changes in cash flows or fair values of the hedgeable item.
b. Replicable evaluations of effectiveness are generated that are sufficiently complete and documented such that different evaluators using the same method and assumptions would reach substantially similar results.
c. Substantive characteristics of the hedgeable item and the potential hedging derivative instrument that could affect their cash flows or fair values are considered.

Hybrid Instruments

63. Derivative instruments often are stand-alone instruments, such as **futures contracts.** A derivative instrument also may accompany a **companion instrument** such as a debt instrument, a lease, an insurance contract, or a sale or purchase contract. An **embedded derivative instrument** may be a call option in a bond, a cap or floor in a sale or purchase contract, or an interest rate swap in a debt instrument. Alternatively, some derivative instruments may include investing or borrowing transactions. These instruments may give rise to hybrid instruments, which consist of a derivative instrument and a companion instrument.

64. A hybrid instrument exists when the instrument meets all of the following criteria:

a. The companion instrument is not measured on the statement of net assets at fair value.
b. A separate instrument with the same terms as the derivative instrument would meet the definition of a derivative instrument.
c. The economic characteristics and risks of the derivative instrument are not closely related to the economic characteristics and risks of the companion instrument. This would be the case in any of the following circumstances:
   (1) *Up-front payment with off-market terms.* As a result of a derivative instrument that has **off-market terms,** an up-front payment is received. Off-market terms that generate an up-front payment—a borrowing—are not closely related to the characteristics and risks of the derivative instrument. For example, a government enters into a pay-fixed, receive-variable interest rate swap that has an above-market fixed payment, resulting in an up-front payment to the government.
   (2) *Written option that is in-the-money.* A **written option** that is **in-the-money** has intrinsic value. A government that writes or sells such an option to a counterparty receives an up-front payment, resulting in a borrowing for financial reporting purposes. The initial intrinsic value of the written option is not closely related to the characteristics and risks of the derivative instrument.
   (3) *Inconsistent reference rate.* The derivative instrument has a reference rate that is inconsistent with the market of the companion instrument. For example, a debt instrument that has a variable coupon rate based on an equity index would not be closely related to the embedded derivative instrument (the variable-rate coupon). The economic characteristics and risks of the derivative instrument—an equity-based reference rate—are not closely related to the economic characteristics and risks of the companion instrument—a debt instrument. Alternatively, a variable coupon based on LIBOR would be closely related to the companion instrument.

(4) *Potential negative yield.* A hybrid instrument could be settled in such a way that an investor would not recover substantially all of its investment. For example, a government issues a note at an above-market interest rate with terms that provide that if market rates exceed a certain level, the coupon rate resets to zero for the remaining term-to-maturity of the instrument. The embedded derivative—the terms of the note that provide for the possibility of a rate reset and a negative yield—would not be closely related to the economic characteristics and risks of the companion instrument.

(5) *Leveraged yield.* The yield of the companion instrument is leveraged. A leveraged yield occurs if the embedded derivative instrument meets both of the following criteria:

(a) The holder's *initial* rate of return on the companion instrument is at least doubled.

(b) The rate of return is at least twice what the market return would be for an instrument with the same terms as the companion instrument.

For example, a government issues a note that provides that if market rates increase to a certain level, the coupon resets to an even higher rate. The embedded derivative—the terms of the note that provide for the possibility of a rate reset—would not be closely related to the economic characteristics and risks of the companion instrument.

65. An embedded derivative instrument that is a component of a hybrid instrument should be recognized and measured in accordance with this Statement. Such a derivative instrument also may be a hedging derivative if it meets the requirements of this Statement. The companion instrument should be recognized and measured in accordance with the reporting requirements that are applicable to that companion instrument—such as the financial reporting requirements for a debt instrument, a lease, or an insurance contract.

66. *On-behalf payments included in derivative instrument payments.* A government may enter into a derivative instrument with off-market terms that are intended to recover costs assumed by the counterparty on behalf of the government. For example, a government enters into a pay-fixed, receive-variable interest rate swap with a fixed rate that has been increased to compensate the counterparty for legal and advisory fees. Those costs should be reported as expenditures or expenses consistent with the manner in which those payments would have been reported if the government had made payment directly.

Synthetic Guaranteed Investment Contracts

67. Fully benefit-responsive SGICs—the combination of the underlying investments and the **wrap contract**—should be reported at contract value. An SGIC is fully benefit-responsive if all of the following criteria are met:

a. The SGIC prohibits the government from assigning or selling the contract or its proceeds to another party without the consent of the issuer.
b. Prospective interest crediting rate adjustments are provided to plan participants and the government on a designated pool of investments by a financially responsible third party. Those adjustments provide assurance that probable future rate adjustments that would result in an interest crediting rate of less than zero is remote. The pool of investments in total meets both of the following criteria:
   (1) Is of high credit quality such that the possibility of credit loss is remote
   (2) May be prepaid or otherwise settled in such a way that the government and plan participants would recover contract value.
c. The terms of the SGIC require all permitted participant-initiated transactions with the government to occur at contract value with no conditions, limits, or restrictions. Permitted participant-initiated transactions are those transactions allowed by the government, such as withdrawals for benefits, loans, or transfers to other investment choices.
d. Some events may limit a government's ability to transact with participants at contract value. Examples are premature termination of contracts, layoffs, plan terminations, bankruptcies, and early retirement incentives. The probability of such an event occurring within one year of the date of the financial statements is remote.
e. The government allows participants reasonable access to their investments. The following conditions do not affect the benefit responsiveness of an SGIC:
   (1) In plans with a single investment choice, restrictions on access to assets by active participants are consistent with the objective of the plan (for example, retirement benefits).
   (2) Participants' access to their account balances is limited to certain specified times during the plan year (for example, semiannually or quarterly) to control the administrative costs of the plan.
   (3) Administrative provisions that place short-term restrictions (for example, three or six months) on transfers to competing fixed-income investment options to limit arbitrage among those investment options (that is, equity wash provisions).

   If plan participants are allowed access at contract value to all or a portion of their account balances only upon termination of their participation in the plan, participants would not have reasonable access to their investments.

Notes to the Financial Statements

68. Governments should include the information required by paragraphs 69–79 in the notes to the financial statements. Disclosure information for similar derivative instrument types may be provided individually or aggregated. To determine whether derivative instruments are the same type, the commonly known term for the derivative instrument (for example, swaps, swaptions, rate caps, futures contracts, and options written or purchased), the nature of the derivative instrument (for example, receive-fixed or pay-fixed interest rate swaps), the hedged item, if any, and the reference rate should be considered.

Summary Information

69. Governments should provide a summary of their derivative instrument activity during the reporting period and balances at the end of the reporting period. The information disclosed should be organized by governmental activities, business-type activities, and fiduciary funds. The information should then be divided into the following categories—hedging derivative instruments (distinguishing between fair value hedges and cash flow hedges) and investment derivative instruments. Within each category, derivative instruments should be aggregated by type (for example, receive-fixed swaps, pay-fixed swaps, swaptions, rate caps, basis swaps, or futures contracts). Information presented in the summary should include:

a. Notional amount.
b. Changes in fair value during the reporting period and the classification in the financial statements where those changes in fair value are reported.
c. Fair values as of the end of the reporting period and the classification in the financial statements where those fair values are reported. If derivative instrument fair values are based on other than quoted market prices, the methods and significant assumptions[11] used to estimate those fair values should be disclosed.
d. Fair values of derivative instruments reclassified from a hedging derivative instrument to an investment derivative instrument. There also should be disclosure of the deferral amount that was reported within investment revenue upon the reclassification.

[11]If a fair value is developed by a pricing service, there is no requirement to disclose significant assumptions if the pricing service considers those assumptions to be proprietary and, after making every reasonable effort, the pricing service declines to make that information available. This fact, however, should be disclosed.

Disclosure of the information required by this paragraph may be in a columnar display, narrative form, or a combination of both.

Hedging Derivative Instruments

70. Note disclosure requirements provided in paragraphs 71–75 should be presented for all hedging derivative instruments.

71. *Objectives.* For hedging derivative instruments, governments should disclose their objectives for entering into those instruments, the context needed to understand those objectives, the strategies for achieving those objectives, and the types of derivative instruments entered into.

72. *Terms*. For hedging derivative instruments, governments should disclose significant terms, including:

a. Notional amount
b. Reference rates, such as indexes or interest rates
c. Embedded options, such as caps, floors, or collars
d. The date when the hedging derivative instrument was entered into and when it is scheduled to terminate or mature
e. The amount of cash paid or received, if any, when a forward contract or swap (including swaptions) was entered into.

73. *Risks.* For hedging derivative instruments, governments should disclose, if applicable, their exposure to the following risks that could give rise to financial loss. Risk disclosures are limited to hedging derivative instruments that are reported as of the end of the reporting period. Disclosures required by this paragraph may contain information that also is required by other paragraphs. However, these disclosures should be presented in the context of a hedging derivative instrument's risk:

a. *Credit risk.* If a hedging derivative instrument reported by the government as an asset exposes a government to **credit risk**,[12] the government should disclose that exposure as credit risk and disclose the following information:

[12]The credit risk disclosures in this paragraph do not extend to derivatives that are exchange-traded, such as futures contracts. For those derivatives, disclosures for amounts held by broker/dealers is evaluated by applying the custodial credit risk disclosures found in Statements No. 3, *Deposits with Financial Institutions, Investments (including Repurchase Agreements), and Reverse Repurchase Agreements,* and No. 40, *Deposit and Investment Risk Disclosures*.

(1) The credit quality ratings of counterparties as described by nationally recognized statistical rating organizations—rating agencies—as of the end of the reporting period. If the counterparty is not rated, the disclosure should indicate that fact.

(2) The maximum amount of loss due to credit risk, based on the fair value of the hedging derivative instrument as of the end of the reporting period, that the government would incur if the counterparties to the hedging derivative instrument failed to perform according to the terms of the contract, without respect to any collateral or other security, or netting arrangement.

(3) The government's policy of requiring collateral or other security to support hedging derivative instruments subject to credit risk, a summary description and the aggregate amount of the collateral or other security that reduces credit risk exposure, and information about the government's access to that collateral or other security.

(4) The government's policy of entering into master netting arrangements, including a summary description and the aggregate amount of liabilities included in those arrangements. Master netting arrangements are established when (a) each party owes the other determinable amounts, (b) the government has the right to set off the amount owed with the amount owed by the counterparty, and (c) the right of setoff is legally enforceable.

(5) The aggregate fair value of hedging derivative instruments in asset (positive) positions net of collateral posted by the counterparty and the effect of master netting arrangements.

(6) Significant concentrations of net exposure to credit risk (gross credit risk reduced by collateral, other security, and setoff) with individual counterparties and groups of counterparties. A concentration of credit risk exposure to an individual counterparty may not require disclosure if its existence is apparent from the disclosures required by other parts of this paragraph, for example, a government has entered into only one interest rate swap. Group concentrations of credit risk exist if a number of counterparties are engaged in similar activities and have similar economic characteristics that would cause their ability to meet contractual obligations to be similarly affected by changes in economic or other conditions.

b. *Interest rate risk.* If a hedging derivative instrument increases a government's exposure to interest rate risk, the government should disclose that increased exposure as interest rate risk and also should disclose the hedging derivative instrument's terms that increase such a risk. The determination of whether a hedging derivative instrument increases interest rate risk should be made after considering, for example, the effects of the hedging derivative instrument and any hedged debt.

c. *Basis risk*. If a hedging derivative instrument exposes a government to basis risk, the government should disclose that exposure as basis risk and also should disclose the hedging derivative instrument's terms and payment terms of the hedged item that creates the basis risk.

d. *Termination risk.* If a hedging derivative instrument exposes a government to **termination risk,** the government should disclose that exposure as termination risk and also the following information, as applicable:

(1) Any termination events that have occurred
(2) Dates that the hedging derivative instrument may be terminated
(3) Out-of-the-ordinary termination events contained in contractual documents, such as "additional termination events" contained in the schedule to the International Swap Dealers Association master agreement.

e. *Rollover risk.* If a hedging derivative instrument exposes a government to **rollover risk,** the government should disclose that exposure as rollover risk and also should disclose the maturity of the hedging derivative instrument and the maturity of the hedged item.

f. *Market-access risk.* If a hedging derivative instrument creates **market-access risk,** the government should disclose that exposure as market-access risk.

g. *Foreign currency risk.* If a hedging derivative instrument exposes a government to foreign currency risk, the government should disclose the U.S. dollar balance of the hedging derivative instrument, organized by currency denomination and by type of derivative instrument.

74. *Hedged debt.* If the hedged item is a debt obligation, governments should disclose the hedging derivative instrument's net cash flows based on the requirements established by Statement No. 38, *Certain Financial Statement Note Disclosures,* paragraphs 10 and 11.

75. *Other quantitative method of evaluating effectiveness.* If effectiveness is evaluated by application of a quantitative method not specifically identified in this Statement (paragraphs 48 and 62), governments should disclose the following information:[13]

a. The identity and characteristics of the method used
b. The range of critical terms the method tolerates
c. The actual critical terms of the hedge.

Investment Derivative Instruments

76. For investment derivative instruments, governments should disclose their exposure to the following risks that could give rise to financial loss. Risk disclosures are limited to investment derivative instruments that are reported as of the end of the reporting period. Disclosures required by this paragraph may contain information that also is required by other paragraphs. However, these disclosures should be presented in the context of an investment derivative instrument's risk:

[13]There is no requirement to disclose information that a pricing service considers to be proprietary and after making every reasonable effort the pricing service declines to make available. This fact, however, should be disclosed.

a. *Credit risk*. If an investment derivative instrument exposes a government to credit risk (that is, the government reports the investment derivative instrument as an asset), the government should disclose that exposure. That disclosure should be consistent with the requirements of paragraph 73a.
b. *Interest rate risk.* If an investment derivative instrument exposes a government to interest rate risk, the government should disclose that exposure consistent with the disclosures required by Statement 40, paragraphs 14 and 15. Further, an investment derivative instrument that is an interest rate swap is an additional example of an investment that has a fair value that is highly sensitive to interest rate changes as discussed in Statement 40, paragraph 16. The fair value, notional amount, reference rate, and embedded options should be disclosed.
c. *Foreign currency risk.* If an investment derivative instrument exposes a government to foreign currency risk, the government should disclose that exposure consistent with the disclosures required by Statement 40, paragraph 17.

Contingent Features

77. Governments should disclose contingent features that are included in derivative instruments held at the end of the reporting period, such as a government's obligation to post collateral if the credit quality of the government's hedgeable item declines. For derivative instruments with contingent features reported as of the end of the reporting period, disclosure should include:

a. The existence and nature of contingent features and the circumstances in which the features could be triggered
b. The aggregate fair value of derivative instruments that contain those features
c. The aggregate fair value of assets that would be required to be posted as collateral or transferred in accordance with the provisions related to the triggering of the contingent liabilities
d. The amount, if any, that has been posted as collateral by the government as of the end of the reporting period.

Hybrid Instruments

78. If a government reports a hybrid instrument, disclosures of the companion instrument should be consistent with disclosures required of similar transactions, for example, disclosures for debt instruments. In that case, the existence of an embedded derivative with the companion instrument should be indicated in the disclosures of the companion instrument. For example, if a government has entered into a hybrid instrument that consists of a borrowing for financial reporting purposes and an interest rate swap, the

government's disclosure should indicate the existence of the interest rate swap within the debt disclosure.

Synthetic Guaranteed Investment Contracts

79. Governments that report an SGIC that is fully benefit-responsive, as described in paragraph 67, should disclose the following information in the notes to the financial statements as of the end of the reporting period:

a. A description of the nature of the SGIC
b. The SGIC's fair value (including separate disclosure of the fair value of the wrap contract and the fair value of the corresponding underlying investments).

EFFECTIVE DATE AND TRANSITION

80. The requirements of this Statement are effective for financial statements for periods beginning after June 15, 2009. Earlier application is encouraged. Accounting changes adopted to conform to the provisions of this Statement should be applied retroactively by restating financial statements, if practical, for all prior periods presented. If retroactive application is not practical, the cumulative effect of applying this Statement, if any, should be reported as a restatement of beginning net assets, fund balance, or fund net assets, as appropriate, for the earliest period restated. In the period this Statement is first applied, the financial statements should disclose the nature of any restatement and its effect. Also, the reason for not restating prior periods presented should be explained.

81. For derivatives existing prior to the reporting period during which this Statement is implemented, the evaluation of effectiveness need only be performed as of the end of the current reporting period. If determined to be effective, the derivative instrument should be reported as a hedging derivative instrument as if it was effective from its inception. If determined to be ineffective, the derivative instrument should be evaluated as of the end of the previous reporting period. In that case, a potential hedging derivative instrument found to be effective at the end of the previous reporting period should be reported in accordance with the provisions of paragraph 23. Alternatively, a derivative instrument

found to be ineffective at the end of the previous reporting period is subject to the transition adjustment provisions of paragraph 80.

The provisions of this Statement need not be applied to immaterial items.

This Statement was issued by unanimous vote of the seven members of the Governmental Accounting Standards Board:

Robert H. Attmore, *Chairman*
William W. Holder
Girard C. Miller
Jan I. Sylvis
Marcia L. Taylor
Richard C. Tracy
James M. Williams

GLOSSARY

82. This paragraph contains definitions of certain terms as they are used in this Statement. These terms may have different meanings in other contexts.

AAA general obligations index

An index published by Municipal Market Data composed of interest rates of the highest quality state and local debt issuers.

Actual synthetic rate

If the hedged item is an existing financial instrument or an expected transaction that is intended to be a financial instrument, the rate achieved by a synthetic instrument considering its cash flows for a period of time.

At-the-market

The prevailing market price or rate. For example, an at-the-market swap is entered into at no cost to the government.

Basis risk

The risk that arises when variable rates or prices of a hedging derivative instrument and a hedged item are based on different reference rates.

Benchmark interest rate

A widely recognized and quoted rate in an active financial market that is broadly indicative of the overall level of interest rates attributable to high-credit-quality obligors in that market. It is a rate that is widely used in a given financial market as a basis for determining the interest rates of financial instruments and commonly referenced in interest-rate-related transactions.

Call option

An option that gives its holder the right but not the obligation to purchase a financial instrument or commodity at a certain price for a period of time.

Cash flow hedge

A hedge that protects against the risk of either changes in total variable cash flows or adverse changes in cash flows caused by variable prices, costs, rates, or terms that cause future prices to be uncertain.

Commodity swap

A swap that has a variable payment based on the price or index of an underlying commodity.

Companion instrument

The element of a hybrid instrument, such as a borrowing, that as a separate instrument would be measured on a basis other than fair value. A hybrid instrument consists of an embedded derivative instrument and a companion instrument.

Consistent critical terms method

A method of evaluating effectiveness by qualitative consideration of the uniformity of the significant terms of the hedgeable item with the terms of the potential hedging derivative instrument.

Credit risk

The risk that a counterparty will not fulfill its obligations.

Critical term

A significant term of the hedgeable item and potential hedging derivative instrument that affects whether their changes in cash flows or fair values substantially offset.

Examples are the notional or principal amounts, payment dates, and, in some cases, fair values at inception, indexes, rates, and options.

Dollar-offset method

A quantitative method of evaluating effectiveness that compares the changes in expected cash flows or fair values of the potential hedging derivative instrument with the changes in expected cash flows or fair values of the hedgeable item.

Embedded derivative instrument

A derivative instrument that is an element of a hybrid instrument. A hybrid instrument consists of a companion instrument and an embedded derivative instrument. When separated, an embedded derivative instrument, such as an interest rate swap, is measured at fair value.

Expected transaction

A transaction that is probable of occurring that exposes a government to the risk of adverse changes in cash flows or fair values. An expected transaction also may be a firm commitment—a binding agreement for the exchange of a specified quantity of resources at a specified price on a specified future date or dates.

Fair value hedge

A hedge that protects against the risk of either total changes in fair value or adverse changes in fair value caused by fixed terms, rates, or prices.

Financial instrument

A financial instrument is cash, evidence of an ownership interest in an entity, or a contract that both:

- Imposes on one entity a contractual obligation to deliver cash or another financial instrument to a second entity or exchange other financial instruments on potentially unfavorable terms with the second entity
- Conveys to that second entity a contractual right to receive cash or another financial instrument from the first entity or to exchange other financial instruments on potentially favorable terms with the first entity.

Foreign currency risk

The risk that changes in exchange rates will adversely affect the cash flows or fair value of a transaction.

Forward contract

A contractual agreement to buy or sell a security, commodity, foreign currency, or other financial instrument, at a certain future date for a specific price. An agreement with a supplier to purchase a quantity of heating oil at a certain future time, for a certain price, and a certain quantity is an example of a forward contract. Forward contracts are not securities and are not exchange-traded. Some forward contracts, rather than taking or making delivery of the commodity or financial instrument, may be settled by a cash payment that is equal to the fair value of the contract.

Futures contract

An exchange-traded security to buy or sell a security, commodity, foreign currency, or other financial instrument at a certain future date for a specific price. A futures contract obligates a buyer to purchase the commodity or financial instrument and a seller to sell it, unless an offsetting contract is entered into to offset one's obligation. The resources or obligations acquired through these contracts are usually terminated by entering into offsetting contracts.

Hedge accounting

The financial reporting treatment for hedging derivative instruments that requires that the changes in fair value of hedging derivative instruments be reported as either deferred inflows or deferred outflows.

Hedgeable item

An asset or liability, or expected transaction that may be associated with a potential hedging derivative instrument.

Hedging derivative instrument

A derivative instrument that is associated with a hedgeable item and significantly reduces an identified financial risk by substantially offsetting changes in cash flows or fair values of the hedgeable item.

Hybrid instrument

An instrument that is composed of an embedded derivative instrument and a companion instrument.

Hypothetical derivative instrument

An assumed derivative instrument designed to have terms that exactly match the critical terms of the hedged item, other than its maturity date, which would be the same as that of the potential hedging derivative instrument.

Interest rate risk

The risk that changes in interest rates will adversely affect the fair values of a government's financial instruments or a government's cash flows.

Interest rate swap

A swap that has a variable payment based on the price of an underlying interest rate or index.

In-the-money

In the case of a call option, an option that has a market price above its strike price. In the case of a put option, an option that has a market price below its strike price.

Intrinsic value

The value of an option if the option is exercised immediately. An option that has intrinsic value is in-the-money.

Investment derivative instrument

A derivative instrument that is entered primarily for the purpose of obtaining income or profit, or a derivative instrument that does not meet the criteria of a hedging derivative instrument.

Leverage

The means of enhancing changes in fair value while minimizing or eliminating an initial investment. A leveraged investment has changes in fair value that are disproportionate to the initial net investment. An unleveraged investment requires a far greater initial investment to replicate similar changes in fair values. Derivative instruments are leveraged instruments because their changes in fair value are disproportionate to the initial net investment. For example, an interest rate swap that has a notional value of $100 million is entered with no initial net investment. Thereafter, as interest rates change, the swap produces changes in fair value consistent with a $100 million fixed-rate financial instrument.

Loan commitment

Formal offer for a defined period of time by a lender to extend a loan to a borrower according to specified terms such as the amount of the borrowing and repayment terms, including interest rates.

London Interbank Offered Rate (LIBOR)

A daily reference rate published by the British Bankers' Association based on the interest rates at which banks offer to lend unsecured funds to other banks in the London wholesale money market (or interbank market). This is the taxable rate that the most creditworthy banks charge each other. It is a common reference rate used in derivative instruments.

Market risk

The risk that changes in market prices will reduce the fair value of an asset, increase the fair value of a liability, or adversely affect the cash flows of an expected transaction.

Market-access risk

The risk that a government will not be able to enter credit markets or that credit will become more costly. For example, to complete a derivative instrument's objective, an issuance of refunding bonds may be planned in the future. If at that time the government is unable to enter credit markets, expected cost savings may not be realized.

Notional amount

The number of currency units, shares, bushels, pounds, or other units specified in the derivative instrument. It is a stated amount on which payments depend. The notional amount is similar to the principal amount of a bond.

Off-market term

A provision in a derivative instrument, such as a rate, price, or term, that is not consistent with the current market for that type of contract.

Option

A contract that gives its holder the right but not the obligation to buy or sell a financial instrument or commodity at a certain price for a period of time.

Potential hedging derivative instrument

A derivative instrument that is associated with a hedgeable item prior to the determination that the derivative instrument is effective in significantly reducing the identified financial risk.

Put option

An option that gives its holder the right but not the obligation to sell a financial instrument or commodity at a certain price for a period of time.

Quantitative method

A method of evaluating effectiveness using a mathematical relationship. Synthetic instrument, dollar-offset, and regression analysis are the quantitative methods specifically addressed in this Statement.

Reference rate

The rate to which a derivative instrument's variable payment is linked. Common reference rates are LIBOR, the SIFMA swap index, the AAA general obligations index, and the pricing point of a commodity. For example, a commodity swap's variable payment may be linked to the price of No. 2 heating oil at the New York harbor pricing point. Other literature may refer to a reference rate as a reference index.

Regression analysis method

A statistical technique that measures the relationship between a dependent variable and one or more independent variables. The future value of the dependent variable is predicted by measuring the size and significance of each independent variable in relation to the dependent variable. Regression analysis included in the text of this Statement uses only one independent variable.

Rollover risk

The risk that a hedging derivative instrument associated with a hedgeable item does not extend to the maturity of that hedgeable item. When the hedging derivative instrument terminates, the hedgeable item will no longer have the benefit of the hedging derivative instrument. An example is an interest rate swap that pays the government a variable-rate payment that is designed to match the term of the variable-rate interest payments on the government's bonds. If the hedging derivative instrument's term is 10 years and the hedged debt's term is 30 years, after 10 years the government will lose the benefit of the swap payments.

Securities Industry and Financial Markets Association (SIFMA) swap index

An index sponsored by the Securities Industry and Financial Markets Association of seven-day high-grade tax-exempt variable-rate demand obligations, formerly known as The Bond Market Association swap index.

Spot price

Current delivery price of a commodity trading in the spot market at a specified location or pricing point. In the spot market, commodities sold or purchased for cash are immediately delivered.

Strike price

In the case of a call option, the price at which the holder of a call option may purchase a financial instrument or commodity. In the case of a put option, it is the price at which the holder may sell a financial instrument or commodity. The strike price also is known as the exercise price.

Swap

A type of derivative instrument in which there is an agreement to exchange future cash flows. These cash flows may be either fixed or variable and may be either received or paid. Variable cash flows depend on a reference rate.

Swaption

An option to enter into a swap. When a swaption is an interest rate option, it may be used to hedge long-term debt. When a government sells a swaption (also called writing a swaption), a cash payment may be received. Option pricing theory, including time and volatility measures, is used to value swaptions.

Synthetic instrument method

A method of evaluating effectiveness that combines a hedged item and a potential hedging derivative instrument into a hypothetical financial instrument to evaluate whether the hypothetical financial instrument pays a substantively fixed rate.

Synthetic price

The price of the existing or expected commodity transaction as adjusted by the effect of the potential hedging derivative instrument. That is, the net price considering both the actual price of the existing or expected commodity transaction and the effect of the potential hedging derivative instrument.

Termination risk

The risk that a hedging derivative instrument's unscheduled end will affect a government's asset and liability strategy or will present the government with potentially significant unscheduled termination payments to the counterparty. For example, a government may be relying on an interest rate swap to insulate it from the possibility of increasing interest rate payments. If the swap has an unscheduled termination, that benefit would not be available.

Time value of an option

The portion of an option's fair value that is attributable to the time remaining on the option before expiration. An option with time value but no intrinsic value is out-of-the-money or at-the-market. Time value is the difference between an option's fair value and its intrinsic value.

Underlyings

A specified interest rate, security price, commodity price, foreign exchange rate, index of prices or rates, or other variable (including the occurrence or nonoccurrence of a specified event such as a scheduled payment under a contract). An underlying may be a price or rate of an asset or liability but is not the asset or liability itself.

Wrap contract

A contract in which the issuer provides assurance that the adjustments to the interest crediting rate of a synthetic guaranteed investment contract will not result in a future interest crediting rate that is less than zero.

Written option

An option sold by a government. The purchaser of the option becomes the holder of it.

Zero fair value

Value of a derivative instrument that is either entered into or exited with no consideration being exchanged. A zero fair value should be within a dealer's normal bid/offer spread.

Appendix A

BACKGROUND

83. Derivative instruments are used by state and local governments, primarily with the intention of hedging risks associated with assets or liabilities reported in their financial statements or risks associated with expected transactions. Due to concerns about the lack of information disclosed about derivative instruments, the GASB issued Technical Bulletin No. 2003-1, *Disclosure Requirements for Derivatives Not Reported at Fair Value on the Statement of Net Assets,* in June 2003 to clarify existing guidance on derivative instrument disclosures. That Technical Bulletin was issued as interim guidance with the intent to address the appropriate recognition and measurement of derivative instruments and to more fully consider the information that should be disclosed about derivative instruments in this project.

84. An accounting and financial reporting project was placed on the GASB's active technical agenda in August 2002. As originally envisioned, it would have considered the accounting and financial reporting for a wider scope of financial instruments than just derivative instruments, including governments' use of a variety of hedging arrangements, such as financial instruments matched with structured payouts. In August 2005, the GASB decided to limit the scope of this project to the accounting and financial reporting for derivative instruments primarily because of a concern that a more comprehensive project would result in delaying the issuance of guidance for derivative instruments. Even with a more narrowly scoped project, the complex nature of the subject has required extensive research and deliberations. That research included consultation with experts knowledgeable about derivative instruments and their usage by state and local governments. A 30-member derivatives and hedging task force also was established to provide input to the Board.

Preliminary Views

85. The GASB originally anticipated that the first due process document for this project would be an Exposure Draft of a Statement of Governmental Accounting Standards. In

April 2005, however, the GASB decided that a Preliminary Views would be more appropriate for two reasons. First, the GASB believed that it would be more prudent to gain additional information on the proposed methods for assessing effectiveness of derivative instruments before issuing a proposed standard. Second, the GASB believed that respondents could be divided on the proposed reporting provisions because the provisions would result in a significant change to current practice.

86. In arriving at the proposals presented in the Preliminary Views, the Board considered its own standards and those of others, including the following:

- GASB Statement No. 31, *Accounting and Financial Reporting for Certain Investments and for External Investment Pools*
- GASB Statement No. 40, *Deposit and Investment Risk Disclosures*
- GASB Technical Bulletin 2003-1
- FASB Statement No. 52, *Foreign Currency Translation*
- FASB Statement No. 80, *Accounting for Futures Contracts*
- FASB Statement No. 133, *Accounting for Derivative Instruments and Hedging Activities*, as amended
- International Accounting Standard (IAS) 39, *Financial Instruments: Recognition and Measurement*, as amended.

87. The Preliminary Views was issued April 28, 2006, with a comment period that ended July 28, 2006. Comment letters from 93 individuals and organizations were received. After the release of the Preliminary Views, the Board held two public hearings at which many different constituent groups offered public testimony. The first hearing was held in San Diego, California, in June 2006; 12 organizations participated. The second hearing was held in New York City in July 2006; 12 organizations offered testimony, and 8 additional individuals participated in a user forum.

Exposure Draft

88. In June 2007, the Board issued an Exposure Draft, *Accounting and Financial Reporting for Derivative Instruments*. The Exposure Draft represented the Board's reconsideration of the proposed accounting in the Preliminary Views after evaluating due process comments. Fifty-three organizations and individuals responded to the Exposure Draft by submitting comment letters. These comment letters were part of the deliberation process used by the Board in finalizing the Statement.

Plain-Language Supplement

89. Also in June 2007, the Board issued a Plain-Language Supplement (Exposure Draft Supplement), *Accounting and Financial Reporting for Derivative Instruments,* using a minimum of technical terminology. This supplement was prepared to assist citizens, taxpayers, elected representatives, municipal analysts, and other external users of governmental financial information in assessing the proposal.

Field Test

90. During the Exposure Draft's comment period, a field test was conducted among volunteer governments. Participants were asked to provide (a) implementation and ongoing costs, that is, staff time, out-of-pocket expenditures, and system changes, associated with implementing the Exposure Draft and (b) comments on issues for the Board's consideration. Twenty-five participants were included in the field test; however, only a limited number of participants completed it. To supplement the limited number of participants, the GASB also conducted interviews with smaller governments that had interest rate swaps. The information provided by the field test and the small government interviews was part of the deliberation process used by the Board in finalizing the Statement.

Public Hearing and User Forum

91. In November 2007, the Board held a one-day user forum and public hearing in New York City on the proposals in the Exposure Draft. Six financial statement users participated in the user roundtable, and 14 individuals provided testimony at the public hearing.

Appendix B

BASIS FOR CONCLUSIONS

92. This appendix summarizes factors considered significant by Board members in reaching the conclusions in this Statement. It includes discussion of the alternatives considered and the Board's reasons for accepting some and rejecting others. Individual Board members may have given greater weight to some factors than to others.

The Board's Approach to Establishing Accounting Standards for Derivative Instruments

93. The Board used a conceptually based approach in developing the accounting and financial reporting standards contained in this Statement. For financial statements prepared using the economic resources measurement focus, the Board concluded that the following fundamental decisions should serve as cornerstones underlying this Statement:

a. Derivative instruments represent resources or obligations that meet the definitions of assets or liabilities and should be reported in the statement of net assets.
b. Fair value is the most relevant measure for derivative instruments, and they generally should be measured at fair value in the statement of net assets.
c. Changes in the fair value of derivative instruments that are hedging derivative instruments generally are applicable to future reporting periods when additional events occur and should be reported as deferred inflows or deferred outflows of resources until those additional events occur.
d. Changes in the fair value of derivative instruments that are not hedging derivative instruments are applicable to the current reporting period and should be reported as inflows or outflows of resources during that period.

Definition of Derivative Instruments

94. The Board concluded that substantively the same definition of a derivative instrument that was used in Technical Bulletin 2003-1 with supporting explanatory paragraphs continues to be appropriate for this Statement. One substantive change to the Technical Bulletin's definition is the replacement of the term *underlyings* with the term *reference rates*. The Board concluded that the latter term is clearer in the governmental environment where derivative instruments often are based on an index.

95. The definition of a derivative instrument in this Statement is based on its essential characteristics rather than on a comprehensive list of the types of derivative instruments such as swaps, swaptions, and futures contracts. By focusing on characteristics, the definition of a derivative instrument and resulting financial reporting will be based on the substance and not on the name given to a financial instrument. The Board used this definition to establish the primary scope of this Statement.

Financial Instruments Not Included in the Scope of This Statement

96. *Normal purchases and normal sales contracts.* The Board concluded that contracts intended to result in the purchase or sale of a commodity in the normal course of a government's operations should not be included in the scope of this Statement. These normal purchases and normal sales contracts routinely are used by governments to provide protection from price changes in commodities they acquire to use or sell in the future (not a futures contract). By using a commodity forward contract that has the characteristics of a derivative instrument, a government can, for example, fix the cost of natural gas that it intends to purchase in future years to heat municipal buildings. The Board believes that a government that enters into such a contract is purchasing inventory in the future using a binding purchase order. Such transactions should be reported at historical prices when an exchange occurs.

97. *Insurance contracts.* The Board recognized that insurance contracts covered under the scope of GASB Statements No. 10, *Accounting and Financial Reporting for Risk Financing and Related Insurance Issues,* and No. 30, *Risk Financing Omnibus,* should be excluded from the scope of this Statement. These contracts should be reported according to the guidance in those Statements.

98. *Certain financial guarantees.* The Exposure Draft did not address guarantee contracts. The Board agreed with respondents that financial guarantee contracts that are considered insurance should not be included in the scope of this Statement. Governments commonly enter into financial guarantee contracts, such as bond insurance contracts. While in most cases governments are purchasers, the Board also is aware of instances in which pension funds are the writers of financial guarantee contracts. In deliberations, the

Board distinguished between financial guarantee contracts that are insurance and those that are derivative instruments by determining that insurance contracts cover events of default while derivative instrument contracts provide payments based on reference rates, such as declining credit ratings. The Board believes that financial guaranty transactions that cover events of default should not be considered derivative instruments because their value is based upon the occurrence or non-occurrence of a discrete and identifiable event. On the other hand, financial guarantee contracts that make payments based on changing reference rates should be considered derivative instruments.

99. *Certain contracts that are not exchange-traded.* The Board also excluded certain contracts that are not exchange-traded from the scope of this Statement, such as derivative instruments with a reference rate that is based on climatic, geological, other physical variables, or the price or value of a nonfinancial asset. Because the fair values of these types of contracts are significantly more difficult to measure than other derivative instruments, the Board believes that the costs to measure these types of contracts outweigh any potential added benefit to financial statement users.

100. *Loan commitments.* The Board concluded that loan commitments should be excluded from the scope of this Statement. In researching this topic, the GASB made inquiries of a number of governmental housing finance agencies to evaluate current practice. The Board found that certain loan commitments with specific fact patterns could meet the definition of a derivative instrument. Despite this finding, the Board did not believe that it would be appropriate for some governments to report their loan commitments as derivative instruments, while other governments do not. Therefore, the Board concluded that loan commitments should be removed from the scope of the Statement. Instead, governments should disclose significant outstanding loan commitments under the guidance provided in the National Council on Governmental Accounting (NCGA) Interpretation 6, *Notes to the Financial Statements Disclosure,* which states that additional disclosures should be made if the government has contingencies—such as significant commitments.

Recognition and Measurement of Derivative Instruments—Fair Value

101. As previously noted, the Board concluded that most derivative instruments should be measured at their fair values in the statement of net assets. In the Exposure Draft, the Board proposed that derivative instruments be reported at fair value in the statement of net assets and noted that the statement of net assets included governmental fund balance sheets, proprietary fund statements of fund net assets, and the statement of fiduciary net assets. Many respondents to both the Preliminary Views and the Exposure Draft were concerned that reporting fair value amounts for derivative instruments in governmental fund statements was not consistent with the current financial resources measurement focus. The Board decided not to address the issue of reporting derivative instruments at fair value in the governmental fund statements in this Statement. The Board concluded, however, that the general issue of recognition and measurement in governmental funds should be considered as part of its conceptual framework project, which addresses recognition and measurement attributes. Therefore, for purposes of this Statement, the statement of net assets only refers to government-wide, proprietary fund, and fiduciary fund financial statements.

102. Some respondents to the Preliminary Views did not believe that derivative instruments should be reported at fair value in any of a government's financial statements. The Board considered the concerns expressed by these respondents, such as their concern that reporting fair value could increase volatility in financial statements for derivative instruments. But because fair value is critical to understanding a government's financial position, the Board concluded that reporting the fair value of derivative instruments is necessary for this transaction to be faithfully represented.

103. The Board considered alternative approaches to fair value for measuring derivative instruments, including the "context-based method," that would have measured some derivative instruments at their historical prices. Governments often enter into derivative instruments without making or receiving up-front payments. Under the context-based method, a derivative instrument often would not be reported on the statement of net assets if the measurement attribute for financial reporting was historical cost. Ultimately, the

Board rejected the context-based method primarily due to concerns about the use of historical cost for derivative instruments.

Fair Value Measurement

104. The requirements in this Statement for determining the fair value of a derivative instrument are based on the requirements in Technical Bulletin 2003-1. The Board acknowledges that some governments may have difficulty determining the fair value of certain derivative instruments. Other accounting standards setters have issued due process documents and standards addressing some of those issues, for example, Financial Accounting Standards Board (FASB) Statements No. 157, *Fair Value Measurements,* and No. 107, *Disclosures about Fair Value of Financial Instruments.* For those governments that do not apply paragraph 7 of Statement No. 20, *Accounting and Financial Reporting for Proprietary Funds and Other Governmental Entities That Use Proprietary Fund Accounting*, these FASB Statements represent other accounting literature in the hierarchy of generally accepted accounting principles. Fair value has been the required measurement attribute for investments—including investment derivative instruments—reported by pension plans since the issuance of GASB Statement No. 25, *Financial Reporting for Defined Benefit Pension Plans and Note Disclosures for Defined Contribution Plans*, in 1994, and for most investments held by governments since the issuance of Statement 31 in 1997. Statement 31 provided a definition of fair value and discussed how to measure certain investments at fair value. In addition, the fair value of derivative instruments has been a required note disclosure for governments since the publication of Technical Bulletin 2003-1 in 2003. Therefore, the Board does not believe that governments should incur significant incremental costs in determining fair values for reporting derivative instruments on their statement of net assets beyond those already incurred to disclose fair value information in the notes to the financial statements.

105. Since the release of Technical Bulletin 2003-1, governments that use pricing services to estimate the fair value of their derivative instruments have not been required to disclose significant assumptions of the pricing services if they were considered proprietary by the pricing service. In developing this Statement, the GASB contacted both pricing services and practitioners to determine whether these conditions continue to persist.

Through this research, some pricing services indicated that their methods, such as selection of a formula, are readily shared with their clients, while certain inputs, such as the amount assigned to an option's volatility, are considered proprietary. Because of the absence of uniformly available information, the Board decided to continue the current disclosure requirements for pricing services. The Board emphasizes, however, that it is management's responsibility to understand the general methods and significant assumptions pricing services use when valuing derivative instruments. Therefore, preparers should exert all reasonable efforts to obtain appropriate information to support the reasonableness of the pricing services' results.

Changes in Fair Value

106. This Statement requires governments to report the changes in the fair values of derivative instruments in their flow of resources statements, unless a derivative instrument is effective in significantly reducing an identified financial risk associated with a hedgeable item. The Board believes that derivative instruments that do not significantly reduce such a risk are in substance investments for financial reporting purposes. Therefore, like most investments, their changes in fair values should be reported in a government's flow of resources statement within the investment revenue classification.

107. When a derivative instrument is effective in significantly reducing an identified financial risk by offsetting changes in cash flows or fair values of an associated hedgeable item, this Statement requires reporting the hedging derivative instrument's fair value change as either a deferred inflow or a deferred outflow. The Board believes that deferring such changes in fair value provides a better measure of interperiod equity than recognizing them in the flow of resources statements. Concepts Statement No. 4, *Elements of Financial Statements*, explains that interperiod equity is the state in which inflows of current period resources equal current period costs of services. The Board believes that the changes in fair value of hedging derivative instruments held at the end of a reporting period are applicable to a future reporting period because the inflows or outflows of resources of the hedging derivative instrument will occur in a future period. Changes in fair value that relate to future periods should not be reported as increases or decreases to net assets in the current period. That is, the benefit or burden to taxpayers from the

changes in fair value will occur in a future period when an additional event occurs. For example, the changes in fair value from an effective pay-fixed, receive-variable interest rate swap should be reported in future reporting periods when taxpayers of a government effectively pay a fixed rate on variable-rate debt.

108. The Board's approach for hedge accounting is founded on the premise that if an effective hedging relationship exists, *all* changes in fair value of that derivative instrument should be reported as deferred inflows or deferred outflows on the statement of net assets. The Board considered an alternative approach that would measure the ineffective portion of the changes in fair value of the hedging derivative instrument. In this method, the *effective* portion of the changes in fair value of the hedging derivative instrument would be reported as a deferral. Any *ineffective* portion of the hedging derivative instrument's changes in fair value would be immediately reported within the investment revenue classification. The Board ultimately rejected this approach due to increased cost and complexity for both preparers and users.

109. Assets and liabilities that are measured at fair value in a government's statement of net assets do not qualify as hedgeable items for the purpose of determining whether a hedging derivative instrument exists. Because such assets and liabilities are measured at fair value, the periodic changes in their fair values already are reported in a government's flow of resources statements. The Board believes that the changes in the fair values of derivative instruments that are related to these assets and liabilities also should be reported in the flow of resources statements. This financial reporting treatment will result in offsetting the changes in the cash flows or fair values of the asset or liability with the changes in the cash flows or fair values of the derivative instrument in a government's flow of resources statements.

Hedges

110. Hedging is a method that a government may employ to significantly reduce an identified financial risk. One form of financial risk arises from potential adverse changes in cash flows. A government may have an asset, a liability, or an expected transaction that exposes the government to either receiving smaller payments or making higher payments.

For example, a government may be obligated to purchase fuel at a variable price at some time in the future. If fuel prices increase, the government would be obligated to pay a higher price. The same outcome is true for a government that has issued variable-rate debt. If interest rates increase, that government would be paying a higher interest rate. In order to protect against higher payments, the government may establish a cash flow hedge. This can be accomplished by entering into a derivative instrument that provides offsetting changes in cash flows against price or rate changes of hedgeable items. In a cash flow hedge, the intent is to offset changes in the cash flows of a hedgeable item with changes in the cash flows of a hedging derivative instrument. For example, a government may establish a cash flow hedge by entering into a pay-fixed, receive-variable interest rate swap to hedge interest rate risk associated with its variable-rate debt. If interest rates increase, the swap would provide increasing payments to the government, keeping net interest costs substantially unchanged.

111. Another form of financial risk arises from potential adverse changes in fair values. If a government has a fixed-rate asset, liability, or expected transaction, the fair value of that item may change as market rates change, leaving the government with a fair value loss. For example, a government may issue fixed-rate bonds that are at par—the market rate—at the time of issuance. If interest rates subsequently fall and the government's bonds continue to pay the fixed rate, it would result in a fair value loss to the government because the fair value of the bond liability would increase. On the other hand, if interest rates subsequently rise, the government is locked into the fixed rate. The government would have a fair value gain on the bonds because the fair value of the bond liability would decrease. In order to protect against the potential for fair value gain and loss arising from those changes in fair values, the government may establish a fair value hedge. This can be accomplished by entering into a derivative instrument that provides offsetting changes in fair values against adverse changes in fair values of a hedgeable item. For example, at the same time a government issues fixed-rate bonds it may enter into an interest rate swap that would swap the government's fixed bond payments for interest payments that are at the market. With this relationship, the government would synthetically be paying the market interest rate, keeping the fair value of the bond liability consistently at par.

Hedge Accounting Criteria

112. This Statement requires that hedge accounting be applied to hedging derivative instruments. The Preliminary Views would have required that management's *declared* objective is to establish a hedge. Some respondents to the Preliminary Views requested that criterion be modified to require *documentation* that management's objective for entering into a derivative instrument is to hedge. The Board rejected requiring such documentation because it was concerned that the transaction would be accounted for based on its form (the existence of qualifying documentation) rather than its substance. This conclusion is consistent with current financial reporting standards, which rarely depend on the existence of this type of documentation. Although the Board believes that sound internal control includes documentation of accounting transactions, the existence or absence of documentation generally should not determine an accounting outcome. Rather, faithful representation is accomplished when hedging derivative instruments are accounted for using hedge accounting. Therefore, the Board decided not to include a documentation criterion in this Statement.

113. Although the proposed hedging derivative instrument criterion regarding management's declared objective is not in this Statement, the Board acknowledges that governments have reasons or objectives for entering into derivative instruments and continues to require disclosure of such objectives in this Statement. Governments have been required to disclose these objectives since Technical Bulletin No. 94-1, *Disclosures about Derivatives and Similar Debt and Investment Transactions,* became effective. Preparers and auditors of governmental financial reports may find these objectives helpful in assessing whether a derivative instrument is associated with a hedgeable item.

Hedges of the Benchmark Interest Rate

114. When the hedgeable item is an existing or expected financial instrument, this Statement allows for the hedge of only a portion of the instrument's cash flows or fair values, provided that effectiveness can be measured. When interest rate risk is the hedged risk, the hedge should be based on an allowable benchmark interest rate. For hedges of *taxable* debt, the benchmark interest rates are the interest rates of direct Treasury

obligations of the U.S. government and the LIBOR swap rate. A well-established practice for hedges of taxable debt is to employ the U.S. Treasury and LIBOR indexes as benchmark interest rates. The Board acknowledges that practice and includes those reference rates in this Statement as benchmark rates. For hedges of *tax-exempt* debt, the Board studied current practice. The Board's research indicates that the AAA general obligations index is used in practice as a benchmark interest rate. For example, in a hedge of interest rate risk in anticipation of the issuance of debt, some governments use the AAA general obligation index. Because the index reflects interest rates of the highest quality state and local debt issuers, changes in the index are considered to indicate changes in interest rates. The Board acknowledges potential variances from the U.S. Treasury or LIBOR indexes; however, the Board believes that this AAA general obligation index serves as an appropriate indicator of interest rates paid by governments and, hence, interest rate risk. This Statement also identifies the SIFMA swap index as a benchmark interest rate. That index may be used in cash flow hedges when the hedged items are variable-rate bonds. Specifically, a hedging interest rate swap may have a variable payment that is based on the SIFMA swap index. When employed as benchmark interest rates in hedges of interest rate risk, both tax-exempt indexes carry the potential for variance from taxable benchmark rates, such as LIBOR. This variance is generally attributable to tax risk. That is, the relationship between taxable and tax-exempt indexes depends in large part on federal and state tax rates for individuals. Thus there is the potential for tax-exempt indexes to change for reasons not attributable to changes in interest rates. The Board considered this possibility but, nevertheless, concluded that these tax-exempt indexes are the best indicators of benchmark interest rates in the tax-exempt environment.

Effective Hedging Relationships

115. In effective cash flow hedging relationships, the changes in expected or actual cash flows of the hedging derivative instrument substantially offset the changes in expected or actual cash flows of the hedgeable item. Likewise, in effective fair value hedging relationships, the changes in fair value of the hedging derivative instrument substantially offset the changes in fair value of the hedgeable item. The amount that either the cash

flow or fair value changes of the derivative instrument offset the cash flow or fair value changes of the hedgeable item determines the effectiveness of the hedging relationship. This Statement requires that all potential hedging derivative instruments that could qualify for hedge accounting be evaluated for effectiveness. The Board believes that all hedging derivative instruments should be reported similarly to enhance comparability in financial reporting among governments. To have comparability, the "differences between financial reports should be due to substantive differences in the underlying transactions or the governmental structure rather than due to selection of different alternatives in accounting procedures or practices" (Concepts Statement No. 1, *Objectives of Financial Reporting,* paragraph 68). Therefore, the Board concluded that a government should not recognize the changes in fair value of a derivative instrument in its flow of resources statements when the evaluation of a potential hedging derivative instrument indicates that it is effective in reducing an identified financial risk. When a derivative instrument is effective, the Board concluded that hedge accounting should be applied.

Methods of Evaluating Effectiveness

116. In order to assist preparers and auditors with the accounting for hedging derivative instruments, this Statement provides practitioners with guidance on how to evaluate hedging relationships. The determination of hedge effectiveness requires the application of criteria. The Board considered various methods and believes that the methods described in this Statement provide a systematic and rational basis for the evaluation of effectiveness.

117. Governments are required to assess a potential hedging derivative instrument for effectiveness using methods specifically described in this Statement—consistent critical terms, synthetic instrument, dollar-offset, or regression analysis—or another quantitative method that meets specified criteria. Variations of the consistent critical terms, dollar-offset, and regression analysis methods have been allowed by other standards setters to evaluate effectiveness. The Board adapted the methods used by other standards setters to consider the governmental environment, particularly the tax-exempt bond market. For example, the consistent critical terms method allows the tax-exempt SIFMA swap index to

be a benchmark interest rate. The Board concluded that each of these methods, as adapted, can provide valid measures of effectiveness.

118. Although the Board recognizes four methods in this Statement that it believes have the characteristics necessary to permit a valid assessment of effectiveness, the Board acknowledges that other methods may exist or may be developed that could yield equally valid assessments. Therefore, the Board decided to allow effectiveness to be evaluated using *other* quantitative evaluation methods. To be acceptable, such a method should meet the criteria set forth in this Statement. The Board believes that the underlying principle for all of the quantitative methods—including *other* quantitative evaluation methods—is that a method should demonstrate that a potential hedging derivative instrument significantly reduces an identified financial risk by substantially offsetting the changes in cash flows or fair values associated with a hedgeable item. The Board understands that the determination of whether a method demonstrates that an identified financial risk is significantly reduced will require thorough analysis and professional judgment. This judgment may be informed by the analysis of potential evaluation methods by professionals in the finance community who rely on established principles of financial economic theory and statistics in making their assessment. Also, in developing a new evaluation method, consideration should be given to whether such a method yields conclusions about effectiveness that are generally consistent with those found using one or more of the quantitative methods specifically identified in this Statement.

119. In the Preliminary Views, a proposal was made to require a government to determine whether a potential hedging derivative instrument was effective by evaluating effectiveness using no more than two of the four methods—consistent critical terms, synthetic instrument, dollar-offset, and regression analysis. Some respondents were concerned that this approach could result in similarly situated governments reporting potential hedging derivative instruments differently depending on the method or methods they chose to evaluate effectiveness. That is, all else being equal, one government would follow hedge accounting because it chose a method that demonstrated effectiveness, and another government would recognize fair value increases and decreases in its flow of resources statements because it chose methods that did not indicate the hedge was

effective. From a conceptual perspective, the Board was sympathetic to the respondents' argument. The Board considered requiring a government to apply all four methods before it could conclude that a potential hedging derivative instrument was ineffective. The Board, however, was persuaded by other respondents that were concerned about the cost of applying the quantitative methods, particularly regression analysis. Therefore, the Board concluded that governments generally should evaluate effectiveness using only one of the methods in the first reporting period. The exception affects a government that fails the consistent critical terms method in its first reporting period. In this situation, the government is required to apply one of the quantitative methods. A government also is allowed to evaluate effectiveness using other methods if a potential hedging derivative instrument is found to be ineffective using the initial evaluation method.

120. A proposal was made in the Preliminary Views to have governments evaluate effectiveness at the inception of the hedge and at the end of each subsequent reporting period. In this Statement, the Board concluded that it is not necessary to evaluate effectiveness at inception, but effectiveness should be evaluated at the end of each reporting period. The Board believes that a government that enters into a derivative instrument with an intention of hedging an identified financial risk would have evidence that suggests the derivative instrument is effective at inception. This evidence might not include the results of applying one of the evaluation methods described in this Statement, but it would include some form of economic analysis indicating that a derivative instrument will meet its objective to hedge. Therefore, the Board believes that a hedge should continue to be effective, except in the most unusual circumstances, from inception to the end of the first reporting period. If a government incorrectly concluded, however, that it had entered into a hedge that was considered to be effective at inception, the evaluation at the end of the first reporting period most likely would indicate that possibility. Therefore, the Board believes that any additional accounting and audit costs that a government might incur to evaluate effectiveness at inception are unnecessary.

Probable Terms of Expected Transactions

121. The evaluation of effectiveness for expected transactions should be based on the *probable* terms of the expected transaction and the terms of the hedging derivative instrument. The meaning of the term *probable* as used here and elsewhere in this Statement is consistent with its use in paragraph 24 and the glossary of Statement 10. That is, probable means *likely to occur*. The Board believes that the term *probable* requires a greater likelihood of occurrence than the phrase *more likely than not*.

Consistent Critical Terms Method

122. The premise behind the consistent critical terms method is that a hedging derivative instrument exists if the critical terms of the potential hedging derivative instrument and the hedgeable item are essentially the same. That is, the potential hedging derivative instrument is effective because changes in cash flows or fair values attributable to the hedgeable item are offset by similar changes in the hedging derivative instrument, resulting in little or no ineffectiveness.

123. Some respondents to the Preliminary Views were concerned that governments using this method were not required to reevaluate effectiveness after inception for hedgeable items, especially expected transactions. The primary concern was that the critical terms of an expected transaction can change. The Board agreed that this could affect the evaluation of effectiveness. Therefore, this Statement requires a reevaluation of the critical terms of both the potential hedging derivative instrument and the hedgeable item at the end of each reporting period.

124. The Exposure Draft did not provide for adjustments to the benchmark interest rate of an interest rate swap in order for the swap to qualify under the consistent critical terms method. Some respondents commented that such adjustments should be allowed because they believed a majority of swaps governments enter into contain variable payments that either are adjusted by a fixed number of basis points or are multiplied by a coefficient. By excluding these swaps, the respondents noted that it would limit the number of swaps that could apply the consistent critical terms method. The Board considered the cost of

complying with the provisions of the Exposure Draft and the potential diminution of reliability that could result from modifying the requirements of the consistent critical terms method. A majority of the swaps that would be ineligible for consistent critical terms for the reasons noted by these respondents would be percentage of LIBOR swaps. Because the Board previously decided that LIBOR was not an appropriate benchmark interest rate for tax-exempt debt, it also concluded that a percentage of LIBOR would not be an appropriate benchmark index under the consistent critical terms method. The Board considered allowing other benchmark interest rates to be multiplied by coefficients—such as a percentage of SIFMA swap—but agreed that if an interest rate swap had such an adjusted benchmark interest rate, it was apparent that the coefficient would create potential ineffectiveness in the hedge. Thus, the Board decided to exclude swaps with variable payments that are multiplied by a coefficient from the application of the consistent critical terms method. Finally, the Board considered adjusting the benchmark interest rate by a fixed amount of basis points (for example, to take into account the particular tax structure applied to bondholders). The Board determined that adjusting the index by a fixed amount would not lead to ineffectiveness provided that the adjustment is attributable to the effects of state-specific tax rates. Therefore, the Board decided to permit the benchmark interest rate to be adjusted by either adding or subtracting a fixed number of basis points for those state-specific rates.

125. Under the consistent critical terms method, a respondent requested clarification as to the amount of variance permitted between the notional amount of the potential hedging derivative instrument and the principal amount of the hedgeable item. This respondent suggested that the notional and principal amounts should be allowed to approximate each other within a prescribed range. The Board concluded that allowing the notional and principal amounts to approximate each other would introduce the potential for a level of ineffectiveness that would be contrary to the premise of the consistent critical terms method. Further, the Board believes that hedging relationships in which the notional and principal amounts approximate each other should be evaluated using a quantitative method. Thus, hedge accounting is not precluded if a derivative instrument is determined to be effective.

126. In connection with whether notional and principal amounts may approximate each other and still qualify under the consistent critical terms method, the Board considered the case of an amortizing swap. In an amortizing swap, the notional amount of the swap changes over the life of the associated bonds to match the outstanding balance on the bonds. The Board believes that such terms meet the criteria of the consistent critical terms method because the notional amount of the swap and principal amount of the hedgeable item are equal for each hedged interest payment. In this case, changes in cash flows or fair values of the potential hedging derivative instrument will substantially offset the changes in cash flows or fair values of the hedgeable item provided all other criteria are met.

127. The Exposure Draft proposed that for a cash flow hedge to qualify for the consistent critical terms method, the repricing dates of the swap should be "on or about" the repricing or reset dates of the hedgeable item. The proposal received several comments asking the Board for specific guidance on the meaning of "on or about." The GASB consulted with several swap advisors to assess current practice and found that swap payments and hedged bond payments routinely occur close to each other. The Board also found that in order for governments to receive a favorable tax treatment (in terms of the complexity of calculations for "super-integration"), the payment dates of the swap and the bonds are required to closely correspond. In order to provide clarifying guidance in the final Statement, the Board decided to replace the "on or about" criterion in the consistent critical terms method with four distinct criteria that focus on the time intervals, the rate reset dates, the frequency of the rate resets, and the periodic payments of the derivative instrument and the hedged item.

Synthetic Instrument Method

128. In developing the evaluation methods, the Board realized that many governments create potential hedges of their tax-exempt debt by using interest rate swaps tied to a percentage of LIBOR—a taxable rate. These potential hedging derivative instruments would meet the criteria for the consistent critical terms method, except for the percentage of LIBOR rate. Another cost-effective method that could be used for these potential hedging derivative instruments was sought by the Board, resulting in the synthetic

instrument method. The synthetic instrument method was developed to evaluate whether a potential hedging derivative instrument has established a synthetic fixed price or rate for a hedgeable item within established parameters, and is therefore a hedging derivative instrument. According to the Board's research, the concept of a synthetic fixed rate or price is understood by many governments and financial statement users. In many instances, governments enter into derivative instruments to establish a synthetic fixed rate or price for an existing financial instrument or contract. For example, a government enters into a pay-fixed, receive-variable interest rate swap to fix the interest rate (and ultimately, the cash flows) that the government will pay on the variable-rate debt it has issued. The government's objective is for the variable cash flows received from the swap to substantially offset the variable cash flows that the government will pay on its debt, thereby resulting in a synthetically fixed interest rate. After applying the synthetic instrument method to certain existing interest rate swaps, the Board concluded that the synthetic instrument method adequately demonstrates whether the cash flows of a hedging derivative instrument and a hedgeable item are being sufficiently offset to draw a conclusion about a hedge's effectiveness. Therefore, the synthetic instrument method is included as an evaluation method in this Statement.

129. The Board considered whether the synthetic instrument method could be applied to evaluate only a portion of a variable-rate debt's cash flows. There were two primary reasons for not expanding the method's application. First, using the synthetic instrument method to hedge only a portion of a variable-rate debt's cash flows is not consistent with the underlying rationale for the method. That is, a hedgeable item and a potential hedging derivative instrument in their entirety are combined to create a synthetic instrument. Second, the synthetic instrument method was developed as a less complex and less costly method for determining effectiveness. The simplicity of the method is largely the result of a government already having the cash flow data to use in the calculation of effectiveness. If the synthetic instrument method is to be used to evaluate the effectiveness of only a portion of a debt's cash flows, criteria would have to be established to bifurcate the cash flows of the debt. This would make the application of the Statement more complex and costly.

130. In the Preliminary Views, the Board proposed that the actual synthetic rate of a synthetic instrument be within a range of 90 to 111 percent of the fixed rate of the potential hedging derivative instrument. Some respondents to the Preliminary Views suggested that the range should be expanded to 80 to 125 percent—to be the same as the range allowed for the dollar-offset method. Even though both methods express their results as percentages and are appropriate measures of hedge effectiveness, the data underlying the two methods are fundamentally different. The dollar-offset method considers changes in fair values—forward-looking information. As forward-looking information, fair value data is subject to a range of variability that historical data is not; fair values are estimates based on multiple assumptions and factors that can (and usually do) change over time. On the other hand, the synthetic instrument method considers historical data—actual payments. There are no uncertainties in this data. A basic premise of hedge accounting in this Statement is that a hedge that is determined to be effective creates cash flows that substantially offset and that hedge accounting should be applied to these hedges. The Board considers it appropriate, therefore, to apply a narrower range to a method of evaluating hedge effectiveness that incorporates fewer sources of variability (the synthetic instrument method), than to a method that incorporates more sources of variability (the dollar-offset method). The Board also considered the results of the evaluation of effectiveness using the synthetic instrument method for the potential hedging derivative instruments of certain governments. For these governments, the Board observed that potential hedging derivative instruments that had variable payments indexed to a percentage of LIBOR were considered effective using the 90 to 111 percent range. On the other hand, the Board studied potential hedging derivative instruments that were basis swaps. These basis swaps were not entered into by governments as hedges but, rather, to take positions in markets. When the synthetic instrument method was applied, these swaps were not found to be effective using the 90 to 111 percent range. Based on these analyses and other feedback, the Board concluded that the 90 to 111 percent range is appropriate for the synthetic instrument method.

131. In the Preliminary Views, the Board proposed that the notion of a synthetic instrument should include a synthetic *variable-rate* instrument. That is, in the case of a government's debt, the combination of a fixed-rate instrument and a pay-variable, receive-

fixed interest rate swap would establish a synthetic variable-rate instrument. Unlike the notion of a synthetic fixed-rate instrument, the Board did not propose parameters that would indicate effectiveness. In evaluating potential parameters, the Board considered that the changes in fair value of the hedged item should be offset by changes in fair value of the potential hedging derivative instrument. A perfect hedge would have a dollar-for-dollar offset or a change ratio of 1 to 1. If that was the case, this parameter would be similar to the test in the dollar-offset method. That is, under the dollar-offset method, the change of the potential hedging derivative instrument is divided by the change of the hedged item. In dollar-offset terms, the perfect hedge would have a critical term of 100 percent (the 1 to 1 ratio equates to 1/1 or 100 percent). The dollar-offset method allows critical terms to range from 80 to 125 percent. Given this analysis, the Board decided not to include a method of evaluating synthetic variable-rate instruments in this Statement because it concluded that the method would be duplicative of the dollar-offset method.

Dollar-Offset Method

132. The dollar-offset method evaluates effectiveness in terms of the changes in fair values or expected cash flows of a hedged item and potential hedging derivative instrument. In a fair value hedge, it is a comparison of the changes in fair value of the hedged item to the changes in fair value of the potential hedging derivative instrument. Likewise, in a cash flow hedge, it is a comparison of the changes in expected cash flows of the hedged item to the changes in expected cash flows of the potential hedging derivative instrument. Assuming those changes offset each other within an acceptable range (80 to 125 percent), a hedge is considered to be effective. Some respondents to the Preliminary Views were concerned whether the proposed range was appropriate. The Board established its proposed acceptable range to be consistent with both the guidance in IAS 39 and prevalent practice at the time under FASB Statement 133.

133. Some respondents to the Preliminary Views were concerned that the dollar-offset method may indicate that a potential hedging derivative instrument is ineffective because relatively small changes in the fair value or expected cash flow of the hedged item do not proportionately occur in the potential hedging derivative instrument. For example,

consider that a hedged item and a potential hedging derivative instrument each have a fair value of $100 million. If the hedged item had a fair value increase of $25,000 and the potential hedging derivative instrument had a fair value decrease of $12,500, these slight changes would cause the potential hedging derivative instrument to fail the dollar-offset method ($25,000/$12,500 equals 200 percent). In that circumstance, the Statement allows for other quantitative methods to evaluate effectiveness.

Regression Analysis Method

134. The regression analysis method is based in part on the notion that history is a predictor of the future. If regression analysis that uses historical data indicates that a potential hedging derivative instrument has been effective over a period of time ending at a government's period-end, hedge accounting is applied because history suggests that it should continue to be effective assuming market conditions stay relatively constant. The annual reevaluation of effectiveness will provide evidence about the validity of this assumption.

135. Some respondents to the Preliminary Views were concerned about the complexity and cost of regression analysis. In that document, cash flow hedges were to be analyzed with the changes in fair value of a hypothetical derivative instrument being the dependent variable and changes in fair value of the potential hedging derivative instrument being the independent variable in a regression analysis. Some members of the derivatives task force were concerned that the regression analysis method described in the Preliminary Views would not be workable for some of the derivative instruments that governments use, nor would the data necessary to conduct such a regression analysis be readily available to most governments. In an effort to increase the potential application of regression analysis for cash flow hedges while reducing its complexity and costs, the Board concluded that regression analysis for cash flow hedges could be based on changes in fair value, as had been proposed in the Preliminary Views, or on historical cash flows.

136. A member of the task force commented that while regressing cash flows works well in theory, the method would not work if the notional amount of the swap decreased over time. If the notional amount of the swap changes, the relationship between the variable

cash flows for the hedged item and the variable cash flows portion of the swap would be changing in a nonlinear way, making regression analysis inappropriate. To overcome this issue, this Statement allows regression analysis to be based on the interest rates that were used to calculate the respective cash flows on the payment dates. The output from the regression analysis should be the same regardless of whether interest rates or cash flows are used in the regression of a swap that does not have a decreasing notional amount, but using interest rates in the regression analysis would solve the problem that results when changes in cash flows are due to changes in notional amounts.

137. Some respondents requested further explanation of the Board's basis for selecting the criteria that should be met to demonstrate effectiveness. In a regression analysis that has only one independent variable, R-squared is a measure of the proportion of the variance in a dependent variable about its mean that can be explained by changes in the independent variable. R-squared can vary between 0 and 1, with a higher R-squared indicating a better explanatory power of the regression equation. This analysis assumes that the regression model is properly specified. An R-squared value of zero means that the changes in a dependent variable are unrelated to changes in the independent variable. An R-squared of 1 implies that all the variance of a dependent variable can be explained by changes in the independent variable.

138. The Board believes that an R-squared of 0.80 or higher is necessary to demonstrate the effectiveness of a potential hedging derivative instrument. This is consistent with suggestions for the R-squared statistic by many in practice and with a statement made in the 2005 edition of the AICPA Audit Guide, *Auditing Derivative Instruments, Hedging Activities, and Investments in Securities* (Audit Guide). Paragraph 3.34 of that Guide states, "Some accountants believe that an R-squared value of 0.80 or higher is required to support management's conclusion that a hedge is expected to be highly effective."

139. The F-statistic can be used to test the overall significance of a simple linear regression. A 95 percent confidence interval commonly is used for the F-statistic. Also, it is the default in many regression analysis statistical packages. The Board believes that the

F-statistic confidence interval calculated for the regression model should demonstrate that the model is significant using a 95 percent confidence interval.

140. A simple linear regression results in the calculation of regression coefficients, which minimize the sum of squared error and equals the slope of the line of best fit. The regression coefficients essentially are used as the slope and intercept terms for the line. For a hedge to be effective, changes in the cash flows or fair values of the potential hedging derivative instrument are expected to substantially offset changes in the cash flows or fair values of the hedgeable item. To demonstrate effectiveness, the Board believes that the regression coefficients should demonstrate that such offsets are occurring. A slope coefficient of –1 for a fair value hedge would indicate that an increase in fair value of the hedging derivative instrument would perfectly offset a decrease in fair value from the hedged item assuming all else is equal.

141. The Board believes that a regression coefficient for the slope should be between –1.25 and –0.80 for a simple regression analysis of a cash flow or fair value hedge. This range has been used in practice to evaluate the effectiveness of hedges under FASB Statement 133.

142. Some respondents to the Exposure Draft requested guidance on the minimum number of data points to be used in a regression analysis. The Board, however, decided not to specify a minimum number of data points. In order to use the regression analysis method, the critical values (the R-squared statistic, the F-statistic, and the regression coefficient) are required to meet given thresholds, and the results should be analyzed to yield an appropriate interpretation and understanding of statistical inferences. This guidance is consistent with guidance given in the Audit Guide. Therefore, the Board declined to specify a minimum number of data points to be used in regression analysis.

Other Quantitative Methods

143. The underlying principle for other quantitative methods is that any method used should demonstrate that a potential hedging derivative instrument significantly reduces an identified financial risk by substantially offsetting changes in cash flows or fair values

associated with a hedgeable item. The method should be performed using thorough analysis and professional judgment and should rely on established principles of financial economic theory and statistics. In addition, the method should be well-developed so that two independent practitioners could reach similar results with the same facts.

144. Some respondents to the Exposure Draft cited concerns that allowing other quantitative methods would impair the consistency between governments using different methods to evaluate similar transactions. The Board, on the other hand, believes that consistency is best achieved by requiring hedge accounting to be applied whenever there is a hedge that is determined to be effective, if the method for evaluating effectiveness is reasonable under the circumstances. Moreover, the Board considered that other quantitative methods are used in practice and expects that they will evolve as the Statement is applied in a government environment. In the interest of setting a standard that is adaptable within acceptable limits, the Board concluded that the provision for other quantitative methods was appropriate.

Hedges of Commodity Transactions

145. After the Exposure Draft, the Board considered whether a portion of the overall cash flows of a commodity transaction may be designated as a hedgeable item. Specifically, the Board reconsidered whether a commodity exposure could qualify for hedge accounting by hedging a component of the exposure. For example, a government that purchases gasoline for use in the normal course of its operations hedges the risk of price changes by purchasing ethanol futures contracts. The Board considered several viewpoints in deliberating this question. Allowing a government to apply hedge accounting to only a portion of the commodity exposure would, in some ways, mirror the provision to hedge only interest rate risk, rather than the overall cash flows of a bond. That provision is possible because the effect of changes in interest rates is readily determinable based on quoted market rates and predetermined formulas. On the other hand, while the fair value and cash flow changes in the commodity exposure and the component will be clear and likely to be correlated, the portion of the change in the commodity exposure due to the change in a component might be speculative. The Board concluded that an estimated allocation is inappropriate for hedges of commodity components. The Board notes that

hedge accounting for commodity components is still available but that analysis should focus on the hedgeable item as a whole. That is, the commodity component should qualify as a hedgeable item on a stand-alone basis. An example of a commodity component that could qualify as a hedgeable item is the price of natural gas for certain electric utilities. If natural gas is used as a component part in the production of electricity and the price of natural gas exposes the utility to adverse changes in cash flows, then it would qualify as a hedgeable item. That is, if the price of natural gas rises, the utility would, nonetheless, have to pay the higher price in order to operate.

Termination of Hedge Accounting

146. This Statement requires that the application of hedge accounting cease when a termination event occurs. Some respondents to the Preliminary Views asked for clarification regarding whether the termination of hedge accounting was permanent after a potential hedging derivative instrument is evaluated as ineffective in a period or whether future evaluations that showed effectiveness could cause hedge accounting to be reinstated. A premise of hedge accounting is that a hedge is expected to be effective throughout its life. An evaluation that a potential hedging derivative instrument is ineffective in a period not only undermines this premise but also provides evidence that known circumstances exist when the potential hedging derivative instrument will not be effective. Therefore, the Board concluded that hedge accounting should permanently cease if a potential hedging derivative instrument is ineffective. On the other hand, a derivative instrument that has been employed in a terminated hedge may be included in a new hedging relationship, provided that the hedging criteria are met.

147. The Board considered various alternatives for eliminating the derivative instrument-related deferral accounts in a government's statement of net assets when hedge accounting is terminated. Alternatives considered by the Board included writing off the entire deferral account in a government's flow of resources statement in the period in which hedge accounting is terminated, writing off only the portion of the deferral account representing the changes in fair value after the hedge is terminated, and writing off none of the deferral account. The Board concluded that the elimination of the deferral account depends on the

termination event. In most cases, the balance in the deferral account is eliminated in the period the hedge terminates, which in many cases, also is the period the hedging derivative instrument is terminated.

148. Some respondents to the Exposure Draft commented that debt refundings would result in the termination of the hedging relationship and would necessitate the write-off of deferrals in the period of hedge termination. These respondents believed that the deferrals would be more appropriately treated under the provisions of paragraph 4 of GASB Statement No. 23, *Accounting and Financial Reporting for Refundings of Debt Reported by Proprietary Activities*. Paragraph 4 provides that the difference between the reacquisition price of the old debt and the net carrying amount of the new debt be deferred and amortized as a component of interest expense over the life of the old debt or the life of the new debt, whichever is shorter. The Board agreed that the nature of the deferral account analogizes to unamortized bond issuance costs of refunded debt, and that the deferral account contains costs incurred in an earlier period but appropriately recognized as an addition to interest costs in later periods. In the Board's view, refunded debt also may be appropriately seen as a synthetic instrument consisting of variable-rate bonds and a hedging interest rate swap, and paragraph 4 treatment should be applied to the synthetic instrument.

Hybrid Instruments

149. The definition of a derivative instrument in this Statement identifies three essential characteristics of a derivative instrument. By using this definition, a decision generally can be made as to whether a stand-alone financial instrument or other contract is or is not a derivative instrument. Other financial instruments, however, are not stand-alone contracts but rather are made up of separable transactions: an embedded derivative instrument and a companion instrument. Such instruments are referred to as hybrid instruments in this Statement. The Board decided to make a distinction between the separable pieces of a hybrid instrument because their characteristics are equivalent to other instruments. The notion of a hybrid instrument is symmetrical. A derivative instrument may be embedded in a companion instrument. On the other hand, a nominal

derivative instrument may contain a companion instrument that should be separated from the nominal derivative instrument. The Board believes that the embedded derivative instrument, which meets the definition of a derivative instrument, should be recognized in the financial statements based on the reporting requirements for a derivative instrument. The component instrument should be recognized based on the reporting requirements that are applicable to that component instrument—such as the financial reporting requirements for debt instruments, leases, or insurance contracts.

150. The Preliminary Views proposed that a government recognize a liability for an up-front payment that it receives when it enters into an interest rate swap. The interest rate swap would be reported as a derivative instrument and the up-front payment would be considered a companion instrument that is reported as a liability. Most respondents to the Preliminary Views agreed with this proposed financial reporting. Some respondents, however, argued that the up-front payment should be reported as deferred revenue. The Board considered this argument but believed that the up-front payment meets the definition of a liability as described in Concepts Statement 4 and, therefore, should be reported as a liability.

151. One of the hybrid instrument criteria included in the Exposure Draft provided that a hybrid instrument exists if the economic characteristics and risks of the derivative instrument are not closely related to the economic characteristics and risks of the companion instrument. Due process comments in response to the Exposure Draft indicated that practitioners sought more guidance on the closely related notion. Because the GASB's research indicated that the hybrid instruments that governments are entering into are interest based, additional guidance has been provided for those type of instruments.

Written Options

152. Writing an option generally results in a cash payment to the issuer. When governments issue swaptions—options to enter swaps—the option should be evaluated to determine whether a hybrid instrument exists. An important reason that governments issue swaptions is to generate up-front payments, especially in the case of a synthetic refunding.

Significant up-front payments are received when a government agrees to pay a fixed rate that is higher than the market currently expects for a swap that will be entered into on a specified future date. In those cases, a written option has both intrinsic value (the option is in-the-money) and time value. Members of the derivatives task force indicated that the counterparty almost always exercises such a written option. The counterparty, in essence, is then repaid the amount it provided to the government in the up-front payment through a higher-than-market interest rate on the ensuing swap. In this case, the Board concluded that the swaption should follow the accounting for a hybrid instrument. The government has entered into a borrowing in the amount of the intrinsic value of the swaption. That borrowing should be accounted for as any other borrowing—measured on an amortized cost basis, for example. On the other hand, the embedded derivative instrument—represented by an at-the-market swaption at the transaction's inception—should be measured at fair value.

Synthetic Guaranteed Investment Contracts

153. Although the Board did not provide proposed guidance for synthetic guaranteed investment contracts (SGICs) in the Preliminary Views, some respondents were concerned that a Statement would require measuring these contracts at fair value. The Board considered the features of various SGICs and concluded in the Exposure Draft that fully benefit-responsive SGICs should be recognized at contract value, instead of fair value. The Board believes contract value is the most relevant measurement attribute because it is the amount that participants in a plan would receive in a permitted participant-initiated transaction. In the due process period between the Exposure Draft and the final Statement, the Board reconfirmed the recognition of SGICs to determine if contract value is the most appropriate measurement basis. The Board also affirmed that disclosing the fair value of the underlying assets and the wrap contract embedded in the SGIC would be essential information to users of financial statements.

Notes to the Financial Statements

154. In developing this Statement, the Board heard from constituents who are involved in various aspects of the derivative instruments community or who assess state and local governments for creditworthiness. Generally, all interested parties agreed that the Technical Bulletin 2003-1 disclosures were beneficial and that it was important to continue disclosures that describe a government's objective for entering into derivative instruments, the significant terms of derivative instruments, and the risks associated with derivative instruments. Some users of governmental financial reports expressed concern that they were not able to understand the government's reason for entering into a derivative instrument after reading the note disclosures. These users, however, still believed that the Technical Bulletin 2003-1 requirements were adequate.

155. The disclosures required by Technical Bulletin 2003-1 generally have been incorporated into this Statement. This Statement, however, generally limits those disclosures to hedging derivative instruments. The Preliminary Views had proposed that these disclosures apply to all derivative instruments. Some respondents to that document were concerned about applying these proposed disclosures to derivative instruments that were already reported as investments. Governments with such derivative instruments currently are required to apply the disclosures required by Statement 40. That Statement requires similar but not identical disclosures to those required in this Statement. The Board believes that all derivative instruments that do not significantly reduce a government's exposure to an identified financial risk are investments and that the Statement 40 investment disclosures generally are adequate for such derivative instruments. For example, Statement 40 requires specific interest rate risk disclosures for investments with fair values that are highly sensitive to changes in interest rates. When an interest rate swap is not a hedging derivative instrument but is reported as an investment, those disclosures are appropriate. The Board, however, believes that the credit risk disclosures in this Statement should be applied to all derivative instruments because that disclosure is more consistent with credit risk features of derivative instruments, such as collateralization and the right of set off.

156. In the Preliminary Views, the Board proposed including a disclosure that summarized derivative instrument activity during the year. That summary would have included the beginning-of-period fair values of derivative instruments, the changes in the fair values of derivative instruments held during the period, and the end-of-period fair values of derivative instruments. Some respondents were concerned that providing the amount of detail being proposed would be costly and suggested that alternative disclosures be developed to provide the information users needed regarding derivative instruments held by a government at its period-end. The Board agreed with these respondents by eliminating the disclosure of beginning-of-period fair values. The summary of derivative instruments in this Statement focuses on end-of-period fair values of derivative instruments by type with disclosures of the notional amounts and how changes in fair values of derivative instruments are reported in a government's financial statements. The Board believes that these disclosures should help users better understand the reporting of and risks associated with derivative instruments while reducing the cost of compliance.

157. In the Exposure Draft, the Board proposed a concentration of credit risk disclosure but did not provide numeric guidance that would indicate when this disclosure should be made. The basis for this approach is that a numeric calculation would be arbitrary given the limited number of counterparties, interrelationships between those counterparties, and other kinds of instruments, such as bonds that governments hold from the same counterparties. Instead, the Board believes that a disclosure should be made when the facts and circumstances suggest to the practitioner that there is a concentration of credit risk.

158. In the Preliminary Views, the Board proposed a disclosure of hedge ineffectiveness for hedging derivative instruments. Hedge ineffectiveness occurs when the change in the fair value or cash flow of a hedging derivative instrument does not exactly offset the change in the fair value or cash flow of the hedgeable item over a reporting period. During its due process, the Board found very few financial statement users that suggested the disclosure of ineffectiveness would be useful. Those users thought that the magnitude of disclosed ineffectiveness might be a predictor of a government's voluntary termination of a hedge. Other users disagreed, believing that many factors including the amount that a

government would have to pay or that it would receive at termination would be the dominant factor in determining whether a hedge is terminated. Still other respondents to the Preliminary Views were concerned that the proposed disclosures for hedge ineffectiveness would be costly to implement. The Board concluded that a disclosure of hedge ineffectiveness would not be required in this Statement because its perceived benefit did not outweigh its costs. The Board, however, decided to require aggregate fair value information by type of derivative instrument. This should assist users in assessing the effect of potential termination on a government's financial position.

159. In the Preliminary Views, the Board also proposed disclosing the method that a government used to determine effectiveness including the government's conclusion and the basis for its conclusion that a potential hedging derivative instrument was effective. Some respondents were concerned that disclosures about the determination of effectiveness would have only limited value to users, and, therefore, their inclusion unnecessarily would lengthen the note disclosures. The Board agreed with these respondents. Users generally will be able to determine whether a government's derivative instruments effectively hedge risks by examining the financial statements to see whether a deferral account is reported. The Board acknowledges that governments make a number of determinations about the proper reporting of items within financial statements, but generally does not believe that the basis for these determinations are essential to users' understanding of financial statements. The Board, however, concluded that a government should disclose its evaluation method when it chooses to use a quantitative method not specifically identified in this Statement. In this instance, the Board believes that users need this information to assess the appropriateness of the method.

160. Some financial statement users expressed an interest in detailed derivative-by-derivative disclosures. These disclosures would include termination provisions, collateral posting requirements, and the identity of swap counterparties. The Board believes that while this information may be of interest to certain users, it does not rise to the level of essential disclosures in general purpose financial statements. The Board also observes that some financial statements provide this detailed information. This Statement does not prohibit inclusion of this information.

Implementation Costs

161. Throughout the development of this Statement, the Board has been careful to consider cost impacts to preparers, auditors, and financial statement users. In order to facilitate the application of this Statement, for example, the methods of evaluating effectiveness are described with specificity. In addition, comprehensive illustrations have been provided to assist with implementation efforts. In a field test that was a *pro forma* application of the Exposure Draft, the GASB asked participants to estimate implementation and ongoing costs. The limited results of the field test suggest that implementation costs should not be significant for many governments. Furthermore, all governments already apply the disclosure requirements of Technical Bulletin 2003-1. That Technical Bulletin required the development of fair values and disclosure of derivative instrument terms and risks. Given the improvement to financial reporting, the Board believes that the benefits of this information outweigh the costs to prepare, audit, and understand it.

Effective Date and Transition

162. The transition provisions generally result in accounting for derivative instruments as assets or liabilities and any related deferred charges or credits as if a standard on derivative instruments had existed at the beginning of the first financial statement period reported. It likewise results in restating beginning net assets, fund balances, or fund net assets, as applicable, for the first period reported. The Board does not believe that a government that has a hedging derivative instrument that was established prior to the earliest period reported should be required to evaluate whether the hedging derivative instrument was effective in previous reporting periods. Instead, the Board concluded that the initial evaluation of effectiveness would be at the end of the current reporting period. If a hedging derivative instrument exists at the end of the current reporting period, the hedging derivative instrument is considered effective for the current and all previous reporting periods. This prospective approach to the initial determination of effectiveness should reduce the cost of compliance with the Statement by eliminating the need to gather data. On the other hand, if a derivative instrument is determined to be *ineffective* at the

end of the current reporting period, that derivative instrument should be evaluated as of the end of the *previous* reporting period. That evaluation is intended to determine whether the potential hedging derivative instrument was ineffective in the prior period or became ineffective during the current period. The Board considered but rejected a presumption that a derivative instrument could be considered to be ineffective at the beginning of the current reporting period. That position was based on the observation that the reporting in the flow of resources statement of a hedging derivative instrument that *becomes* ineffective during the current reporting period is reported from a hedge that is ineffective before the current reporting period. Thus, in the Board's view, the transition provision as described above results in a more faithful representation.

163. The Board believes that a government should restate its beginning net assets, fund balances, or fund equity to have consistency in financial reporting. One of the basic characteristics of financial reports discussed in Concepts Statement 1 is consistency. Paragraph 67 of Concepts Statement 1 explains that "[f]inancial reports should be consistent over time; that is, there is a presumption that once an accounting principle or reporting method is adopted, it will be used for all similar transactions and events." Based on the financial reporting characteristic of consistency, the Board believes that all transactions and other events related to derivative instruments should be reported in a consistent manner beginning with the first period for which financial statements are presented.

164. Comments were received indicating that the effect of the Statement—chiefly reporting changes in fair value within the investment revenue classification—could cause some governments to violate the terms of existing bond covenants. Information was provided that described the efforts necessary to modify bond covenants when a new accounting standard is issued. The Board reconsidered alternatives, such as the suspension of effectiveness requirements for existing hedges at transition. These alternatives may have diminished the effects of the Statement on the determination of bond covenant compliance, especially the effect of hedge termination events that affect investment revenue. The alternatives were rejected because they were not consistent with the Board's existing literature or represented an approach that was determined to be unsuitable.

Appendix C

ILLUSTRATIVE EXAMPLES OF COMMON DERIVATIVE INSTRUMENT APPLICATIONS

165. This appendix illustrates the application of this Statement. In some instances, amounts that may be considered immaterial are used to illustrate specific requirements. No inferences about determining materiality should be drawn from these illustrations. In some illustrations, actual market data was used; in others, a flat yield curve assumption or hypothetical market prices have been used.

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ILLUSTRATION 1—CONSISTENT CRITICAL TERMS METHOD: CASH FLOW HEDGE—INTEREST RATE SWAP

Overview of the Illustration

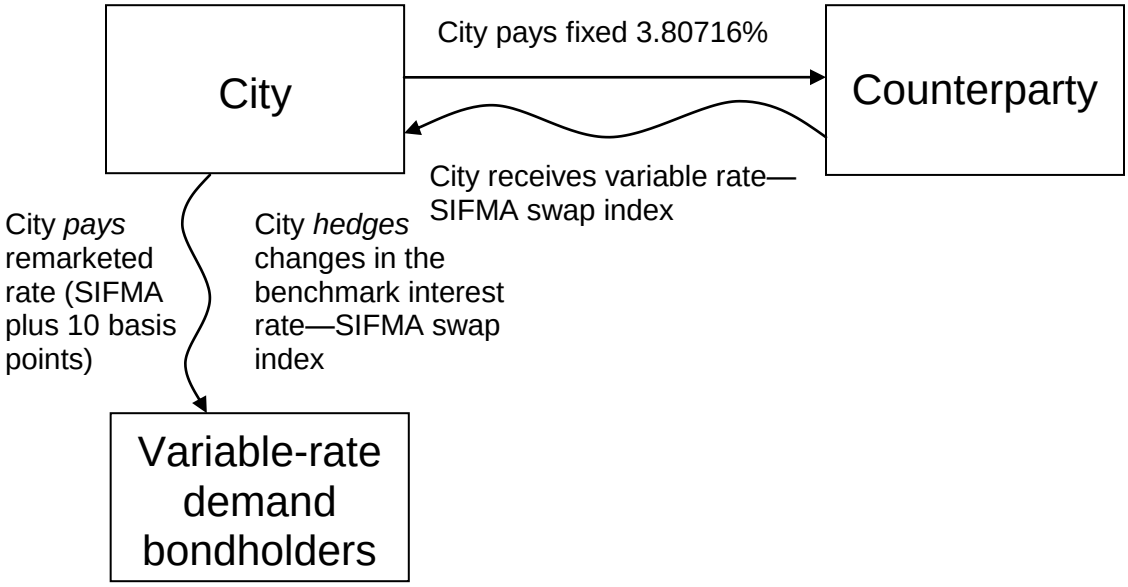
This illustration depicts a cash flow hedge that uses a pay-fixed, receive-variable interest rate swap. The objective of the swap is to hedge interest rate risk, that is, the risk that changes in the benchmark interest rate, in this case the Securities Industry and Financial Markets Association (SIFMA) swap index, will adversely affect the cash flows of the variable-rate bonds. Therefore, the swap is not intended to hedge the total cash flows of the bonds. The potential hedging derivative instrument is the interest rate swap. The hedgeable items are the variable-rate bonds. Based on the consistency of the terms of the swap and the variable-rate bonds, the city determines that the swap is a hedging derivative instrument using the consistent critical terms method. Accordingly, changes in the fair values of the swap are reported as deferrals on the statement of net assets.

Assumptions

On July 1, 20X0, a city issues variable-rate demand bonds of $100 million. The bonds mature on June 18, 20X4. The coupon is remarketed weekly and for the purposes of this illustration, that remarketed rate is considered to be the SIFMA rate plus the state tax difference—10 basis points.

At the same time, the city enters into a $100 million notional, pay-fixed, receive-variable interest rate swap. The variable rate on the swap also resets weekly. The variable rate is the SIFMA swap index. The fixed rate is 3.807 percent, and the swap terminates on June 11, 20X4. Upon association with the variable-rate bonds (which, in this case, is at the

inception of the swap), the fair value of the swap is zero. The following diagram depicts the payment terms of the swap and variable-rate demand bonds:



Shortly after the swap is executed, interest rates fall significantly. As rates change, the changes in cash flows of the variable-rate bonds attributable to changes in the SIFMA swap index are substantially offset by similar changes in variable cash flows on the swap. Payments on the swap and the interest payments on the variable-rate demand bonds are summarized as follows:

Fiscal Year Ended	Counterparty Swap Payment			Interest Payments to Bondholders	Total Payments
	To	From	Net		
June 30, 20X1	$ (3,807,160)	$ 1,689,314	$ (2,117,846)	$ (1,789,314)	$ (3,907,160)
June 30, 20X2	(3,807,160)	1,259,205	(2,547,955)	(1,359,205)	(3,907,160)
June 30, 20X3	(3,807,160)	978,661	(2,828,499)	(1,078,661)	(3,907,160)
June 30, 20X4	(3,807,160)	1,830,405	(1,976,755)	(1,930,405)	(3,907,160)
Total	$ (15,228,640)	$ 5,757,585	$ (9,471,055)	$ (6,157,585)	$ (15,628,640)

Swap Fair Values

The fair values and changes in fair values of the swap are as follows:

	As of and for the Fiscal Year Ended			
	June 30, 20X1	June 30, 20X2	June 30, 20X3	June 30, 20X4
Fair value	$ (2,984,833)	$ (4,786,631)	$ (1,908,738)	$ -
Change in fair value	(2,984,833)	(1,801,798)	2,877,893	1,908,738

Evaluation of Effectiveness

The hedgeable items are the variable-rate demand bonds. The variability of the cash flows of the bond coupons is affected by more than changes in the benchmark interest rate. For example, changes in the credit quality of the city's bonds could affect its remarket rates. The city's specific objective, however, is to offset changes in the cash flows of the bond coupons (a cash flow hedge) attributable to changes in the benchmark interest rate. The relevant benchmark interest rate is the SIFMA swap index.

Because the terms of the bonds and the interest rate swap are consistent, the city uses the consistent critical terms method to evaluate effectiveness as of the end of the reporting period. The following table shows how the critical terms of the pay-fixed, receive-variable swap are consistent with the critical terms of the variable-rate demand bonds:

Interest Rate Swap		Variable-Rate Demand Bonds	
Notional	$100,000,000	Bond principal	$100,000,000
Termination	June 11, 20X4	Maturity of bonds	June 18, 20X4
Variable payment	SIFMA swap index	Benchmark interest rate	SIFMA swap index
Floor or cap	No	Floor or cap	No
Time interval of reference rate	Every 7 days	Time interval of reference rate	Every 7 days
Frequency of rate resets	Weekly	Frequency of rate resets	Weekly
Rate reset dates	Wednesday	Rate reset dates	Thursday
Swap payment date	The 11th day of every month	Coupon payment date	The 18th day of every month

Upon association with the variable-rate demand bonds, the pay-fixed, receive variable swap has a zero fair value. The fixed rate (3.80716 percent) and the formula to determine the variable rate of the swap (SIFMA swap index) remains the same throughout the life of the swap.

Because the critical terms are consistent, the changes in cash flows of the swap will substantially offset the changes in cash flows of the variable-rate demand bonds attributable to changes in the SIFMA swap index. Therefore, the swap is a hedging derivative instrument, and hedge accounting is applied. At the end of each subsequent reporting period, the city verifies the critical terms have not changed.

ILLUSTRATION 2—CONSISTENT CRITICAL TERMS METHOD: CASH FLOW HEDGE—INTEREST RATE LOCK

Overview of the Illustration

This illustration depicts a cash flow hedge that uses an interest rate lock. The objective of the interest rate lock is to hedge interest rate risk, that is, the risk that changes in the benchmark interest rate, in this case the AAA general obligations index, will adversely affect the cash flows of the bonds the school district plans to issue in the future. The potential hedging derivative instrument is the interest rate lock. The hedgeable items are the expected bonds. Based on the consistency of the terms of the interest rate lock and the expected bonds, the school district determines that the interest rate lock is a hedging derivative instrument using the consistent critical terms method. Accordingly, changes in fair values of the interest rate lock are reported as deferrals on the statement of net assets over the life of the interest rate lock.

Upon issuance of the bonds, the interest rate lock is terminated. Because the interest rate lock has a positive fair value to the school district, the school district receives a payment from the counterparty. In the government-wide financial statements, this payment is deferred and amortized over the life of the fixed-rate bonds as an offset of interest expense.

Assumptions

On July 1, 20X0, a school district receives approval to build four new schools with construction scheduled to begin in 20X2. The school district plans to issue $100 million of 10-year bonds on July 1, 20X2, to fund the project as authorized by a bond ordinance approved by the school board. Also on July 1, 20X0, in order to protect itself from rising

interest rates, the school district enters into an interest rate lock. The school district's intention is for the interest rate lock to hedge its exposure to interest rate risk during the period prior to issuance of the fixed-rate bonds. The fixed rate on the interest rate lock is 3.85 percent (rounded). Upon association with the expected bonds (which, in this case, is at the inception of the interest rate lock), the interest rate lock has a zero fair value.

The interest rate lock's termination payment is determined using the AAA general obligations index. As the school district expects to issue the 10-year bonds in 20X2, the interest rate lock is designed to fix the interest rate over a matching time horizon. The fair values of the interest rate lock as of June 30, 20X1 and 20X2, and the changes in fair values of the interest rate lock for the fiscal years then ended are as follows:

	As of and for the Fiscal Year Ended	
	June 30, 20X1	June 30, 20X2
AAA general obligations index	4.00%	3.95%
Interest rate lock fair value	$ 1,178,736	$ 803,675
Change in interest rate lock fair value	1,178,736	(375,061)

Evaluation of Effectiveness

The hedgeable items are the bonds that will be issued two years in the future. Fixed coupons on bonds that are expected to be issued are essentially floating rates until the date when the bonds are issued, at which time the coupon rate is determined and the coupons have a fixed, stated rate. The relevant benchmark interest rate is the AAA general obligations index. The principal amount and maturity date of the bonds are detailed in the bond ordinance approved by the school board. The school district uses the consistent critical terms method to evaluate effectiveness. The following table shows how the critical terms of the interest rate lock are consistent with the critical terms of the expected bonds:

Interest Rate Lock		Expected Bond Issue Terms	
Notional	$100,000,000	Principal	$100,000,000
Termination date	No later than July 31, 20X2	Issuance date	July 1, 20X2
Term of interest rate lock	10 years	Term of bonds	10 years
Benchmark interest rate	AAA general obligations index	Benchmark interest rate	AAA general obligations index

Upon association with the expected bonds, the interest rate lock has a zero fair value.

Because the critical terms are consistent, the cash flows to be received or paid at the termination of the interest rate lock will substantially offset the cash flows associated with

the changes in the interest rate. Therefore, the interest rate lock is a hedging derivative instrument, and hedge accounting is applied. At the end of the subsequent reporting period, the city verifies that the critical terms have not changed.

Note that the termination date of the interest rate lock is no later than July 31, 20X2, and the bond issuance date is July 1, 20X2. The school district expects to immediately terminate the interest rate lock upon issuance of the bonds. If this is the case, the school district can expect that the interest rate lock will be effective.

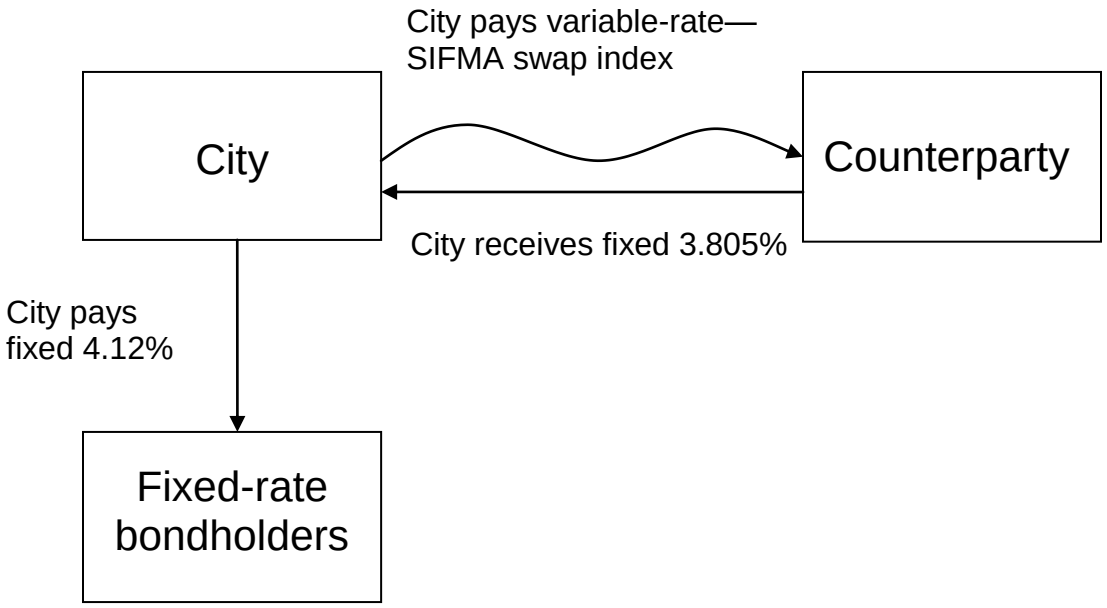
ILLUSTRATION 3—CONSISTENT CRITICAL TERMS METHOD: FAIR VALUE HEDGE—INTEREST RATE SWAP

Overview of the Illustration

This illustration depicts a fair value hedge that uses a pay-variable, receive-fixed interest rate swap. The objective of the swap is to hedge the risk of changes in the fair value of the city's outstanding bonds. The potential hedging derivative instrument is the interest rate swap. The hedgeable items are the fixed-rate bonds. The city determines that the swap is an effective hedge using the consistent critical terms method. Accordingly, changes in fair value of the swap are reported as deferrals on the statement of net assets.

Assumptions

On July 1, 20X1, a city issues fixed-rate bonds of $100 million. The bonds mature on June 30, 20X5. The semiannual coupon rate of the bonds is fixed at 4.12 percent. At the same time, the city enters into a $100 million notional, pay-variable, receive-fixed interest rate swap. The fixed rate of the semiannual payment is 3.805 percent (rounded). The variable rate is the Securities Industry and Financial Markets Association (SIFMA) swap index, which resets weekly. The swap terminates on June 30, 20X5. At inception, the fair value of the swap is zero. On July 1, 20X1, SIFMA is 2.68 percent. The following diagram depicts the payment terms of the swap and fixed-rate bonds:



Interest rates fluctuate after the swap is executed. As rates change, the impact on the fair value of the city's fixed-rate bonds is offset by a similar impact on the fair value of the swap. A synthetic interest rate is created by the swap, which reflects SIFMA plus the 31.5 basis points difference between the city's fixed-rate payment to the bondholders and the receipt of the fixed-rate payment from the counterparty to the swap (4.12 percent – 3.805 percent). Payments on the swap and the interest payments on the fixed-rate bonds are summarized as follows:

Fiscal Year Ended	Counterparty Swap Payment			Interest Payments to Bondholders	Total Payments
	To	From	Net		
June 30, 20X2	$ (1,684,740)	$ 3,805,002	$ 2,120,262	$ (4,120,000)	$ (1,999,738)
June 30, 20X3	(1,257,151)	3,805,002	2,547,851	(4,120,000)	(1,572,149)
June 30, 20X4	(979,387)	3,805,002	2,825,615	(4,120,000)	(1,294,385)
June 30, 20X5	(1,840,998)	3,805,002	1,964,004	(4,120,000)	(2,155,996)
Total	$ (5,762,276)	$ 15,220,008	$ 9,457,732	$ (16,480,000)	$ (7,022,268)

Swap Fair Values

The fair values and changes in fair value of the interest rate swap are as follows:

	As of and for the Fiscal Year Ended			
	June 30, 20X2	June 30, 20X3	June 30, 20X4	June 30, 20X5
Fair value	$ 2,972,051	$ 4,782,436	$ 1,906,655	$ -
Change in fair value	2,972,051	1,810,385	(2,875,781)	(1,906,655)

Evaluation of Effectiveness

The hedgeable items are the fixed-rate bonds. The city's specific objective is to offset changes in the fair value of the bonds (a fair value hedge) attributable to changes in the benchmark interest rate (SIFMA).

Because the terms of the bonds and the interest rate swap are consistent, the city uses the consistent critical terms method to evaluate effectiveness as of the end of the reporting period. The following table shows how the critical terms of the pay-variable, receive-fixed swap are consistent with the critical terms of the fixed-rate bonds:

Interest Rate Swap		Fixed-Rate Bonds	
Notional	$100,000,000	Bond principal	$100,000,000
Termination	June 30, 20X5	Maturity of bonds	June 30, 20X5
Floor or cap	No	Floor or cap	No

Upon association with the fixed-rate bonds, the pay-variable, receive-fixed swap has a zero fair value. The fixed rate (3.805 percent) and the formula to determine the variable rate of the swap (SIFMA) remains the same throughout the life of the swap.

Because the critical terms are consistent, the changes in fair value of the swap will substantially offset the changes in fair value of the fixed-rate bonds attributable to changes in the SIFMA swap index. Therefore, the swap is a hedging derivative instrument, and hedge accounting is applied. At the end of each subsequent reporting period, the city verifies that the critical terms have not changed.

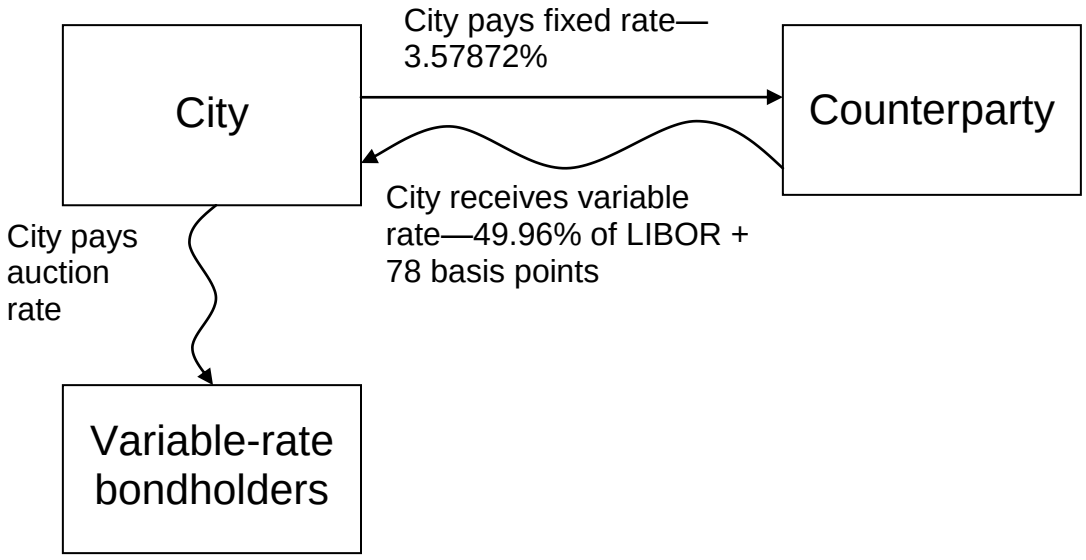
ILLUSTRATION 4—SYNTHETIC INSTRUMENT METHOD: CASH FLOW HEDGE—INTEREST RATE SWAP

Overview of the Illustration

This illustration depicts a cash flow hedge that uses a pay-fixed, receive-variable interest rate swap. The objective of the swap is to hedge the risk of overall changes in cash flows associated with variable-rate bonds. The potential hedging derivative instrument is the interest rate swap. The hedgeable items are the variable-rate bonds. The city determines that the swap is a hedging derivative instrument using the synthetic instrument method over the life of the swap. Accordingly, changes in fair value of the swap are reported as deferrals on the statement of net assets over the life of the swap.

Assumptions

On July 1, 20X0, a city issues variable-rate bonds of $100 million. The bonds mature on June 30, 20X4. The semiannual coupon rate is reset weekly by auction. At the same time, the city enters into a $100 million notional, pay-fixed, receive-variable interest rate swap. The variable rate of the semiannual payment resets weekly. The variable rate is 49.96 percent of the London Interbank Offered Rate (LIBOR) plus 78 basis points. The fixed rate is 3.57872 percent and the swap terminates on June 30, 20X4. Upon association with the variable-rate bonds (which, in this case, is at the inception of the swap), the fair value of the swap is zero. The following diagram depicts the payment terms of the swap and variable-rate bonds:



Interest rates fluctuate after the swap is executed. The city continues to pay the contractual fixed rate (3.57872 percent) to the counterparty. However, the actual synthetic rate varies depending on the difference between the city's auction rate paid to bondholders and the swap's variable-rate payment made by the counterparty to the city. Payments on the swap, the interest payments on the variable-rate bonds, and the actual synthetic rate based on such payments are summarized as follows:

Fiscal Year Ended	Counterparty Swap Payment			Interest Payments to Bondholders	Total Payments	Actual Synthetic Rate*
	To	From	Net			
June 30, 20X1	$ (3,578,714)	$ 2,031,713	$ (1,547,001)	$ (1,789,314)	$ (3,336,315)	3.34%
June 30, 20X2	(3,578,714)	1,575,995	(2,002,719)	(1,359,205)	(3,361,924)	3.36%
June 30, 20X3	(3,578,714)	1,359,597	(2,219,117)	(1,078,661)	(3,297,778)	3.30%
June 30, 20X4	(3,578,714)	1,940,223	(1,638,491)	(1,930,405)	(3,568,896)	3.57%
Total	$(14,314,856)	$ 6,907,528	$ (7,407,328)	$ (6,157,585)	$ (13,564,913)	

* Calculated as the total payments divided by $100,000,000 notional amount.

Swap Fair Values

The fair values and changes in fair values of the swap are as follows:

	As of and for the Fiscal Year Ended			
	June 30, 20X1	**June 30, 20X2**	**June 30, 20X3**	**June 30, 20X4**
Fair value	$ (2,487,390)	$ (4,000,154)	$ (1,536,286)	$ -
Change in fair value	(2,487,390)	(1,512,764)	2,463,868	1,536,286

Evaluation of Effectiveness

The hedgeable items are the variable-rate bonds. The city's specific objective is to hedge the risk of overall changes in cash flows associated with the variable-rate bond coupons (a cash flow hedge). The pay-fixed, receive-variable interest rate swap is designed to synthetically fix the cash flows on the variable-rate bonds. Changes in the variable rate received on the swap are intended to offset the changes in the variable rate being paid on the bonds so that the fixed rate of the swap is essentially the effective rate that the city pays.

Because a synthetic fixed interest rate on the variable-rate bonds is intended to be created by the swap, the city uses the synthetic instrument method to determine whether the changes in cash flows of the swap substantially offset the changes in cash flows of the bonds. Although many of the critical terms of the swap and the bonds match, the consistent critical terms method may not be used because the swap reference rate is LIBOR—a taxable rate—whereas the bonds are tax exempt. The city determines that the terms of the swap meet the requirements to apply the synthetic instrument method as follows:

- The notional amount of the swap is the same as the principal amount of the variable-rate bonds ($100 million).
- The fair value of the swap upon association with the variable-rate bonds is zero.
- The fixed rate (3.57872 percent) and the formula to determine the variable rate (49.96 percent of LIBOR plus 78 basis points) of the swap remain the same throughout the life of the swap.
- The term of the swap does not extend beyond the life of the variable-rate bonds.

The city then determines the actual synthetic rate created by the swap. To be considered effective, the actual synthetic rate should fall between 90 and 111 percent of the fixed rate of the swap. This testing is performed at the end of the first reporting period after the inception of the swap's association with the variable-rate bonds and at the end of each reporting period thereafter for the duration of the swap or until the swap no longer meets the criteria for effectiveness.

As the city prepares only annual financial reports, it evaluates effectiveness on an annual basis. The city computes the actual synthetic rate by adding the net payments on the swap to the interest payments on the variable-rate bonds and dividing by the notional amount. The city then determines whether the actual synthetic rate created by the swap remains within 90 to 111 percent of the fixed rate of the swap. The following is an analysis of the actual synthetic rate (provided above) as a percentage of the swap fixed rate for each of the fiscal years through June 30, 20X3:

	As of and for the Fiscal Year Ended			
	June 30, 20X1	June 30, 20X2	June 30, 20X3	June 30, 20X4
Analysis on an Annual Basis				
Actual synthetic rate	3.34%	3.36%	3.30%	3.57%
Swap fixed rate	3.58%	3.58%	3.58%	3.58%
Percentage ratio (rounded)	93.30%	93.85%	92.18%	99.72%
Analysis on a Life-to-Date Basis				
Actual synthetic rate	3.34%	3.35%	3.33%	3.39%
Swap fixed rate	3.58%	3.58%	3.58%	3.58%
Percentage ratio (rounded)	93.30%	93.58%	93.02%	94.69%

For each of the fiscal years ended June 30, 20X1, through June 30, 20X4, the city determines that the actual synthetic rate falls within 90 to 111 percent of the swap fixed rate. There are no new market conditions to suggest the swap will not meet the criteria for effectiveness in future periods. Therefore, the swap is a hedging derivative instrument, and hedge accounting is applied.

ILLUSTRATION 5—SYNTHETIC INSTRUMENT METHOD: CASH FLOW HEDGE—INTEREST RATE SWAP, TERMINATION OF HEDGE ACCOUNTING DUE TO NEW MARKET CONDITIONS

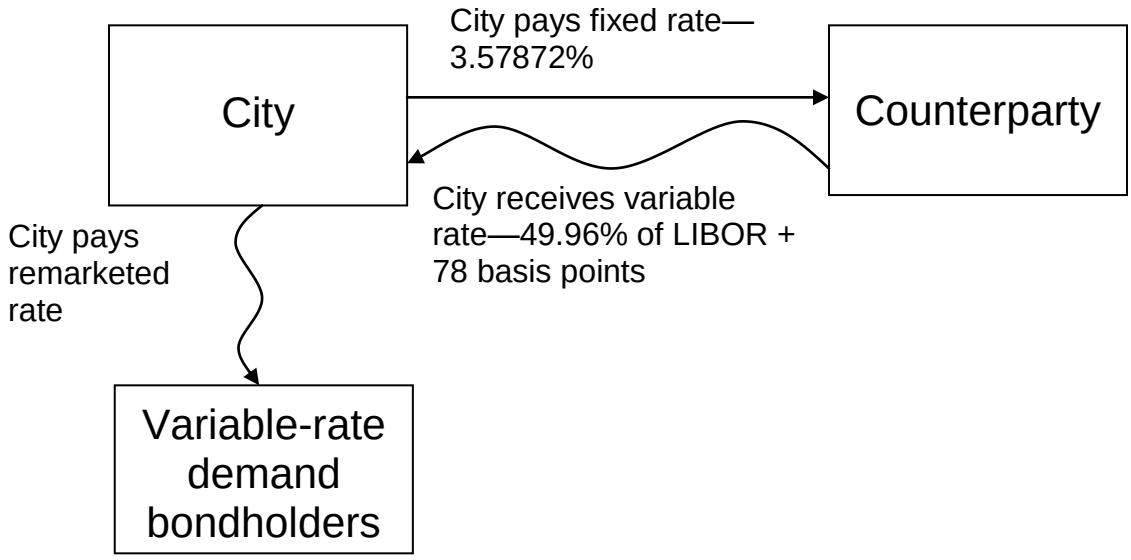
Overview of the Illustration

This illustration depicts a cash flow hedge that uses a pay-fixed, receive-variable interest rate swap. The objective of the swap is to hedge the risk of overall changes in cash flows associated with variable-rate bonds. The potential hedging derivative instrument is the interest rate swap. The hedgeable items are the variable-rate bonds. The city determines that the swap is a hedging derivative instrument for the fiscal years ended June 30, 20X1 and 20X2, using the synthetic instrument method. Accordingly, the decreases in fair value of the swap in those fiscal years are reported as deferrals on the statement of net assets.

However, in 20X3, there is a change in tax rates that constitutes a new market condition for the city. Therefore, the method of effectiveness testing going forward should incorporate fair value information that reflects the new market conditions. After the tax rates change, the city chooses to evaluate the swap under the dollar-offset method because this method uses forward-looking data—the present value of future cash payments of both the bond and the swap. Under the dollar-offset method, the swap no longer meets the criteria for effectiveness for the fiscal year ended June 30, 20X3. Hedge accounting is then terminated. The previously deferred aggregate decrease in fair value from fiscal years 20X1 and 20X2 and the increase in fair value for fiscal year 20X3 are recorded as a negative amount within investment revenue in the statement of resource flows for fiscal year 20X3. Because hedge accounting is terminated, the increase in fair value of the swap for the fiscal year ended June 30, 20X4, is recorded within the investment revenue classification in the statement of resource flows for that fiscal year.

Assumptions

On July 1, 20X0, a city issues variable-rate demand bonds of $100 million. The bonds mature on June 30, 20X4. The coupon rate is remarketed weekly. At the same time, the city enters into a $100 million notional, pay-fixed, receive-variable interest rate swap. The variable rate of the semiannual payment also resets weekly. The variable rate is 49.96 percent of the London Interbank Offered Rate (LIBOR) plus 78 basis points. The fixed rate is 3.57872 percent and the swap terminates on June 30, 20X4. Upon association with the variable-rate bonds (which, in this case, is at the inception of the swap), the fair value of the swap is zero. The following diagram depicts the payment terms of the swap and variable-rate demand bonds:



Interest rates fluctuate after the swap is executed. The city continues to pay the contractual fixed rate (3.57872 percent) to the counterparty. The actual synthetic rate, however, varies depending on the difference between the city's remarketed rate paid to bondholders and the swap's variable payment made by the counterparty to the city. Payments on the swap,

the interest payments on the variable-rate bonds, and the actual synthetic rate based on such payments are summarized as follows:

Fiscal Year Ended	Counterparty Swap Payment			Interest Payments to Bondholders	Total Payments	Actual Synthetic Rate*
	To	From	Net			
June 30, 20X1	$ (3,578,714)	$ 2,031,713	$ (1,547,001)	$ (1,789,314)	$ (3,336,315)	3.34%
June 30, 20X2	(3,578,714)	1,575,995	(2,002,719)	(1,359,205)	(3,361,924)	3.36%
June 30, 20X3	(3,578,714)	1,359,597	(2,219,117)	(1,078,661)	(3,297,778)	3.30%
June 30, 20X4	(3,578,714)	1,940,223	(1,638,491)	(1,171,868)	(2,810,359)	2.81%
Total	$ (14,314,856)	$ 6,907,528	$ (7,407,328)	$ (5,399,048)	$ (12,806,376)	

* Calculated as the total payments divided by $100,000,000 notional amount.

Swap Fair Values

The fair values and changes in fair values of the swap are as follows:

	As of and for the Fiscal Year Ended			
	June 30, 20X1	June 30, 20X2	June 30, 20X3	June 30, 20X4
Fair value	$ (2,487,390)	$ (4,000,154)	$ (1,536,286)	$ -
Change in fair value	(2,487,390)	(1,512,764)	2,463,868	1,536,286

Evaluation of Effectiveness

The hedgeable items are the variable-rate demand bonds. The city's specific objective is to hedge the risk of overall changes in cash flows associated with variable-rate bond coupons (a cash flow hedge). The pay-fixed, receive-variable interest rate swap is designed to synthetically fix the cash flows on the variable-rate bonds. Changes in the variable rate received on the swap are intended to offset changes in the variable rate being paid on the bonds so that the fixed rate of the swap is essentially the effective rate that the city pays.

Because a synthetic fixed interest rate on the variable-rate demand bonds is intended to be created by the swap, the city uses the synthetic instrument method to determine whether the changes in cash flows of the swap substantially offset the changes in the cash flows of the bonds. The city determines that the terms of the swap meet the requirements to apply the synthetic instrument method as follows:

- The notional amount of the swap is the same as the principal amount of the variable-rate demand bonds ($100 million).
- The fair value of the swap upon association with the variable-rate demand bonds is zero.
- The fixed rate (3.57872 percent) and the formula to determine the variable rate (49.96 percent of LIBOR plus 78 basis points) of the swap remain the same throughout the life of the swap.
- The term of the swap does not extend beyond the life of the variable-rate demand bonds.

The city then determines the actual synthetic rate created by the swap. To be considered effective, the actual synthetic rate should fall between 90 and 111 percent of the fixed rate of the swap. This testing is performed at the end of the first reporting period after the inception of the swap's association with the variable-rate demand bonds and at the end of each reporting period thereafter for the duration of the swap or until the swap no longer meets the criteria for effectiveness.

As the city prepares only annual financial reports, it evaluates effectiveness on an annual basis. Although many of the critical terms of the swap and the bonds match, the consistent critical terms method may not be used because the swap reference rate is LIBOR—a taxable rate—whereas the bonds are tax exempt. The city computes the actual synthetic rate by adding the net payments on the swap to the interest payments on the variable-rate demand bonds and dividing by the notional amount. The city then determines whether the actual synthetic rate created by the swap remains within 90 to 111 percent of the fixed rate

of the swap. The following is an analysis of the actual synthetic rate (provided above) as a percentage of the swap fixed rate for each of the fiscal years through June 30, 20X3:

	As of and for the Fiscal Year Ended		
	June 30, 20X1	**June 30, 20X2**	**June 30, 20X3***
Analysis on an Annual Basis			
Actual synthetic rate	3.34%	3.36%	3.30%
Swap fixed rate	3.58%	3.58%	3.58%
Percentage ratio (rounded)	93.30%	93.85%	92.18%
Analysis on a Life-to-Date Basis			
Actual synthetic rate	3.34%	3.35%	3.33%
Swap fixed rate	3.58%	3.58%	3.58%
Percentage ratio (rounded)	93.30%	93.58%	93.02%

* The calculations for the fiscal year ended June 30, 20X3, do not take into account the new market condition—a change in tax rates. Therefore, this method was not used in determining hedge effectiveness. Rather, the dollar-offset method was used because it incorporates forward-looking data that takes into account the new tax rates.

For the fiscal years ended June 30, 20X1 and 20X2, the city determines that the actual synthetic rate falls within 90 to 111 percent of the swap fixed rate. Therefore, for those fiscal years, the swap is a hedging derivative instrument, and hedge accounting is applied.

For the fiscal year ended June 30, 20X3, the city determines that the actual synthetic rate falls within 90 to 111 percent of the swap fixed rate on an annual basis (92.18 percent). However, new market conditions resulting from a change in tax rates indicate that the historic data (past payments) used to calculate the actual synthetic rate does not incorporate the effects of the new tax rates upon future payments. Therefore, the city selects a method that incorporates the effects of the tax rate changes in the effectiveness calculations. The city decides to use the dollar-offset calculation, which examines the present value of the expected remaining payments of both the bonds and the swap. The present value of the expected remaining payments reflects the changes in tax rates. That

calculation indicates a dollar-offset percentage of 58. Accordingly, the city determines that the swap is not a hedging derivative instrument for the fiscal year ended June 30, 20X3. This determination results in the termination of hedge accounting for the swap in fiscal year 20X3 and for the remaining life of the swap.

Present Value of Expected Cash Flows of Variable Payments:	**6/30/20X3**		**6/30/20X2**				**Dollar-Offset Percentage**
Bond coupons	$1,938,711	–	$2,138,222	=	$(199,511)	=	**0.58 or 58%**
Swap	$1,536,287	–	$1,880,977 *		$(344,690)		

* To be consistent with the payments included in the June 30, 20X3 amount, the June 30, 20X2 amount only includes payments expected to occur after June 30, 20X3.

ILLUSTRATION 6—SYNTHETIC INSTRUMENT METHOD: CASH FLOW HEDGE—HYBRID INSTRUMENT, OFF-MARKET INTEREST RATE SWAP

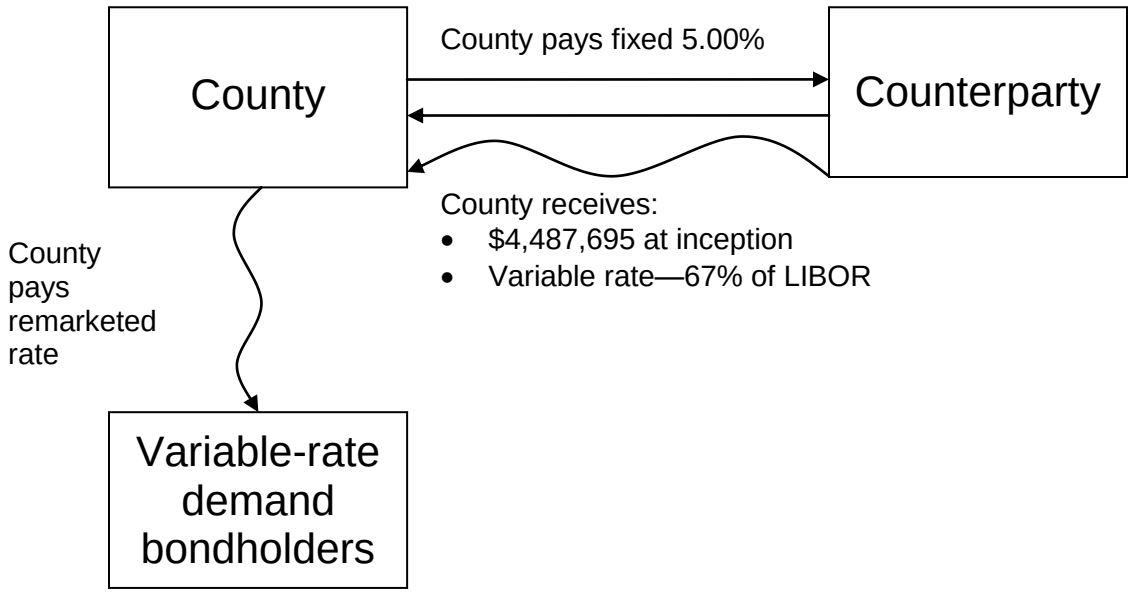
Overview of the Illustration

This illustration depicts a pay-fixed, receive-variable interest rate swap that results in a cash payment being made to the government at the inception of the swap. Such a payment is made because the swap is considered off-market, meaning that the fixed rate of the swap is different (in this case, greater) than the at-the-market rate for a similar swap. (An at-the-market interest rate swap will be entered at no cost [at par] with the fair value of the fixed payments being equal to the fair value of the variable payments.) The off-market swap is considered to be a hybrid instrument consisting of a companion instrument—a borrowing in the amount of the up-front payment—and an at-the-market swap. The borrowing is amortized over the life of the swap. The objective of the at-the-market swap is to hedge the risk of overall changes in cash flows associated with the variable-rate bonds. The potential hedging derivative instrument is the at-the-market swap. The hedgeable items are the variable-rate bonds. The county determines that the at-the-market swap is a hedging derivative instrument using the synthetic instrument method over the life of the swap. Accordingly, changes in fair value of the at-the-market swap are reported as deferrals on the statement of net assets over the life of the swap.

Assumptions

On July 1, 20X0, a county government issues variable-rate demand bonds of $100 million. The bonds mature on June 30, 20X4. The coupon is remarketed weekly. At the same time, the county enters into a $100 million notional, pay-fixed, receive-variable interest rate swap. The swap terminates on June 30, 20X4. The variable rate is 67 percent of the

London Interbank Offered Rate (LIBOR) and resets weekly. The fixed rate is 5.00 percent. The at-the-market rate for a similar swap is 3.74422 percent. Because the fixed rate of the swap is an above-market rate, the county receives an up-front payment of $4,487,695 at inception. The payment received is equal to the present value of the difference in cash flows between 5.00 percent and 3.74422 percent, based on a $100 million notional amount and a 5.15 percent discount rate. The following diagram depicts the payment terms of the swap and variable-rate demand bonds:



This swap is considered an off-market swap, as the fixed rate of the swap is greater than the at-the-market rate for a similar swap. An off-market swap is considered a hybrid instrument composed of a companion instrument—a borrowing—and a derivative instrument—an at-the-market swap. The economic characteristics and risks of the borrowing are not closely related to those of the swap. In this case, the companion instrument would be reported as a borrowing for financial reporting purposes in the amount of the up-front payment, $4,487,695. This borrowing would be reported at its historical cost. As payments are made on the swap, principal and interest payments on the

borrowing are imputed. Interest is accrued at the 5.15 percent rate used to arrive at the initial balance of the borrowing. In the financial statements of the county's governmental funds, the proceeds from the borrowing would be reported as an other financing source; in the government-wide financial statements, the borrowing would be reported as a noncurrent liability. The following table illustrates the amortization of the borrowing (note that payments are for six-month periods):

Payment Date	Beginning Balance	Accrued Interest	New Balance	Payment*	Ending Balance
December 31, 20X0	$4,487,695	$115,558	$4,603,253	$(627,890)	$3,975,363
June 30, 20X1	3,975,363	102,366	4,077,729	(627,890)	3,449,839
December 31, 20X1	3,449,839	88,833	3,538,672	(627,890)	2,910,782
June 30, 20X2	2,910,782	74,953	2,985,735	(627,890)	2,357,845
December 31, 20X2	2,357,845	60,714	2,418,559	(627,890)	1,790,669
June 30, 20X3	1,790,669	46,110	1,836,779	(627,890)	1,208,889
December 31, 20X3	1,208,889	31,129	1,240,018	(627,890)	612,128
June 30, 20X4	612,128	15,762	627,890	(627,890)	-

* Calculated: $100,000,000 × (5.0% – 3.74422%) × .5

The potential hedging derivative instrument is an at-the-market swap with a fixed rate of 3.74422 percent. Upon association with the variable-rate demand bonds (which, in this case, is at the inception of the swap), the fair value of the at-the-market swap is zero. Payments on the at-the-market swap, the interest payments on the hedgeable bonds, and the actual synthetic rate based on such payments are summarized as follows:

Fiscal Year Ended	Counterparty Swap Payment			Interest Payments to Bondholders	Total Payments	Actual Synthetic Rate*
	To	From	Net			
June 30, 20X1	$ (3,744,220)	$ 1,654,233	$ (2,089,987)	$ (1,789,314)	$ (3,879,301)	3.88%
June 30, 20X2	(3,744,220)	1,056,289	(2,687,931)	(1,359,205)	(4,047,136)	4.05%
June 30, 20X3	(3,744,220)	755,917	(2,988,303)	(1,078,661)	(4,066,964)	4.07%
June 30, 20X4	(3,744,220)	1,540,487	(2,203,733)	(1,930,405)	(4,134,138)	4.13%
Total	$ (14,976,880)	$ 5,006,926	$ (9,969,954)	$ (6,157,585)	$ (16,127,539)	

* Calculated as the total payments divided by $100,000,000 notional amount.

At-the-Market Swap Fair Values

The fair values and changes in fair values of the at-the-market swap are as follows:

	As of and for the Fiscal Year Ended			
	June 30, 20X1	June 30, 20X2	June 30, 20X3	June 30, 20X4
Fair value	$ (3,343,448)	$ (5,377,078)	$ (2,063,993)	$ -
Change in fair value	(3,343,448)	(2,033,630)	3,313,085	2,063,993

Evaluation of Effectiveness of the At-the-Market Swap

The hedgeable items are the variable-rate demand bonds. The county's specific objective is to hedge the risk of overall changes in cash flows associated with the variable-rate bond coupons (a cash flow hedge). The pay-fixed, receive-variable interest rate at-the-market swap is designed to synthetically fix the cash flows on the variable-rate demand bonds. Changes in the variable rate received on the at-the-market swap are intended to offset changes in the variable rate being paid on the bonds so that the fixed rate of the at-the-market swap is essentially the effective rate that the county pays.

Because a synthetic fixed interest rate on the variable-rate demand bonds is intended to be created by the at-the-market swap, the county uses the synthetic instrument method to determine whether the changes in cash flows of the at-the-market swap substantially offset

the changes in cash flows of the bonds. The county determines that the terms of the at-the-market swap meet the requirements to apply the synthetic instrument method as follows:

- The notional amount of the at-the-market swap is the same as the principal amount of the variable-rate demand bonds ($100 million).
- The fair value of the at-the-market swap upon association with the variable-rate demand bonds is zero.
- The fixed rate (3.74422 percent) and the formula to determine the variable rate (67 percent of LIBOR) of the at-the-market swap remain the same throughout the life of the at-the-market swap.
- The term of the at-the-market swap does not extend beyond the life of the variable-rate demand bonds.

The county then determines the actual synthetic rate created by the at-the-market swap. To be considered effective, the actual synthetic rate should fall between 90 and 111 percent of the fixed rate of the at-the-market swap. This testing is performed at the end of the first reporting period after the at-the-market swap's association with the variable-rate demand bonds and at the end of each reporting period thereafter for the duration of the at-the-market swap or until the at-the-market swap no longer meets the criteria for effectiveness.

As the county prepares only annual financial reports, it evaluates effectiveness on an annual basis. The county computes the actual synthetic rate by adding the net payments on the at-the-market swap to the interest payments on the variable-rate demand bonds and dividing by the notional amount. The county then determines whether the actual synthetic rate created by the at-the-market swap remains within 90 to 111 percent of the fixed rate of the at-the-market swap. The following is an analysis of the actual synthetic rate (provided above) as a percentage of the at-the-market swap fixed rate for each of the fiscal years over the life of the at-the-market swap:

	As of and for the Fiscal Year Ended			
	June 30, 20X1	June 30, 20X2	June 30, 20X3	June 30, 20X4
Analysis on an Annual Basis				
Actual synthetic rate	3.88%	4.05%	4.07%	4.13%
At-the-market swap fixed rate	3.74%	3.74%	3.74%	3.74%
Percentage ratio (rounded)	103.74%	108.29%	108.82%	110.43%
Analysis on a Life-to-Date Basis				
Actual synthetic rate	3.88%	3.96%	4.00%	4.03%
At-the-market swap fixed rate	3.74%	3.74%	3.74%	3.74%
Percentage ratio (rounded)	103.74%	105.88%	106.95%	107.75%

For each of the fiscal years ended June 30, 20X1, through June 30, 20X4, the county determines that the actual synthetic rate falls within 90 to 111 percent of the at-the-market swap fixed rate, and there are no new market conditions to suggest the at-the-market swap will not meet the criteria for effectiveness in future periods. Therefore, the at-the-market swap is a hedging derivative instrument for all fiscal years, and hedge accounting is applied.

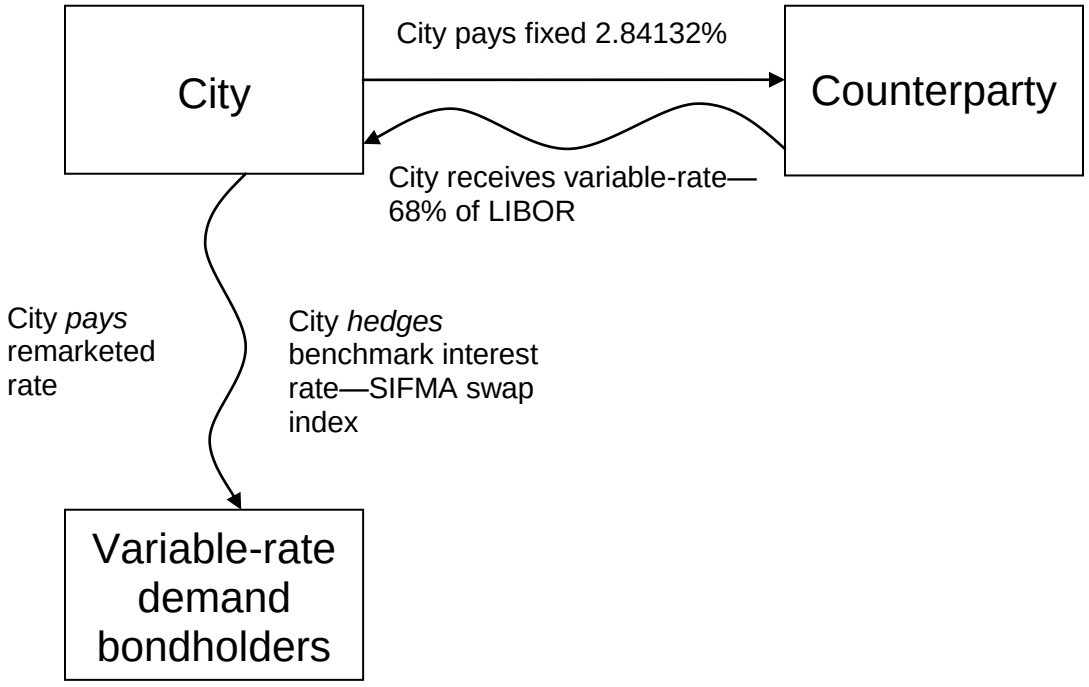
ILLUSTRATION 7—REGRESSION ANALYSIS METHOD: CASH FLOW HEDGE—INTEREST RATE SWAP

Overview of the Illustration

This illustration depicts a cash flow hedge that uses a pay-fixed, receive-variable interest rate swap. The objective of the swap is to hedge interest rate risk, that is, that changes in the benchmark interest rate, in this case the Securities Industry and Financial Markets Association (SIFMA) swap index, will adversely affect the cash flows of the variable-rate bonds. The potential hedging derivative instrument is the interest rate swap. The hedgeable items are the variable-rate bonds. A benchmark interest rate (the SIFMA swap index) is used for purposes of evaluating effectiveness. The city determines that the swap is a hedging derivative instrument using the regression analysis method over the life of the swap. Accordingly, the changes in fair values of the swap are reported as deferrals on the statement of net assets over the life of the swap.

Assumptions

On July 1, 20X0, a city issues variable-rate demand bonds of $100 million. The bonds mature on June 30, 20X4. The coupon is remarketed weekly. At the same time, the city enters into a $100 million notional, pay-fixed, receive-variable interest rate swap. The monthly variable payment also resets weekly. The variable rate is 68 percent of the London Interbank Offered Rate (LIBOR). The fixed rate is 2.84132 percent, and the swap terminates on June 30, 20X4. Upon association with the variable-rate demand bonds (which, in this case, is at the inception of the swap), the fair value of the swap is zero. The city currently applies regression analysis to demonstrate compliance with tax laws. The following diagram depicts the payment terms of the swap and the variable-rate demand bonds:



Payments and receipts on the swap and the interest payments on the variable-rate demand bonds are summarized as follows:

Fiscal Year Ended	Counterparty Swap Payment			Interest Payments to Bondholders	Total Payments
	To	From	Net		
June 30, 20X1	$ (2,841,323)	$ 1,069,828	$ (1,771,495)	$ (1,357,836)	$ (3,129,331)
June 30, 20X2	(2,841,323)	775,085	(2,066,238)	(1,079,203)	(3,145,441)
June 30, 20X3	(2,841,323)	1,617,573	(1,223,750)	(1,937,695)	(3,161,445)
June 30, 20X4	(2,841,323)	2,994,241	152,918	(3,074,110)	(2,921,192)
Total	$ (11,365,292)	$ 6,456,727	$ (4,908,565)	$ (7,448,844)	$ (12,357,409)

Swap Fair Values

The fair values and changes in fair values of the swap are as follows:

	As of and for the Fiscal Year Ended			
	June 30, 20X1	June 30, 20X2	June 30, 20X3	June 30, 20X4
Fair value	$ (4,627,892)	$ (1,646,101)	$ (269,849)	$ -
Change in fair value	(4,627,892)	2,981,791	1,376,252	269,849

Evaluation of Effectiveness

The hedgeable items are the variable-rate demand bonds. The variability of the cash flows of the bond coupons is affected by more than changes in the benchmark interest rate. For example, changes in the credit quality of the city's bonds would affect its remarket rates. The city's specific objective, however, is to offset changes in the cash flows of the bond coupons attributable to changes in the benchmark interest rate (a cash flow hedge). The relevant benchmark interest rate is the SIFMA swap index.

The city applies the regression analysis method to evaluate effectiveness. The swap that the city enters into does not meet the criteria for the consistent critical terms method. The variable payment of the swap is based on a percentage of LIBOR, which is a taxable rate, while the variable rate of the bonds is a tax-exempt rate. Because the swap is a hedge of interest rate risk as opposed to the risk of changes in overall cash flows associated with the bond coupons, the city is precluded from using the synthetic instrument method to evaluate effectiveness. Unable to apply either the consistent critical terms method or the synthetic instrument method, the city chooses to apply the regression analysis method for financial reporting purposes as well as tax compliance purposes.

In order to conduct its regression analysis at the end of the first reporting period, the city gathers the values in the following table. The city determines that the use of 48 data points

in its regression analysis would produce statistically valid results. In order to gather sufficient, representative data, the city collects historical data from July 1, 20W7, through June 30, 20X1. The data used in the regression analysis at June 30, 20X1, is shown in the following table:

Payment Date	Variable Bond Payments Based on the SIFMA Swap Index	Variable Swap Payments Based on 68% of LIBOR
8/1/20W7	$303,274	$(262,027)
9/1/20W7	307,675	(267,233)
10/1/20W7	305,036	(279,260)
11/1/20W7	316,925	(290,822)
12/1/20W7	310,241	(300,411)
1/1/20W8	371,185	(337,973)
2/1/20W8	342,850	(291,776)
3/1/20W8	322,251	(278,525)
4/1/20W8	351,798	(318,142)
5/1/20W8	348,049	(336,639)
6/1/20W8	378,565	(425,656)
7/1/20W8	377,064	(351,202)
8/1/20W8	389,031	(338,115)
9/1/20W8	388,217	(351,393)
10/1/20W8	375,874	(350,984)
11/1/20W8	388,219	(372,295)
12/1/20W8	375,655	(358,361)
1/1/20W9	393,487	(359,699)
2/1/20W9	354,591	(253,233)
3/1/20W9	295,818	(273,863)
4/1/20W9	305,420	(264,630)
5/1/20W9	278,414	(316,137)
6/1/20W9	248,132	(284,959)
7/1/20W9	225,622	(227,205)
8/1/20W9	224,311	(209,699)

Payment Date	Variable Bond Payments Based on the SIFMA Swap Index	Variable Swap Payments Based on 68% of LIBOR
9/1/20W9	215,340	(191,425)
10/1/20W9	189,014	(176,411)
11/1/20W9	148,501	(177,151)
12/1/20W9	123,466	(142,603)
1/1/20X0	117,613	(116,301)
2/1/20X0	107,155	(105,918)
3/1/20X0	97,263	(96,274)
4/1/20X0	110,359	(110,329)
5/1/20X0	105,795	(123,397)
6/1/20X0	107,824	(131,753)
7/1/20X0	104,359	(107,452)
8/1/20X0	140,479	(107,534)
9/1/20X0	105,392	(109,562)
10/1/20X0	103,049	(120,192)
11/1/20X0	106,285	(142,000)
12/1/20X0	83,651	(123,562)
1/1/20X1	83,554	(99,644)
2/1/20X1	80,381	(88,603)
3/1/20X1	70,857	(82,767)
4/1/20X1	76,781	(93,068)
5/1/20X1	74,391	(98,740)
6/1/20X1	77,077	(105,671)
7/1/20X1	67,931	(86,493)

As time elapses, more actual data becomes available. That data is "rolled into" the historical data so that a constant number of data points are used in the analysis over time. Thus, at the end of the next reporting year, June 30, 20X2, the oldest year of historical data is removed (20W7) and the most current year of actual data (20X2) is included in the analysis. As each year progresses, more of the historical data is replaced by actual data. This method ensures that there are enough data points to yield statistically valid results over the life of the hedging relationship.

The requirements of the regression analysis method state that the following three criteria should be met in order for the swap to be considered effective:

- The regression analysis should result in an R-squared statistic of at least 0.80.
- The F-statistic calculated for the regression model should demonstrate that the model is significant using a 95 percent confidence interval.
- The regression coefficient for the slope should be between –1.25 and –0.80.

The results of the evaluation of effectiveness using the regression analysis method are as follows:

Fiscal Year Ended	R-Squared Statistic	95 Percent Confidence Interval	Regression Coefficient
June 30, 20X1	0.9494	Yes	–0.8391
June 30, 20X2	0.9598	Yes	–0.8326
June 30, 20X3	0.8444	Yes	–0.8987
June 30, 20X4	0.9546	Yes	–0.9139

For each of the fiscal years ended June 30, 20X1 through June 30, 20X4, the county determines that the swap meets the criteria for the regression analysis method, and there are no new market conditions to suggest the swap will not meet the criteria for effectiveness in future periods. Therefore, the swap is a hedging derivative instrument for all fiscal years, and hedge accounting is applied.

ILLUSTRATION 8—CONSISTENT CRITICAL TERMS METHOD: CASH FLOW HEDGE—COMMODITY FORWARD CONTRACT

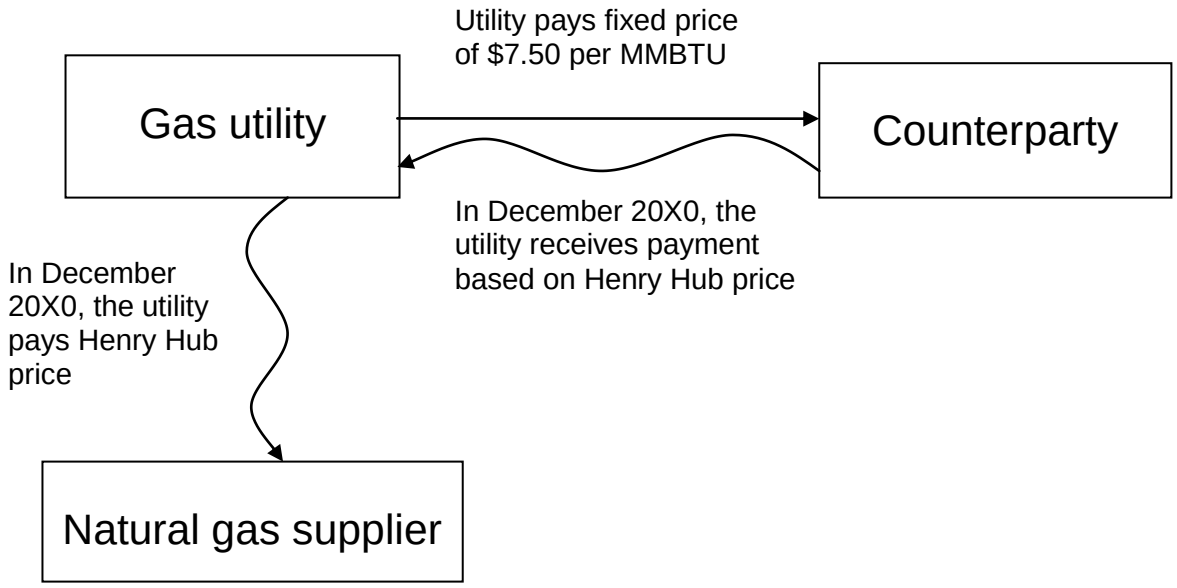
Overview of the Illustration

This illustration depicts a cash flow hedge that uses a commodity forward contract entered into by a utility. The objective of the forward contract is to hedge market risk, that is, the risk that changes in the market price, in this case the price of natural gas, will adversely affect the cash flows of the expected purchase of natural gas. The potential hedging derivative instrument is the commodity forward contract that will be cash-settled. This derivative instrument would not qualify for the normal purchases and normal sales scope exception because the government is not taking physical delivery of the commodity through the commodity forward contract. The hedgeable item is the purchase of natural gas in December 20X0, an expected transaction. Based on the consistency of the terms of the forward contract and the expected purchase, the utility determines that the forward contract is a hedging derivative instrument using the consistent critical terms method. Accordingly, the increase in fair value of the forward contract is reported as a deferred inflow on the statement of net assets as of June 30, 20X0.

Assumptions

A city's gas utility enters into a supply contract for the purchase of natural gas that requires the utility to pay the spot price of natural gas at the Henry Hub pricing point in Louisiana for gas received in December 20X0. The utility expects to purchase, in December 20X0, 500,000 million British thermal units (MMBTUs) of natural gas. To hedge its market risk for that month, the utility enters into a commodity forward contract on May 1, 20X0. Under the terms of the commodity forward contract, the utility agrees to pay a fixed price of $7.50 per MMBTU on a notional quantity of 500,000 MMBTUs and

agrees to receive a variable payment based on the price of natural gas at Henry Hub for the month of December 20X0. Because the forward price for December 20X0 natural gas is $7.50 per MMBTU at the time the forward contract is executed, the forward contract is entered into at no cost, and, therefore, it has a zero fair value upon association with the expected purchase. The following diagram depicts the payment terms of the forward contract and expected purchase of natural gas:



Once the forward contract is executed, natural gas prices increase. As prices increase, the resulting increase in the cost of future natural gas purchases is offset by a similar increase in the future variable receipt on the forward contract, leaving the utility with a net fixed price of $7.50 per MMBTU. The Henry Hub forward prices for December 20X0 natural gas transactions as of June 30, 20X0, and December 20X0, along with information related to the forward contract and the actual purchase of natural gas are summarized as follows:

	May 1, 20X0	June 30, 20X0	December 20X0
Henry Hub forward price for December 20X0	$ 7.50	$ 7.80	$ 8.00
Forward contract fair value	-	146,296	250,000
Change in forward contract fair value	-	146,296	103,704
Payment on natural gas purchase (500,000 MMBTUs)	-	-	(4,000,000)
Forward contract settlement payment	-	-	250,000 *

* The forward contract settlement payment is based on the difference in the Henry Hub spot price in December 20X0 and the fixed price in the forward contract applied against the amount purchased (($8.00 per MMBTU – $7.50 per MMBTU) × 500,000 MMBTUs).

Evaluation of Effectiveness

The utility's objective of entering into the commodity forward contract is to fix the price of natural gas at $7.50 per MMBTU, avoiding the potential for higher spot prices in the future. The hedgeable item is the purchase of natural gas in December 20X0, an expected transaction. Because the terms of the expected commodity purchase and the commodity forward contract are consistent, the utility uses the consistent critical terms method to evaluate effectiveness as of the end of the reporting period. The following table shows how the critical terms of the commodity forward contract are consistent with the critical terms of the expected purchase of natural gas:

Commodity Forward Contract		Expected Commodity Purchase	
Volume/notional	500,000 MMBTUs	Volume/notional	500,000 MMBTUs
Variable price	Henry Hub spot price	Variable price	Henry Hub spot price
Location	Henry Hub	Location	Henry Hub
Time	December 31, 20X0	Time	December 20X0 purchase

The forward contract has a zero fair value upon association with the expected transaction.

Because the critical terms are consistent, the changes in the cash flows of the forward contract will substantially offset the changes in cash flows of the expected purchase. Therefore, the forward contract is a hedging derivative instrument, and hedge accounting is applied.

ILLUSTRATION 9—SYNTHETIC INSTRUMENT METHOD: CASH FLOW HEDGE—COMMODITY FUTURES CONTRACTS

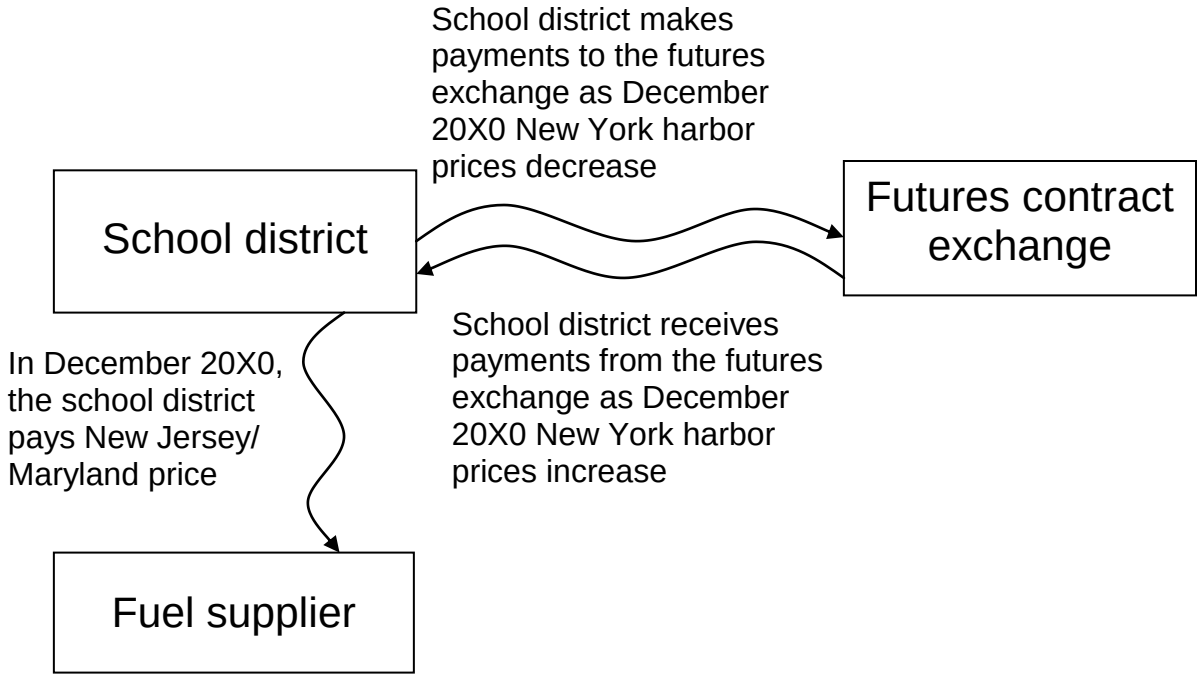
Overview of the Illustration

This illustration depicts a cash flow hedge that uses commodity futures contracts entered into by a school district. The objective of the commodity futures contracts is to hedge market risk, that is, the risk that changes in market prices (overall cash flows) will adversely affect the cash flows of the expected purchase of No. 2 heating oil. The potential hedging derivative instruments are the commodity futures contracts. These derivative instruments would not qualify for the normal purchases and normal sales scope exception because the government is not taking physical delivery of the commodity through the futures contracts. The hedgeable item is the purchase of No. 2 heating oil in December 20X0, an expected transaction. The pricing point used in the expected fuel purchase is different from the pricing point used in the futures contracts, creating basis risk. Therefore, the school district evaluates effectiveness using the synthetic instrument method and determines that the futures contracts are hedging derivative instruments. Accordingly, payments received from the futures contracts are reported as a deferred inflow on the statement of net assets as of June 30, 20X0.

Assumptions

On May 30, 20X0, a school district agrees to buy 168,000 gallons of No. 2 heating oil in December at the prevailing New Jersey/Maryland pricing point. On May 30, 20X0, the New Jersey/Maryland index forward price for delivery of No. 2 heating oil in December is $0.64 per gallon. Also, on May 30, 20X0, the school district buys 4 December futures contracts (notional of 42,000 gallons each) for delivery of No. 2 heating oil futures at New York harbor. The December price quoted that day on the New York Mercantile Exchange

(NYMEX) for December No. 2 heating oil is $0.57 per gallon. Because the futures contracts are acquired at the current December No. 2 heating oil futures contract price, there is no up-front cost, and, therefore, the futures contracts have zero fair value upon association with the expected purchase. The school district makes a margin deposit of $6,000 with the NYMEX at the date of acquisition of the futures contracts. Changes in fair value on the futures contracts are settled in cash in the school district's account on a daily basis. The following diagram depicts the payment terms of the futures contracts and the expected purchase of No. 2 heating oil:



After the acquisition of the futures contracts, the New Jersey/Maryland price and the New York harbor futures contract price per gallon of No. 2 heating oil increase. As these prices increase, the resulting increase in the cost of future No. 2 heating oil purchases is offset by cash payments received on the futures contracts. Because the school district is paying for the fuel at the New Jersey/Maryland price and hedging at the New York harbor price, the hedge has basis risk. The New Jersey/Maryland forward price per gallon and the futures

contracts price per gallon at May 30, 20X0, June 30, 20X0, and December 20X0, along with information related to the futures contracts and the actual purchase of No. 2 heating oil are summarized as follows:

	May 30, 20X0	June 30, 20X0	December 20X0
New Jersey/Maryland forward price per gallon for December 20X0 purchases *	$ 0.64	$ 0.65	$ 0.65
New York harbor futures contracts price per gallon for December 20X0 purchases	0.57	0.59	0.60
Synthetic price per gallon †	0.64	0.63	0.62
Fair value increase on futures contracts	-	3,360	1,680
Payment on No. 2 heating oil purchases (168,000 gallons × $0.65)	-	-	(109,200)
Cumulative receipts on futures contracts	-	3,360	5,040

* If quoted forward prices were unavailable, the school district could have used other techniques to estimate the forward price. For example, a forward price may have been estimated by using an available quoted market price—New York harbor in this illustration—and applying an adjustment that represents the pricing relationship between the two pricing points, such as $0.07 per gallon. That estimate should be reevaluated over time.

† The synthetic price is calculated by netting the New Jersey/Maryland forward price per gallon for December 20X0 purchases and the payment or receipt per gallon from the futures contracts (current futures price minus futures price at establishment of the hedge).

The fair value increases on futures contracts are based on the change in the price of the futures contracts since the last measurement date applied to the total gallons of heating oil covered by the futures contracts. For June 30, 20X0, the calculation is (($0.59 per gallon – $0.57 per gallon) × 168,000 gallons); for December 20X0, the calculation is (($0.60 per gallon – $0.59 per gallon) × 168,000 gallons). The cumulative receipts on futures

contracts represent the cumulative daily cash settlements of changes in fair value on the futures contracts through June 30, 20X0, and December 20X0, respectively.

Evaluation of Effectiveness

The school district's objective is to hedge the market risk associated with the expected purchase of No. 2 heating oil in December 20X0 (a cash flow hedge). The hedgeable item is the purchase of No. 2 heating oil in December 20X0, an expected transaction. Because the intended effect of the futures contracts is to establish a synthetic price for the No. 2 heating oil purchases, the school district uses the synthetic instrument method to determine whether the changes in cash flows of the futures contracts substantially offset the changes in cash flows of the expected purchase. The school district determines that the terms of the futures contracts meet the requirements to apply the synthetic instrument method as follows:

- The total notional amounts of the commodity futures contracts are the same as the quantity of the expected purchase of No. 2 heating oil (168,000 gallons).
- The fair value of the futures contracts upon association with the expected purchase of No. 2 heating oil is zero.
- The date of the expected transaction (December 20X0) agrees with the delivery month of the futures contracts.

There is basis risk, arising from the different pricing points, which is why the school district is ineligible for the consistent critical terms method.

The school district determines the synthetic price created by the futures contracts. The synthetic price is calculated by netting the New Jersey/Maryland forward price per gallon for December 20X0 purchases and the payment or receipt per gallon from the futures contracts (current futures price minus futures price at establishment of the hedge). To be considered effective, the effectiveness percentage as of the evaluation date should fall

between 90 and 111 percent. The effectiveness percentage is calculated by dividing the synthetic price calculated above by the New Jersey/Maryland price upon the futures contracts' association with the expected purchase (May 30, 20X0). This evaluation is performed as often as financial statements are prepared, throughout the life of the futures contracts, and as long as the futures contracts continue to be effective.

As the school district prepares only annual financial reports, the school district tests the effectiveness of the futures contracts at June 30, 20X0. The following is an analysis of the synthetic price per gallon as of June 30, 20X0, the forward price per gallon at the establishment of the hedge, and the resulting effectiveness percentage at June 30, 20X0:

Effectiveness Analysis

Synthetic price as of:	
Effectiveness evaluation date, June 30, 20X0	$0.63 per gallon
Establishment of hedge, May 30, 20X0	$0.64 per gallon
Effectiveness percentage	98.4%

For the fiscal year ended June 30, 20X0, the school district determines that the effectiveness percentage falls within a range of 90 to 111 percent, and there are no new market conditions to suggest that the futures contracts will not meet the criteria for effectiveness in future periods. Therefore, the futures contracts are hedging derivative instruments, and hedge accounting is applied.

ILLUSTRATION 10—DOLLAR-OFFSET METHOD: CASH FLOW HEDGE—COMMODITY FORWARD CONTRACT

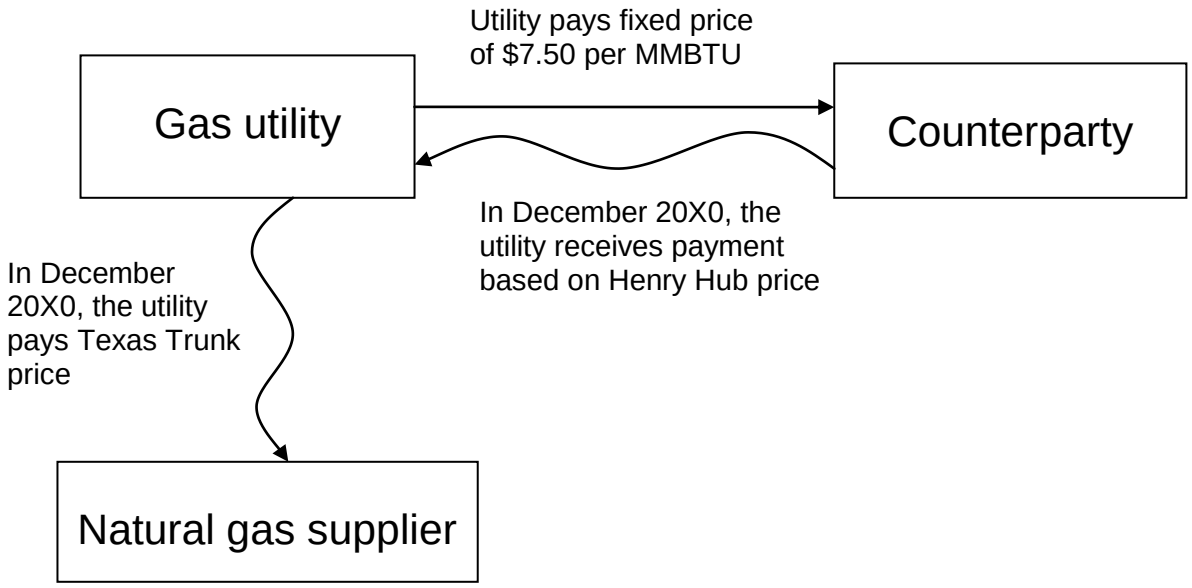
Overview of the Illustration

This illustration depicts a cash flow hedge that uses a commodity forward contract entered into by a city's gas utility. The objective of the forward contract is to hedge market risk, that is, the risk that changes in market prices will adversely affect the cash flows of the expected purchase of natural gas. The potential hedging derivative instrument is the commodity forward contract that will be cash-settled. This derivative instrument would not qualify for the normal purchases and normal sales scope exception because the government is not taking physical delivery of the commodity through the forward contract. The hedgeable item is the purchase of natural gas in December 20X0, an expected transaction. The pricing point used in the expected purchase of natural gas is different from the pricing point used in the forward contract, creating basis risk. Therefore, the utility evaluates effectiveness using the dollar-offset method and determines that the forward contract is a hedging derivative instrument. Accordingly, the increase in the fair value of the forward contract is reported as a deferred inflow on the statement of net assets as of June 30, 20X0.

Assumptions

A city's gas utility enters into a supply contract for the purchase of natural gas that requires the utility to pay the spot price of natural gas at the Texas Trunk pricing point for gas to be received in December 20X0. The utility expects to purchase, in December 20X0, 500,000 million British thermal units (MMBTUs) of natural gas.

To hedge its market risk for that month, the utility enters into a commodity forward contract on May 1, 20X0. Under the terms of the commodity forward contract, the utility agrees to pay a fixed price of $7.50 per MMBTU on a notional quantity of 500,000 MMBTUs and agrees to receive a variable payment based on the price of natural gas at the Henry Hub pricing point for the month of December 20X0. Because the forward price for Henry Hub natural gas at December 20X0 is $7.50 per MMBTU, the forward contract is entered into at no cost, and, therefore, it has a zero fair value upon association with the expected purchase. The following diagram depicts the payment terms of the forward contract and the expected purchase of natural gas:



Once the commodity forward contract is executed, natural gas prices increase. As the prices increase, the resulting increase in the cost of future natural gas purchases is offset by a similar increase in the expected future receipt on the settlement of the forward contract. The Henry Hub and Texas Trunk forward prices (per MMBTU) at May 1, 20X0,

June 30, 20X0, and December 20X0, along with information related to the forward contract and the actual purchase of natural gas are summarized as follows:

	May 1, 20X0	June 30, 20X0	December 20X0
Henry Hub forward price (for December 20X0)	$ 7.50	$ 7.80	$ 7.65
Texas Trunk forward price (for December 20X0)	7.50	7.76	7.89
Hedgeable item—expected cash outflow for December 20X0 natural gas purchase *	(3,750,000)	(3,880,000)	(3,945,000)
Expected cash inflow from forward contract settlement †	-	150,000	75,000
Change in expected cash outflow of hedgeable item	-	130,000	65,000
Change in expected cash inflow of forward contract settlement	-	150,000	(75,000)
Forward contract fair value	-	146,296	75,000
Change in forward contract fair value	-	146,296	71,296

* The expected cash outflow for the December 20X0 natural gas purchase is calculated by multiplying the forward price of the Texas Trunk pricing point by the notional amount. For example, for May 1, 20X0, the expected cash outflow is $3,750,000 ($7.50 per MMBTU × 500,000 MMBTUs).

† The expected cash inflow from the settlement of the forward contract is calculated by multiplying the difference between the forward price of the Henry Hub pricing point and the fixed price of the forward contract times the notional amount. For example, for June 30, 20X0, the expected cash inflow is $150,000 (($7.80 per MMBTU – $7.50 per MMBTU) × 500,000 MMBTUs).

Evaluation of Effectiveness

The utility's objective of entering into the commodity forward contract is to fix the cost of natural gas at $7.50 per MMBTU, avoiding the potential for higher spot prices in the future. The hedgeable item is the purchase of natural gas in December 20X0, an expected transaction. Because the pricing point between the utility and the counterparty is different from the one used for payments between the utility and its gas supplier, effectiveness could not be evaluated using the consistent critical terms method. The different pricing points present the utility with basis risk. The utility decides to apply the dollar-offset method to evaluate whether the changes in cash flows of the forward contract substantially offset the changes in cash flows of the expected purchase.

The formula for applying such a method is as follows:

$$0.80 \le (HD_2 - HD_1) / (HI_2 - HI_1) \le 1.25$$

or

$$0.80 \le (HI_2 - HI_1) / (HD_2 - HD_1) \le 1.25$$

where

HD_1 = The expected cash flows of the potential hedging derivative instrument as of either the date of the establishment of the potential hedge or the end of the previous reporting period.

HD_2 = The expected cash flows of the potential hedging derivative instrument as of the end of the reporting period.

HI_1 = The expected cash flows of the hedgeable item as of either the date of the establishment of the potential hedge or the end of the previous reporting period.

HI_2 = The expected cash flows of the hedgeable item as of the end of the reporting period.

Thus, the utility would perform the following calculation on June 30, 20X0, in order to evaluate effectiveness:

$$\frac{\text{Change in expected cash flows of the purchase of natural gas}}{\text{Change in expected cash flows of the forward contract}}$$

$$\frac{\$130{,}000}{\$150{,}000}$$

$$= 0.8667$$

Because the dollar-offset ratio falls between 0.80 and 1.25, the forward contract is a hedging derivative instrument, and hedge accounting is applied.

ILLUSTRATION 11—HYBRID INSTRUMENT—SWAPTION

Overview of the Illustration

This illustration depicts an option written to enter into a swap at a future date—a swaption. A city is the writer (seller) of the swaption. As the buyer, the counterparty is the holder of the option and has the right but not the obligation to place the city into a pay-fixed, receive-variable swap in the future. Upon entering into the swaption, the city receives an up-front payment from the counterparty. The majority of the payment is a result of the option being in-the-money at inception. That is, the written option has intrinsic value as the swaption's fixed rate is greater than the at-the-market rate. The remainder of the up-front payment reflects the time value the counterparty pays for holding the option. To the city, the time value portion of the payment represents deferred investment revenue.

This transaction is reported as a hybrid instrument. The intrinsic value of the swaption is considered a borrowing for financial reporting purposes and is treated as a liability in the government-wide financial statements. Interest is accreted to the balance of the liability from inception through the swaption's exercise date. Thereafter, assuming the swaption is exercised, there are level amortization payments attributed to the borrowing. The other element of the hybrid instrument is measured at fair value. Fair value changes are reported within the investment revenue classification.

Assumptions

On July 1, 20X0, a city received $11,016,200 by entering into a swaption that provides the counterparty the option to put the city into a pay-fixed, receive-variable interest rate swap on July 1, 20X2. The fixed rate on the potential swap is an above-market rate of 5.50

percent. The at-the-market rate, 2 years forward, is 3.00 percent. The swaption's variable rate is the Securities Industry and Financial Markets Association (SIFMA) swap index. The potential swap has a notional amount of $100 million and a maturity date of June 30, 20X7. The up-front payment is composed of the swaption's intrinsic value (represented by the present value of the difference between 5.50 percent and 3.00 percent) and time value. The swaption's volatility is set at 30 percent throughout its life. The yield curve is flat.

At June 30, 20X1, the at-the-market 1-year forward rate for a swap with terms similar to those of the potential swap is 2.85 percent (the rate for a 5-year pay-fixed, receive-variable swap, 1-year forward).

At June 30, 20X2, the at-the-market rate for a swap with terms similar to those of the potential swap is 2.80 percent (the rate for a 5-year pay-fixed, receive-variable swap).

At July 1, 20X2, the counterparty exercises its option, putting the city into the swap contemplated when it wrote the swaption. Thereafter, the discount rate continues to be 2.80 percent.

Hybrid Instrument

The city considers whether it should report this transaction as a hybrid instrument. Three criteria are required to be met. First, the companion instrument may not be measured at fair value. In this illustration, the borrowing is measured at its historical price. Second, a separate instrument with the same terms as the embedded derivative instrument would meet the definition of a derivative instrument. Third, the economic characteristics and risks of the companion instrument are not closely related to the embedded derivative instrument. In this illustration, the city agrees to pay an above-market interest rate (5.50

percent), while the at-the-market rate is 3.00 percent. The majority of the up-front payment is based on the city's willingness to pay an above market fixed rate, a borrowing for financial reporting purposes.

Embedded Derivative Instrument

The hybrid instrument is accounted for by bifurcating the transaction between a borrowing and the embedded derivative. The fair values of each element of the bifurcation can be made by estimating the fair value of the hybrid instrument less the fair value of the borrowing, leaving the fair value of the embedded derivative instrument as follows:

			Embedded Derivative Instrument	
	Hybrid Instrument	Fair Value of Borrowing *	Fair Value †	Change in Fair Value
July 1, 20X0	$ 11,016,200 ††	$ 10,861,246	$ 154,954	$ -
June 30, 20X1	11,853,615	11,250,737	602,878	(447,924)
June 30, 20X2	12,516,164 §	11,589,040	927,124	(324,246)
June 30, 20X3	10,150,169	9,398,305	751,864	175,260
June 30, 20X4	7,717,464	7,145,780	571,664	180,200
June 30, 20X5	5,216,165	4,829,783	386,382	185,281
June 30, 20X6	2,644,340	2,448,463	195,877	190,505
June 30, 20X7	-	-	-	195,877

* Calculated using the net present value formula.
† Calculated as the hybrid instrument value less intrinsic value.
†† Calculated using the Black-Scholes formula.
§ Once the swaption is exercised, fair value estimated using the net present value formula.

The embedded derivative instrument could be a potential hedging derivative instrument if the city expects to issue bonds, for example, on July 1, 20X2, in the amount of $100,000,000. In this case, the embedded derivative instrument would be evaluated as to whether it would be a hedging derivative instrument.

Borrowing

During the option period, interest accretes at the effective rate implied by the cash flows on the borrowing at inception, specifically, semiannual repayments of $1,250,000 starting in 2.5 years until maturity, discounted at 3.00 percent. Once the option is exercised, a portion of the hybrid instrument payments is attributed to principal and interest payments of the borrowing. Accretion of interest and amortization of the borrowing are as follows:

End of Period	Beginning Balance	Interest Accrual	Payment	Ending Balance
December 31, 20X0	$10,861,246	$162,919	$ -	$11,024,165
June 30, 20X1	11,024,165	165,362	-	11,189,527
December 31, 20X1	11,189,527	167,843	-	11,357,370
June 30, 20X2	11,357,370	170,361	-	11,527,731
December 31, 20X2	11,527,731	172,916	1,250,000	10,450,647
June 30, 20X3	10,450,647	156,760	1,250,000	9,357,407
December 31, 20X3	9,357,407	140,361	1,250,000	8,247,768
June 30, 20X4	8,247,768	123,717	1,250,000	7,121,485
December 31, 20X4	7,121,485	106,822	1,250,000	5,978,307
June 30, 20X5	5,978,307	89,675	1,250,000	4,817,982
December 31, 20X5	4,817,982	72,270	1,250,000	3,640,252
June 30, 20X6	3,640,252	54,604	1,250,000	2,444,856
December 31, 20X6	2,444,856	36,673	1,250,000	1,231,529
June 30, 20X7	1,231,529	18,471	1,250,000	-

Financial Statement Reporting

The following amounts are presented on the city's government-wide financial statements:

Reporting Period	Change in Fair Value	Interest Expense *	Embedded Derivative Instrument	Borrowing
June 30, 20X1	$(447,924)	$328,281	$ (602,878)	$(11,189,527)
June 30, 20X2	(324,246)	338,204	(927,124)	(11,527,731)
June 30, 20X3	175,260	329,676	(751,864)	(9,357,407)
June 30, 20X4	180,200	264,078	(571,664)	(7,121,485)
June 30, 20X5	185,281	196,497	(386,382)	(4,817,982)
June 30, 20X6	190,505	126,874	(195,877)	(2,444,856)
June 30, 20X7	195,877	55,144	-	-

* Calculated as the sum of the two semiannual interest accruals presented in the borrowing table.

ILLUSTRATION 12—NOTE DISCLOSURES FOR DERIVATIVE INSTRUMENTS

Overview of the Illustration

This illustration depicts disclosures for derivative instruments. The disclosures illustrated are only those specifically required by the provisions of this Statement.

Assumptions

Background Information

At June 30, 20X0, a city has the following derivative instruments outstanding (amounts in thousands):

(Assumptions continued)

Item	Type	Objective	Notional Amount	Effective Date	Maturity Date	Terms	Fair Value
A	Receive-fixed interest rate swap	Hedge of changes in fair value of the 20W7 Series A bonds	$30,000	9/30/W6	9/30/Z1	Receive 5.0%, pay 67% of LIBOR	$ 1,572
B	Rate cap	Hedge of changes in cash flows on the 20W8 Series A bonds	$10,000	7/31/W7	7/31/Y7	SIFMA swap index cap at 8%	$ 377
C	Pay-fixed interest rate swap	Hedge of changes in cash flows on the 20W1 Series F bonds	$60,000	3/31/W1	3/31/Y6	Pay 5.4%, receive SIFMA swap index	$ (2,342)
D	Pay-fixed interest rate swap	Hedge of changes in cash flows on the 20W8 Series D bonds specifically related to changes in municipal tax-exempt interest rates	$24,000	2/28/W8	2/28/Y8	Pay 3.9%, receive 67% of LIBOR	$ 1,012
E	Commodity forward contract	Hedge of changes in cash flows due to market price fluctuations related to expected purchase of No. 2 heating oil	1,000 MMBTUs	4/30/X0	12/31/X0	Pay $7.50/MMBTU; settlement based on Henry Hub pricing point at expiration date	$ 111
F	Pay-fixed interest rate swap	Hedge of changes in cash flows on the 20X0 Series D revenue bonds	$37,000	5/31/X0	5/31/Y0	Pay 3.2%, receive 67% of LIBOR	$ 4,236
G	Foreign currency forward contract	Hedge of changes in cash flows on an investment denominated in British pounds due to changes in foreign currency rates	£20,000	4/21/X0	10/21/X0	Exchange of British pounds for U.S. dollars at $1.92 per £1.00	$ (721)
H	Pay-fixed interest rate swap	Hedge of changes in cash flows on the 20W3 Series A bonds	$18,000	7/31/W2	7/31/X7	Pay 5.8%, receive 67% of LIBOR	$ (1,277)
I	Synthetic guaranteed investment contract	Investments made by participants in deferred compensation plan	$13,105	10/1/W9	9/30/X2	5.0% interest crediting rate	$ 13,065

Derivative instrument G hedges changes in cash flows due to changes in foreign currency rates associated with an investment that is recorded at fair value. Therefore, for accounting and financial reporting purposes, this derivative instrument is considered an investment derivative instrument. Derivative instrument H also is considered an investment derivative instrument because the city determined that it no longer meets the criteria for effectiveness during fiscal year 20X0. Accordingly, the accumulated changes in fair value of derivative instrument H that were reported as a deferred outflow of $1,409,000 at June 30, 20W9,

along with the increase in the fair value of the swap in fiscal year 20X0 of $132,000 are reported within the investment revenue classification for the year ended June 30, 20X0. All other derivative instruments are considered hedging derivative instruments. Derivative instrument I has a contract value of $13,105,000. The effective date, maturity date, and terms presented are of the synthetic guaranteed investment contract's (SGICs) wrap contract.

The fair values of the interest rate swaps were estimated using the zero-coupon method. This method calculates the future net settlement payments required by the swap, assuming that the current forward rates implied by the yield curve correctly anticipate future spot interest rates. These payments are then discounted using the spot rates implied by the current yield curve for hypothetical zero-coupon bonds due on the date of each future net settlement on the swaps.

The fair values of the forward contracts were estimated based on the present value of their estimated future cash flows. The fair value of the rate cap was estimated using a pricing service.

Risks

Credit risk. Each of the city's derivative instruments is held with separate counterparties except for derivative instruments C, D, and F, which are held by the same counterparty. The credit ratings for each of the counterparties are as follows:

(Assumptions continued)

Derivative Instrument	Counterparty Credit Rating
Derivative A	A/A
Derivative B	AA/Aa
Derivative C, D, and F	AAA/Aaa
Derivative E	AA/Aa
Derivative G	AA/Aa
Derivative H	AAA/Aaa
Derivative I (wrap contract)	AA/Aa

It is the city's policy to require counterparty collateral posting provisions in its non-exchange-traded derivative instruments. These terms require full collateralization of the fair value of derivative instruments in asset positions net of the effect of netting arrangements should the counterparty's credit rating fall below AA as issued by Fitch Ratings and Standard & Poor's or Aa as issued by Moody's Investors Service. Collateral posted is to be in the form of U.S. Treasury securities held by a third-party custodian. The city has not failed to access collateral when required. At June 30, 20X0, collateral has been posted related to derivative instrument A in the amount of $1,572,000 (the amount of the net asset position) because the credit rating of the counterparty has fallen below the required minimum.

It is also the city's policy to enter into netting arrangements whenever it has entered into more than one derivative instrument transaction with a counterparty. Under the terms of these arrangements, should one party become insolvent or otherwise default on its obligations, close-out netting provisions permit the nondefaulting party to accelerate and terminate all outstanding transactions and net the transactions' fair values so that a single sum will be owed by, or owed to, the nondefaulting party.

(Assumptions continued)

Interest rate risk. The city is exposed to interest rate risk on its receive-fixed, pay-variable interest rate swap. As the London Interbank Offered Rate (LIBOR) increases, the city's net payment on the swap increases. The city also should provide interest rate risk disclosures for its investment derivative instruments as required by GASB Statement No. 40, *Deposit and Investment Risk Disclosures,* as amended.

Basis risk. The variable-rate debt hedged by the city's derivative instruments are variable-rate demand obligation (VRDO) bonds that are remarketed every 30 days. The city is exposed to basis risk on its pay-fixed interest rate swap and rate cap derivative instruments that are hedging the VRDO bonds, because the variable-rate payments received by the city on these derivative instruments are based on a rate or index other than the interest rates the city pays on the VRDO bonds. At June 30, 20X0, the weighted-average interest rate on the city's variable-rate hedged debt is 4.35 percent, while the Securities Industry and Financial Markets Association (SIFMA) swap index is 4.2 percent and 67 percent of LIBOR is 4.5 percent.

The price of the expected commodity purchase transaction hedged by the city's commodity forward contract is based on the Texas Trunk pricing point. The city is exposed to basis risk on its commodity forward contract because the pricing point at which the forward contract will settle (Henry Hub) is different than the Texas Trunk pricing point. At June 30, 20X0, the Texas Trunk price is $7.58 per one million British thermal units (MMBTU) and the Henry Hub price is $7.63 per MMBTU.

(Assumptions continued)

Termination risk. The city or its counterparties may terminate a derivative instrument if the other party fails to perform under the terms of the contract. In addition, the city is exposed to termination risk on derivative instrument A because the contract provides the counterparty with the option to terminate the contract each September 30, commencing September 30, 20Y6. The city also is exposed to termination risk on derivative instrument B because the counterparty has the option to terminate the contract if the SIFMA swap index exceeds 12 percent. If at the time of termination, a derivative instrument is in a liability position, the city would be liable to the counterparty for a payment equal to the liability, subject to netting arrangements.

Rollover risk. The city is exposed to rollover risk on hedging derivative instruments that are hedges of debt that mature or may be terminated prior to the maturity of the debt. When these derivative instruments terminate, or in the case of a termination option, if the counterparty exercises its option, the city will be re-exposed to the risks being hedged by the derivative instrument. Derivative instrument A exposes the city to rollover risk because the counterparty has the option to terminate the contract each September 30, commencing September 30, 20Y6, while the hedged debt matures in September 20Z1. Derivative instrument D also exposes the city to rollover risk because the maturity date of the derivative instrument is February 20Y8, while the hedged debt matures in February 20Z3.

Foreign currency risk. Derivative instrument G exposes the city to foreign currency risk as it is denominated in British pounds.

(Assumptions continued)

Contingencies

All of the city's derivative instruments, except for derivative instrument B, include provisions that require the city to post collateral in the event its credit rating falls below AA as issued by Fitch Ratings and Standard & Poor's or Aa as issued by Moody's Investors Service. The collateral posted is to be in the form of U.S. Treasury securities in the amount of the fair value of derivative instruments in liability positions net of the effect of applicable netting arrangements. If the city does not post collateral, the derivative instrument may be terminated by the counterparty. The city's credit rating is AAA/Aaa at June 30, 20X0, therefore, no collateral has been posted.

Derivative Instrument Payments and Hedged Debt

As of June 30, 20X0, aggregate debt service requirements of the city's debt (fixed-rate and variable-rate) and net receipts/payments on associated hedging derivative instruments as presented below. These amounts assume that current interest rates on variable-rate bonds and the current reference rates of hedging derivative instruments will remain the same for their term. As these rates vary, interest payments on variable-rate bonds and net receipts/payments on the hedging derivative instruments will vary. The hedging derivative instruments column reflects only net receipts/payments on derivative instruments that qualify for hedge accounting (amounts in thousands).

Fiscal Year Ending June 30	Principal	Interest	Hedging Derivatives, Net	Total
20X1	$ 6,000	$ 7,786	$ (1,253)	$ 12,533
20X2	10,000	7,525	(1,211)	16,314
20X3	27,000	7,090	(1,141)	32,949
20X4	33,000	5,916	(952)	37,964
20X5	15,000	4,480	(721)	18,759
20X6–20Y0	29,000	19,140	(3,080)	45,060
20Y1–20Y5	15,000	12,385	1,475	28,860
20Y6–20Z0	14,000	9,570	(528)	23,042
20Z1–20Z3	30,000	6,310	(300)	36,010
Total	$179,000	$80,202	$ (7,711)	$251,491

Disclosures Example

Derivative Instruments

The fair value balances and notional amounts of derivative instruments outstanding at June 30, 20X0, classified by type, and the changes in fair value of such derivative instruments for the year then ended as reported in the 20X0 financial statements are as follows (amounts in thousands; debit (credit)):

	Changes in Fair Value		Fair Value at June 30, 20X0		
	Classification	Amount	Classification	Amount	Notional
Governmental activities					
Fair value hedges:					
Receive-fixed interest rate swap	Deferred inflow	$ (277)	Debt	$ 1,572	$30,000
Cash flow hedges:					
Pay-fixed interest rate swaps	Deferred outflow	$ (143)	Debt	$ (1,330)	$84,000
Rate cap	Deferred inflow	$ 28	Debt	$ 377	$10,000
Investment derivatives:					
Pay-fixed interest rate swap	Investment revenue	$1,277	Investment	$ (1,277)	$18,000
Business-type activities					
Cash flow hedges:					
Pay-fixed interest rate swap	Deferred inflow	$ (548)	Debt	$ 4,236	$37,000
Commodity forward	Deferred inflow	$ (111)	Derivative Instruments	$ 111	1,000 MMBTUs
Fiduciary funds					
Investment derivatives:					
Foreign currency forward	Investment revenue	$ 721	Investment	$ (721)	£20,000

As of June 30, 20X0, the city determined that the pay-fixed interest rate swap listed as an investment derivative instrument under governmental activities no longer met the criteria for effectiveness. Accordingly, the accumulated changes in fair value of the swap that were reported as a deferred outflow of $1,409,000 at June 30, 20W9, and the increase in the fair value of the swap in fiscal year 20X0 of $132,000 are netted $(1,277,000) and reported within the investment revenue classification for the year ended June 30, 20X0.

The fair values of the interest rate swaps were estimated using the zero-coupon method. This method calculates the future net settlement payments required by the swap, assuming

that the current forward rates implied by the yield curve correctly anticipate future spot interest rates. These payments are then discounted using the spot rates implied by the current yield curve for hypothetical zero-coupon bonds due on the date of each future net settlement on the swaps.

The fair values of the forward contracts were estimated based on the present value of their estimated future cash flows. The fair value of the rate cap was estimated using a proprietary pricing service.

Objective and Terms of Hedging Derivative Instruments

The following table displays the objective and terms of the city's hedging derivative instruments outstanding at June 30, 20X0, along with the credit rating of the associated counterparty (amounts in thousands).

Type	Objective	Notional Amount	Effective Date	Maturity Date	Terms	Counterparty Credit Rating
Receive-fixed interest rate swap	Hedge of changes in fair value of the 20W7 Series A bonds	$30,000	9/30/W6	9/30/Z1	Receive 5.0%; pay 67% of LIBOR	A/A
Rate cap	Rate cap flows on the 20W8 Series A bonds	$10,000	7/31/W7	7/31/Y7	SIFMA swap index cap at 8%	AA/Aa
Pay-fixed interest rate swap	Hedge of changes in cash flows on the 20W1 Series F bonds	$60,000	3/31/W1	3/31/Y6	Pay 5.4%; receives SIFMA swap index	AAA/Aaa
Pay-fixed interest rate swap	Hedge of changes in cash flows on the 20W8 Series D bonds specifically related to changes in municipal tax-exempt interest rates	$24,000	2/28/W8	2/28/Y8	Pay 3.9%; receive 67% of LIBOR	AAA/Aaa
Commodity forward contract	Hedge of changes in cash flows due to market price fluctuations related to expected purchases of home heating oil No. 2	1,000 MMBTUs	4/30/X0	12/31/X0	Pay $7.50/MMBTU; settlement based on Henry Hub pricing point at expiration date	AA/Aa
Pay-fixed interest rate swap	Hedge of changes in cash flows on the 20X0 Series D bonds	$37,000	5/31/X0	5/31/Y0	Pay 3.2%; receives 67% of LIBOR	AAA/Aaa

Risks

Credit risk. The city is exposed to credit risk on hedging derivative instruments that are in asset positions. To minimize its exposure to loss related to credit risk, it is the city's policy to require counterparty collateral posting provisions in its non-exchange-traded hedging derivative instruments. These terms require full collateralization of the fair value of hedging derivative instruments in asset positions (net of the effect of applicable netting arrangements) should the counterparty's credit rating fall below AA as issued by Fitch Ratings and Standard & Poor's or Aa as issued by Moody's Investors Service. Collateral posted is to be in the form of U.S. Treasury securities held by a third-party custodian. The city has never failed to access collateral when required.

It is the city's policy to enter into netting arrangements whenever it has entered into more than one derivative instrument transaction with a counterparty. Under the terms of these arrangements, should one party become insolvent or otherwise default on its obligations, close-out netting provisions permit the nondefaulting party to accelerate and terminate all outstanding transactions and net the transactions' fair values so that a single sum will be owed by, or owed to, the nondefaulting party.

The aggregate fair value of hedging derivative instruments in asset positions at June 30, 20X0, was $7,308,000. This represents the maximum loss that would be recognized at the reporting date if all counterparties failed to perform as contracted. This maximum exposure is reduced by $1,572,000 of collateral held and $2,342,000 of liabilities included in netting arrangements with those counterparties, resulting in a net exposure to credit risk of $3,394,000.

Although the city executes hedging derivative instruments with various counterparties, three contracts, comprising approximately 86 percent of the net exposure to credit risk, are held with one counterparty. That counterparty is rated AAA/Aaa.

Interest rate risk. The city is exposed to interest rate risk on its interest rate swap. On its pay-variable, received-fixed interest rate swap, as LIBOR increases, the city's net payment on the swap increases. Alternatively, on its pay-fixed, receive-variable interest rate swap, as LIBOR or the SIFMA swap index decreases, the city's net payment on the swap increases.

Basis risk. The city is exposed to basis risk on its pay-fixed interest rate swap and rate cap hedging derivative instruments because the variable-rate payments received by the city on these hedging derivative instruments are based on a rate or index other than interest rates the city pays on its hedged variable-rate debt, which is remarketed every 30 days. As of June 30, 20X0, the weighted-average interest rate on the city's hedged variable-rate debt is 4.35 percent, while the SIFMA swap index rate is 4.2 percent and 67 percent of LIBOR is 4.5 percent.

The city is exposed to basis risk on its commodity forward contract because the expected commodity purchase being hedged will price based on a pricing point (Texas Trunk) different than the pricing point at which the forward contract is expected to settle (Henry Hub). At June 30, 20X0, the Texas Trunk price is $7.58 per MMBTU and the Henry Hub price is $7.63 per MMBTU.

Termination risk. The city or its counterparties may terminate a derivative instrument if the other party fails to perform under the terms of the contract. In addition, the city is

exposed to termination risk on its receive-fixed interest rate swap scheduled to mature in September 20Z1 because the contract provides the counterparty with the option to terminate the contract each September 30, commencing September 30, 20Y6. The city is exposed to termination risk on its rate cap because the counterparty has the option to terminate the contract if the SIFMA swap index exceeds 12 percent. If at the time of termination, a hedging derivative instrument is in a liability position, the city would be liable to the counterparty for a payment equal to the liability, subject to netting arrangements.

Rollover risk. The city is exposed to rollover risk on hedging derivative instruments that are hedges of debt that mature or may be terminated prior to the maturity of the hedged debt. When these hedging derivative instruments terminate, or in the case of a termination option, if the counterparty exercises its option, the city will be re-exposed to the risks being hedged by the hedging derivative instrument. The city is exposed to rollover risk on the pay-variable, receive-fixed interest rate swap scheduled to mature in September 20Z1. With this swap, the counterparty has the option to terminate the contract each September 30, commencing September 30, 20Y6, while the hedged debt matures in September 20Z1. The city also is exposed to rollover risk on the pay-fixed, receive-variable interest rate swap scheduled to mature in February 20Y8 because the hedged debt is scheduled to mature in February 20Z3.

Synthetic Guaranteed Investment Contracts and Other Investment Derivative Instruments

In the city's deferred compensation plan, employees are able to participate in SGICs. The contracts provide a contractual guaranteed interest rate of 5 percent. The fair value of these contracts at June 30, 20X0, is $13,065,000 and the contract value is $13,105,000.

SGIC Components	Fair Value
Underlying investments	$ 12,980,000
Wrap contract	85,000
Total	$ 13,065,000

Note: The following disclosures related to investment derivative instruments should be included with the city's investment disclosures. Only required disclosures related to investment derivative instruments are shown.

Interest rate risk. As of June 30, 20X0, the city had investments with the following maturities (amounts in thousands):

		Investment Maturities (in years)			
Investment Type	Fair Value	Less Than 1	1–5	6–10	More Than 10
Investment derivative instruments	$ 11,828	$13,105	$ -	$(1,277)	$ -

The city is invested in a pay-fixed, receive-variable interest rate swap with a notional amount of $18,000,000. The city makes semiannual fixed payments to the counterparty of 5.8 percent and receives variable payments based on 67 percent of LIBOR. This interest rate swap was executed in July 20W2 and matures in July 20X7. At June 30, 20X0, this interest rate swap had a fair value of $(1,277,000).

Foreign currency risk. The city is exposed to foreign currency risk on its foreign currency forward contract because it is denominated in British pounds. The fair value of the foreign currency forward contract in U.S. dollars is $(721,000).

Note: The following disclosure should be included in the city's long-term debt disclosure. It should be appropriately captioned and cross-referenced to the derivative instrument note.

Hedging derivative instrument payments and hedged debt. As of June 30, 20X0, aggregate debt service requirements of the city's debt (fixed-rate and variable-rate) and net receipts/payments on associated hedging derivative instruments are as follows. These amounts assume that current interest rates on variable-rate bonds and the current reference rates of hedging derivative instruments will remain the same for their term. As these rates vary, interest payments on variable-rate bonds and net receipts/payments on the hedging derivative instruments will vary. Refer to Note X for information on derivative instruments (amounts in thousands).

Fiscal Year Ending June 30	Principal	Interest	Hedging Derivatives, Net	Total
20X1	$ 6,000	$ 7,786	$ (1,253)	$ 12,533
20X2	10,000	7,525	(1,211)	16,314
20X3	27,000	7,090	(1,141)	32,949
20X4	33,000	5,916	(952)	37,964
20X5	15,000	4,480	(721)	18,759
20X6–20Y0	29,000	19,140	(3,080)	45,060
20Y1–20Y5	15,000	12,385	1,475	28,860
20Y6–20Z0	14,000	9,570	(528)	23,042
20Z1–20Z3	30,000	6,310	(300)	36,010
Total	$179,000	$80,202	$ (7,711)	$251,491

Contingencies

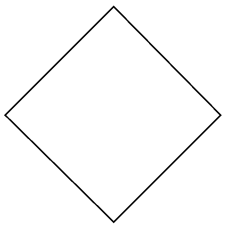
All of the city's derivative instruments, except for the rate cap, include provisions that require the city to post collateral in the event its credit rating falls below AA as issued by Fitch Ratings and Standard & Poor's or Aa as issued by Moody's Investors Service. The collateral posted is to be in the form of U.S. Treasury securities in the amount of the fair value of hedging derivative instruments in liability positions net of the effect of applicable netting arrangements. If the city does not post collateral, the hedging derivative instrument may be terminated by the counterparty. At June 30, 20X0, the aggregate fair value of all hedging derivative instruments with these collateral posting provisions is $2,591,000. If the collateral posting requirements were triggered at June 30, 20X0, the city would be required to post $1,998,000 in collateral to its counterparties. The city's credit rating is AAA/Aaa; therefore, no collateral has been posted at June 30, 20X0.

Appendix D

FLOWCHARTS FOR THE EVALUATION OF EFFECTIVENESS

166. The following flowcharts are intended to aid in the application of the provisions of this Statement during the initial year that a government enters into a derivative instrument. Although the Statement does not require that preparers follow the effectiveness methods in the order illustrated, the flowcharts assume preparers will apply the consistent critical terms method before the quantitative methods. The order of the quantitative methods in the flowcharts follows the order in which they appear in the Statement and does not express a preference for any method or the order in which they should be performed. The flowcharts include references to specific paragraphs in the Statement that provide a detailed explanation of the particular topic. The flowcharts are nonauthoritative and should not be used in place of the Statement itself.

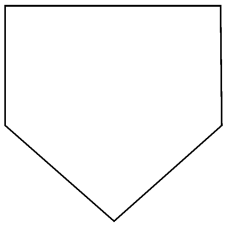
Legend



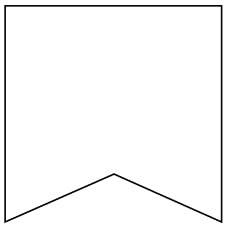
A diamond represents a decision point or question. It will always have outcomes, such as yes or no, which will determine the path taken through the flowchart.

A square or rectangle represents a process that needs to be performed. A process will not result in outcomes. In most cases, a process will be followed by a decision point (diamond).

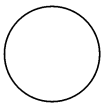
An oval represents a terminator or ending point. It signifies the end of the decision-making process or a final outcome.



This shape signifies that the flowchart continues on another page. It will note the page on which the flowchart will continue.

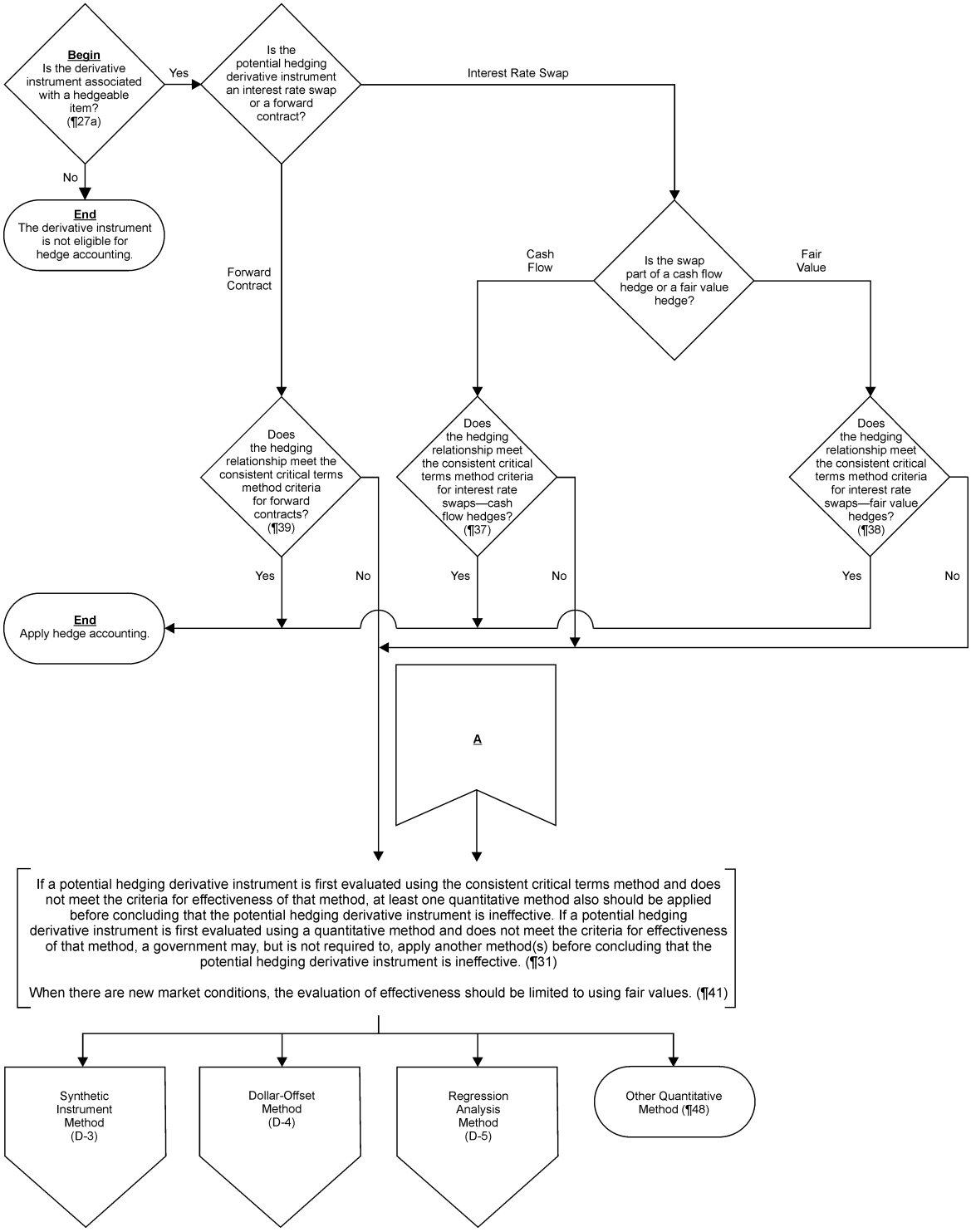


This shape represents an off-page incoming reference. It signifies that the flowchart has continued from another page.

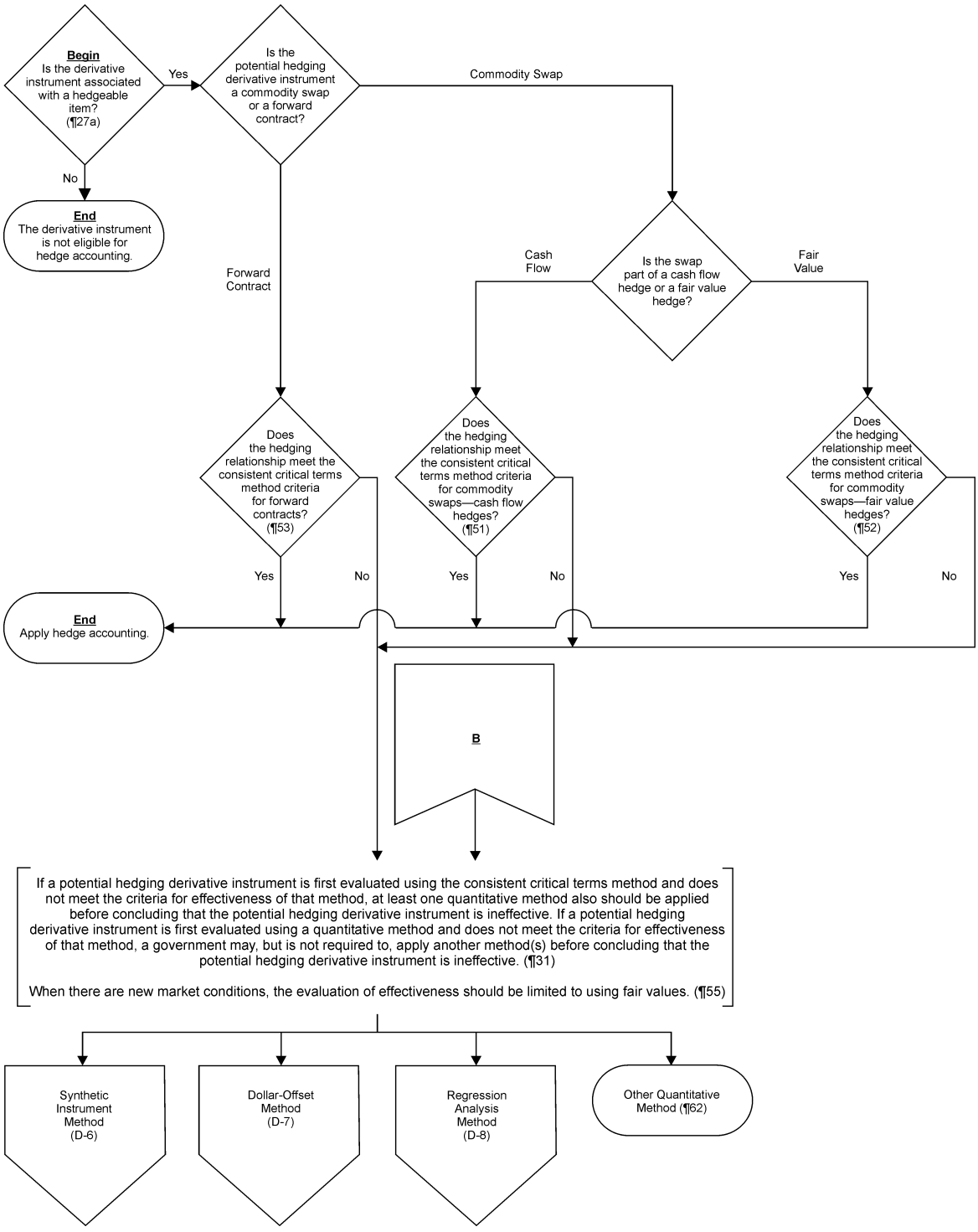


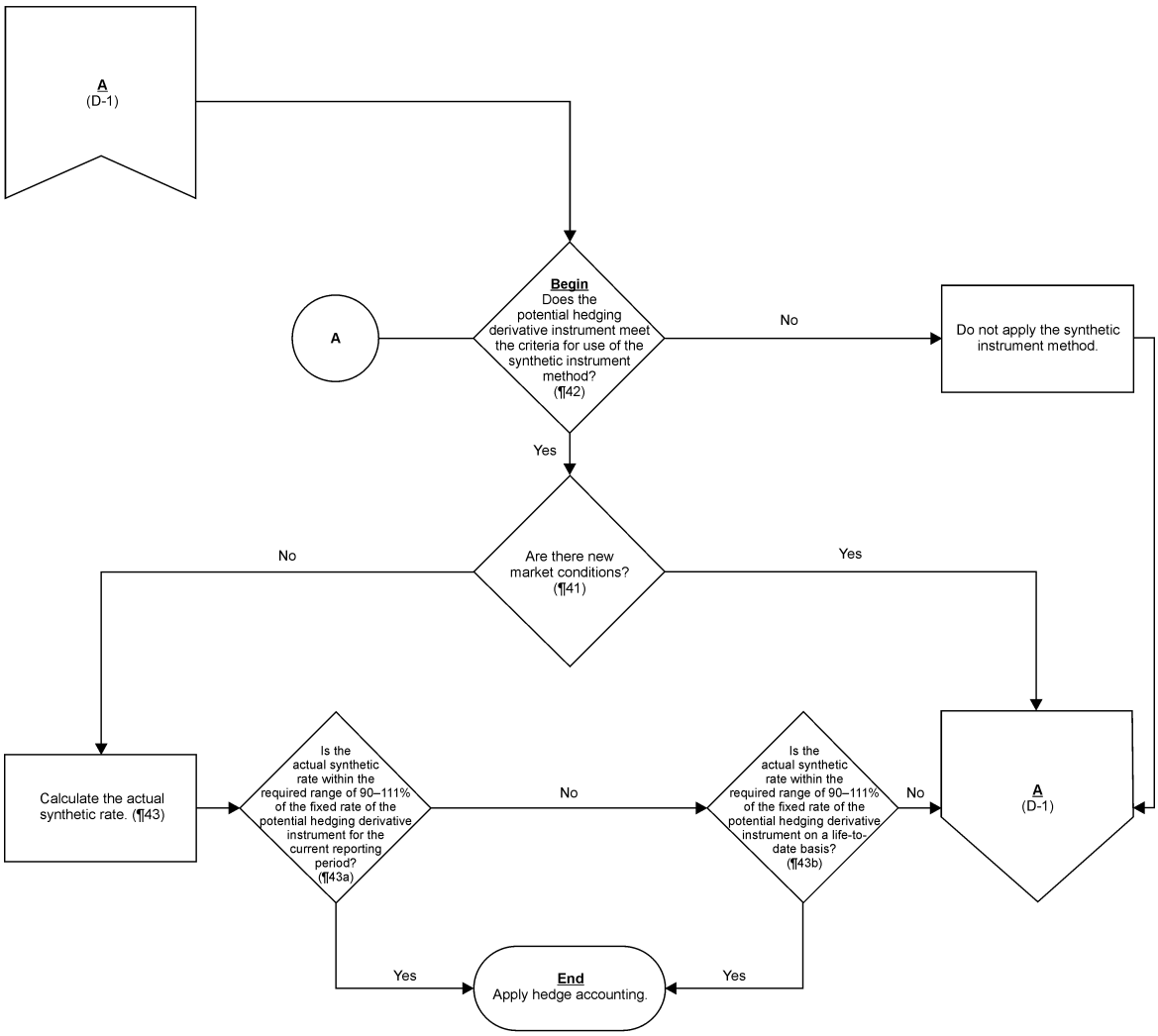
This shape represents an on-page reference. It signifies that there is an additional element to the flowchart that is not included within the main diagram, but it is elsewhere on the page.

Hedges of Financial Instruments—Summary of Effectiveness Testing D-1



Hedges of Commodities—Summary of Effectiveness Testing D-2





A

Application of this method is limited to cash flow hedges in which the hedgeable items are interest bearing and carry a variable rate. (¶42)

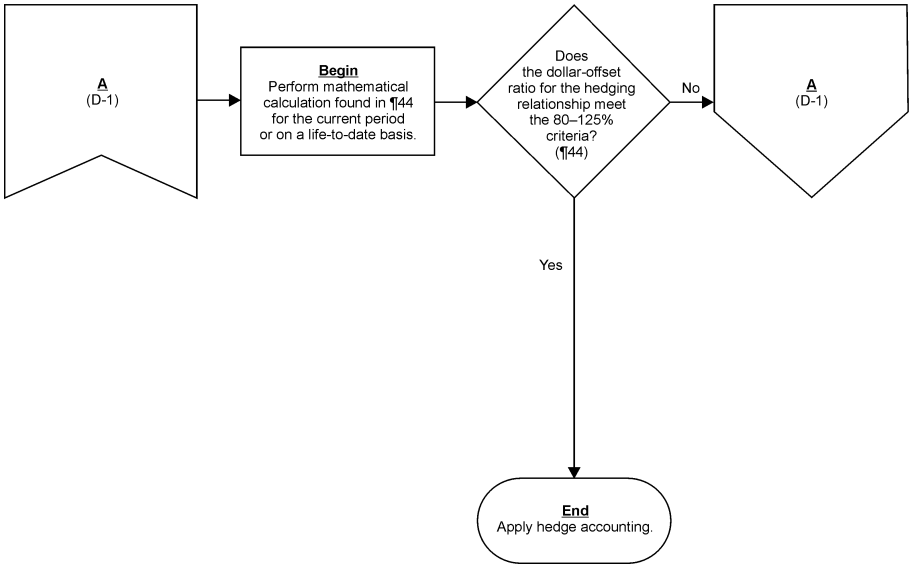
This method may be applied only if all of the following criteria are met:

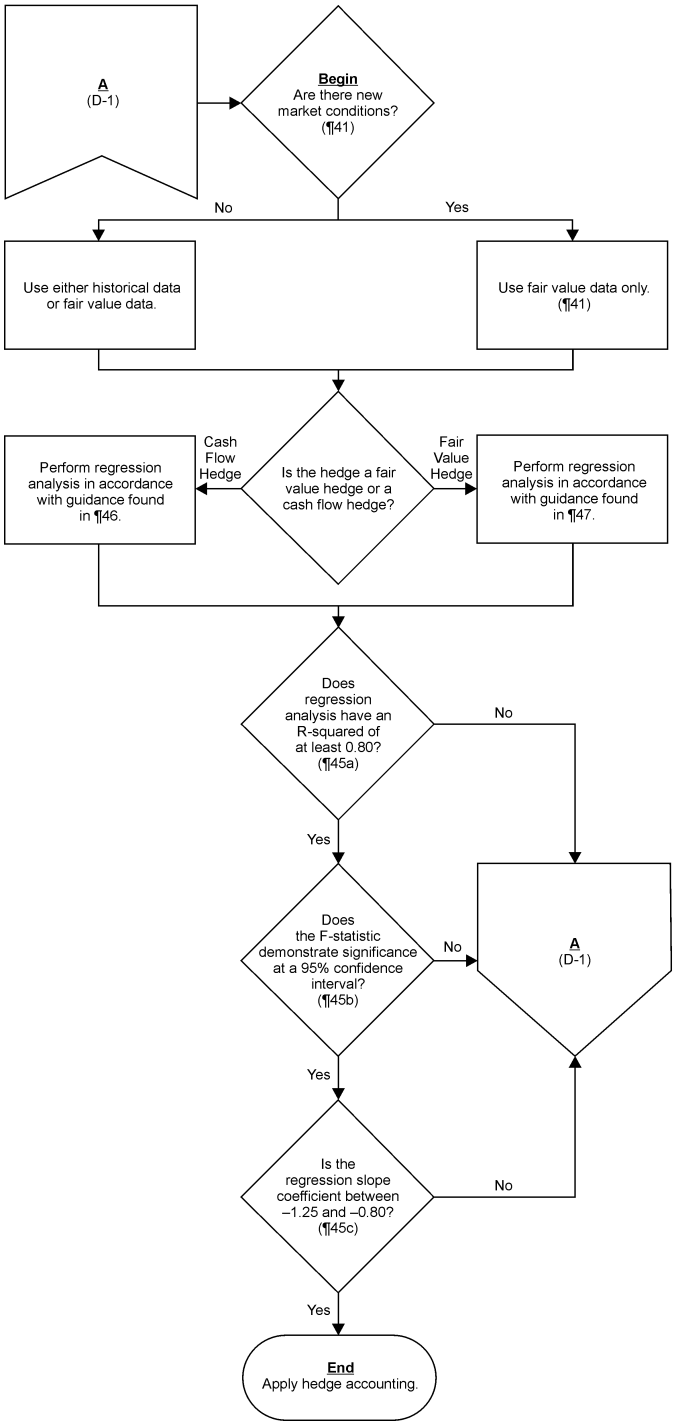
a. The notional amount of the potential hedging derivative instrument is the same as the principal amount of the associated variable-rate asset or liability throughout the life of the hedging relationship. (¶42a)

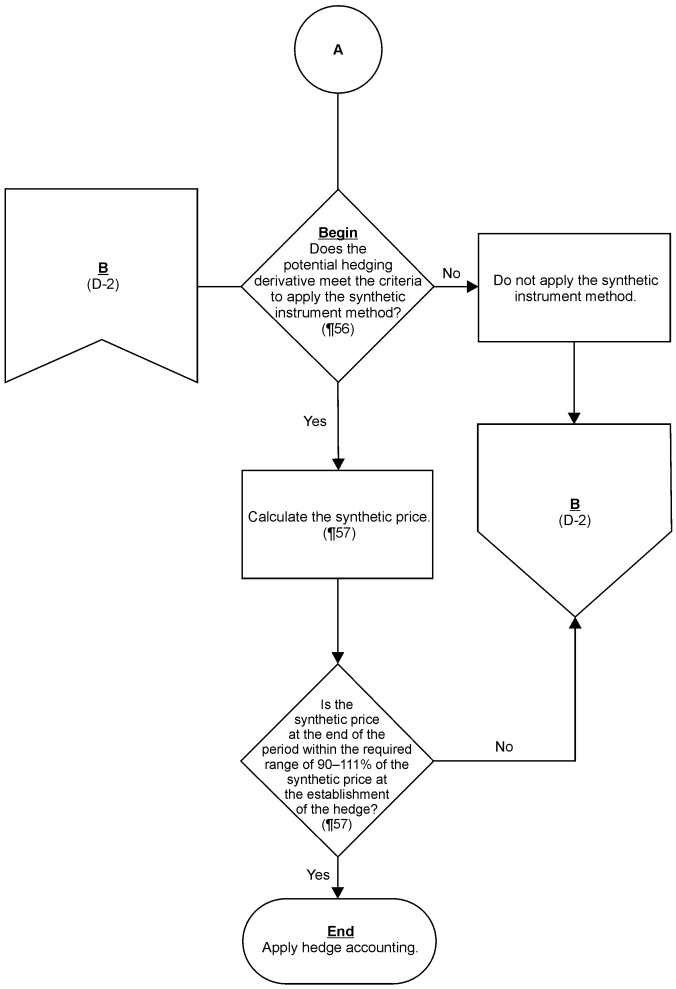
b. Upon association with the variable-rate asset or liability, the potential hedging derivative instrument has a zero fair value or the forward price is at-the-market. (¶42b)

c. The formula for computing net settlements is the same for each net settlement. (¶42c)

d. The interest receipts or payments of the potential hedging derivative instrument occur during the term of the variable-rate asset or liability, and no interest receipts or payments occur after the term of the variable-rate asset or liability. (¶42d)


A
(D-1)
Begin
Perform mathematical calculation found in ¶44 for the current period or on a life-to-date basis.
Does the dollar-offset ratio for the hedging relationship meet the 80–125% criteria? (¶44)
No
A
(D-1)
Yes
End
Apply hedge accounting.


A
(D-1)
Begin
Are there new market conditions?
(¶41)
No
Yes
Use either historical data or fair value data.
Use fair value data only.
(¶41)
Perform regression analysis in accordance with guidance found in ¶46.
Cash Flow Hedge
Is the hedge a fair value hedge or a cash flow hedge?
Fair Value Hedge
Perform regression analysis in accordance with guidance found in ¶47.
Does regression analysis have an R-squared of at least 0.80?
(¶45a)
No
Yes
Does the F-statistic demonstrate significance at a 95% confidence interval?
(¶45b)
No
A
(D-1)
Yes
Is the regression slope coefficient between –1.25 and –0.80?
(¶45c)
No
Yes
End
Apply hedge accounting.



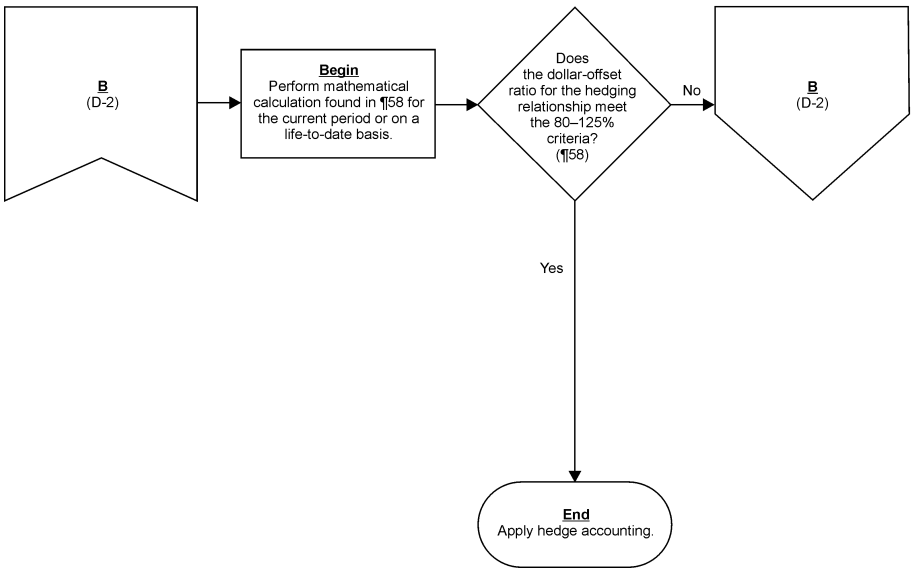
A

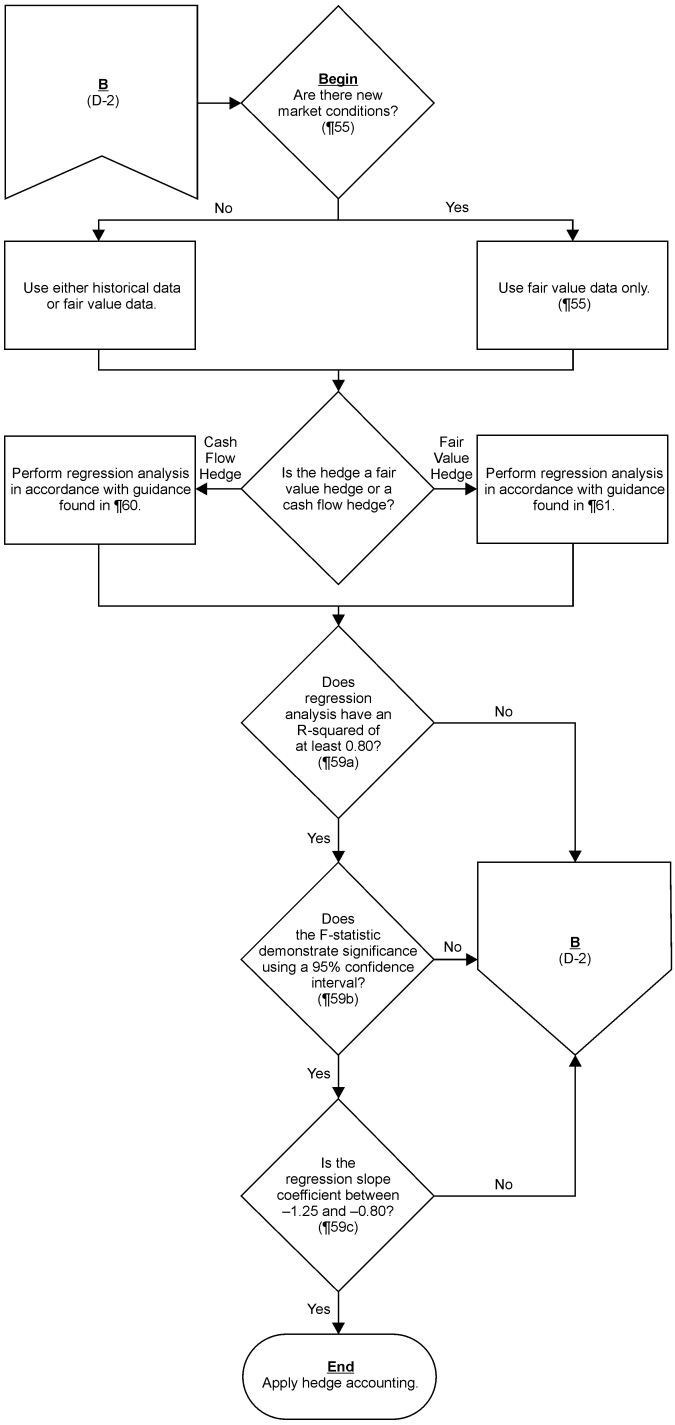
This method is limited to cash flow hedges and hedgeable items that have a variable price or rate.

This method may be applied only if both of the following criteria are met:

a. The notional quantity of the potential hedging derivative instrument is the same as the quantity of the associated commodity. (¶56a)

b. Upon association with the hedgeable item, the potential hedging derivative instrument has a zero fair value or the forward price is at-the-market. (¶56b)


B
(D-2)
Begin
Perform mathematical calculation found in ¶58 for the current period or on a life-to-date basis.
Does the dollar-offset ratio for the hedging relationship meet the 80–125% criteria? (¶58)
No
B
(D-2)
Yes
End
Apply hedge accounting.


B
(D-2)
Begin
Are there new market conditions?
(¶55)
No
Yes
Use either historical data or fair value data.
Use fair value data only.
(¶55)
Perform regression analysis in accordance with guidance found in ¶60.
Cash Flow Hedge
Is the hedge a fair value hedge or a cash flow hedge?
Fair Value Hedge
Perform regression analysis in accordance with guidance found in ¶61.
Does regression analysis have an R-squared of at least 0.80?
(¶59a)
No
Yes
Does the F-statistic demonstrate significance using a 95% confidence interval?
(¶59b)
No
B
(D-2)
Yes
Is the regression slope coefficient between –1.25 and –0.80?
(¶59c)
No
Yes
End
Apply hedge accounting.

Appendix E

CODIFICATION INSTRUCTIONS

167. The sections that follow update the June 30, 2007, *Codification of Governmental Accounting and Financial Reporting Standards*, for the effects of this Statement. Only the paragraph number of the Statement is listed if the paragraph will be cited in full in the Codification.

* * *

COMPREHENSIVE ANNUAL FINANCIAL REPORT — SECTION 2200

.102 [Update cross-reference in footnote 3.]

* * *

NOTES TO FINANCIAL STATEMENTS — SECTION 2300

Sources: [Delete GASB Technical Bulletin 2003-1]

.107 [Update cross-references in subparagraph a; add new subparagraph jj as follows:] Derivative instruments. (See Section D40, "Derivative Instruments," paragraphs .164–.175.)

.601 [Delete current paragraph .601, including headings and footnotes; renumber subsequent paragraphs and footnotes.]

* * *

STATISTICAL SECTION SECTION 2800

.142 [Update cross-reference.]

* * *

CLAIMS AND JUDGMENTS SECTION C50

.144 [Update cross-references.]

* * *

DEBT REFUNDINGS SECTION D20

Sources: [Add the following:] GASB Statement 53

See also: [Add the following:] Section D40, "Derivative Instruments"

.108 [Revise footnote 5 as follows:] *Net carrying amount* is the amount due at maturity, adjusted for any unamortized premium or discount and issuance costs related to the old debt, as well as any deferred inflow or deferred outflow associated with a derivative instrument that is an effective hedge of the old debt. [GASBS 23, fn4, as amended by GASBS 53, ¶24]

.111 [In subparagraph a, add new penultimate sentence as follows:] If a derivative instrument is an effective hedge of old or new debt, the cash flows required to service the old or new debt also should include the cash flows of the hedging derivative instrument. [Add GASBS 53, ¶24, to sources.]

* * *

[Create new section as follows:]

DERIVATIVE INSTRUMENTS SECTION D40

Source: GASB Statement 53

See also: Section I50, "Investments"

Scope and Applicability of This Section

.101 [GASBS 53, ¶4] [Change *Statement* to *section* and update cross-references; bold the term *financial instruments* in the second sentence and insert new footnote 1 after the term as follows:] Terms defined in paragraphs .502–.558 of this section are printed in **boldface type** when they first appear. [GASBS 53, fn1]

.102 [GASBS 53, ¶5] [Change *Statement* to *section* and update cross-references.]

.103–.175 [GASBS 53, ¶7–¶79, including headings and footnotes] [Boldface the terms *hedge accounting, hedging derivative instrument, hybrid instrument,* and *potential hedging derivative instrument* the first time they are used. Change *Statement* to *section* and update cross-references.]

DEFINITIONS

.501 The following paragraphs contain definitions of certain terms *as they are used in this section;* the terms may have different meanings in other contexts.

.502–.558 [Insert definitions from GASBS 53, ¶82; include GASBS 53, ¶82, as source of each entry.]

* * *

Sources: [Add the following:] GASB Statement 53

See also: [Add the following:] Section D40, "Derivative Instruments"

.101 [Before the last sentence, insert the following:] Guidance for reporting investment derivative instruments is provided in Section D40, paragraphs .115–.117 and .172. Guidance for reporting synthetic guaranteed investment contracts that are benefit responsive is provided in paragraph .105. [Add GASBS 53, ¶19–¶21, ¶67, ¶76, and ¶79, to sources.]

.105 [Replace last sentence with the following:] Investments that are fully benefit-responsive synthetic guaranteed investment contracts should be measured at contract value. (See Section D40, paragraph .163.) [Add GASBS 53, ¶20 and ¶67, to sources.]

.127 [After the last sentence, insert the following:] Credit risk disclosures for investment derivative instruments should follow the requirements of Section D40, paragraph .169a(1)–(5). [Add GASBS 53, ¶73, to sources.]

.129 [After the last sentence, add new sentence as follows:] Concentration of credit risk disclosure for investment derivative instruments should follow the requirements of Section D40, paragraph .169a(6). [Add GASBS 53, ¶73, to sources.]

.130 [In the first sentence, change *debt investments* to *debt investments and investment derivative instruments.*] [Add GASBS 53, ¶73, to sources.]

.132 [In the first sentence, change *a debt investment* to *a debt investment or an investment derivative instrument;* add new subparagraph d as follows:] Investment derivative instruments, including interest rate swaps. This investment's fair value, notional amount, reference rate, and embedded options should be disclosed. [Add GASBS 53, ¶76, to sources.]

.133 [Add GASBS 53, ¶76, to sources.]

* * *

INVESTMENT POOLS (EXTERNAL) SECTION In5

Sources: [Add the following:] GASB Statement 53

See also: [Add the following:] Section D40, "Derivative Instruments"

.102 [Revise first sentence as follows:] The accounting and financial reporting standards in Section D40, paragraphs .115–.117 and .159–.163, and Section I50, paragraphs .105, .106, .108–.112, and .119, apply to *all* investments of governmental external investment pools, except that 2a7-like pools may report their investments at amortized cost. [Add GASBS 53, ¶19–¶21 and ¶63–¶67, to sources.]

* * *

PENSION PLANS—DEFINED BENEFIT SECTION Pe5

Sources: [Add the following:] GASB Statement 53

.116 [Revise first sentence as follows:] Plan investments, whether equity or debt securities, real estate, investment derivative instruments, or other investments (excluding

insurance contracts), should be reported at their fair value at the reporting date. [Insert new penultimate sentence as follows:] Synthetic guarantee investment contracts that are fully benefit-responsive (as defined in Section D40, "Derivative Instruments," paragraph .163) should be reported at contract value. [GASBS 25, ¶24, as amended by GASBS 53, ¶20; GASBS 31, ¶4; GASBS 53, ¶67]

* * *

PUBLIC ENTITY RISK POOLS SECTION Po20

Sources: [Add the following:] GASB Statement 53

.113–.114 [Update cross-references.]

.132 [Update cross-reference in footnote 5.]

[Insert new paragraph .143 as follows; renumber subsequent paragraphs.]

.143 Derivative instruments should be measured and reported at fair value. Synthetic guaranteed investment contracts that are fully benefit-responsive should be reported as provided in Section D40, "Derivative Instruments," paragraph .163. [GASBS 53, ¶20]

.149–.150 [Update cross-references in current paragraphs .148 and .149.]

* * *

POSTEMPLOYMENT BENEFIT PLANS OTHER THAN PENSION PLANS—DEFINED BENEFIT

SECTION Po50

Sources: [Add the following:] GASB Statement 53

.118 [Revise first sentence as follows:] Plan investments, whether equity or debt securities, real estate, investment derivative instruments, or other investments (excluding **insurance contracts**), should be reported at their fair value at the reporting date. [Insert new penultimate sentence as follows:] Synthetic guarantee investment contracts that are fully benefit-responsive (as defined in Section D40, "Derivative Instruments," paragraph .164) should be reported at contract value. [GASBS 31, ¶4; GASBS 43, ¶22, as amended by GASBS 53, ¶20; GASBS 53, ¶67]

* * *