National Policy Bulletin

Interest Rate Risk Management Policy

Suggested Framework for Policies and Internal Controls Governing Interest Rate Risk Management for Real Estate Companies

November 14, 2000

Summary

SFAS No. 133, the new accounting standard for derivatives and hedging activities, requires companies to formally develop a policy statement outlining its objectives and strategies for using derivative instruments. NAREIT's Derivatives and Hedging Task Force has prepared this National Policy Bulletin to assist companies develop policy statements for interest rate risk management. The suggested framework consists of the following sections:

I. General Overview
II. Hedging Objective
III. Hedging Strategy and Products
IV. Hedging Within Parameters for REIT Qualification
V. Board and Senior Management Involvement in Managing Interest Rate Risk
VI. Acceptable Counterparty
VII. Credit Issues
VIII. Third Party Advisors
IX. Transaction Process, Authorization, Procedures and Controls
Appendix - Derivative Products

The examples presented in this Bulletin are **not** exhaustive, nor are they designed to be requirements that must be followed. However, the suggested framework is designed to assist companies in the adoption of requisite internal controls that would lead to the achievement of the intended levels of hedge effectiveness through an increased understanding of the derivative instruments utilized.

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Introduction

For a majority of NAREIT Corporate members, the first quarter of 2001 will be the first reporting period in which the new accounting requirements for derivatives and hedging (SFAS No. 133, *Accounting for Derivative Instruments and Hedging Activities*, as amended by SFAS No. 138) will apply to financial statements and related footnotes. SFAS 133 also requires that any derivative for which special hedge accounting is desired must be a hedging derivative consistent with a company's established policy for risk management. Since companies generally desire hedge accounting, this rule essentially requires companies to formally develop a policy statement outlining its objectives and strategies for using derivative instruments. The alternative to hedge accounting is to reflect changes in the fair value of derivatives in earnings.

This National Policy Bulletin has been prepared by NAREIT's Derivatives and Hedging Task Force to assist companies develop policy statements before the standard takes effect on January 1, 2001. Users of this guidance should be aware that in addition to SFAS 133, other authoritative guidance might apply.[1] This Bulletin is intended to serve as a resource by providing guidance for the development of a formal company policy. It is expected that a company's policy statement would not be static, but would evolve along with its use of hedging instruments.

The suggested framework is designed to assist companies in the adoption of requisite internal controls that would lead to the achievement of the intended levels of hedge effectiveness through an increased understanding of the derivative instruments utilized. The examples presented in this Bulletin are **not** exhaustive, nor are they designed to be requirements that must be followed. NAREIT believes that utilization of the examples should be based on the business judgement of the management of each company, and that management should determine the policies that would be appropriate given their specific circumstances. NAREIT makes no assertion that the adoption of any of the examples in this Bulletin will lead to hedge effectiveness.

NAREIT appreciates the valuable assistance of all those that assisted in the preparation of this framework, especially members of its Derivatives and Hedging Task Force, chaired by Marti Tirinnanzi of Chatham Financial. The Task Force consists of 20 NAREIT members, including corporate financial executives, investors, analysts, hedging advisors, and representatives from each of the Big 5 audit firms.

I. General Overview

A company should include a statement of its strategy on managing its interest rate risk exposure. It should consider the main purposes and reasons for which the company undertakes derivatives positions and explains them.

Example:

"The Company develops and acquires various real estate investments to generate current operating income and cash flow as well as long-term appreciation of the underlying asset. In some cases, this development and acquisition activity is funded with variable rate debt. This debt exposes the Company to interest rate risk that may impact its current and future cash flows. The Company's primary strategy to protect against this risk is to enter into derivative transactions to minimize the variability that changes in interest rates could have on cash flows. Secondary objectives of the hedge program are as follows:

- Minimize the income statement effect of hedge ineffectiveness.
- Management of hedge instrument selection to minimize hedge costs.
- Protection of the overall economic value of the asset/debt portfolio.

In order to achieve the risk management objectives described above, the Company will acquire derivative instruments (cash flow hedges) that are intended to react in a predetermined manner to offset the changes in future cash flows caused by changes in benchmark interest rates.

This interest rate risk management policy establishes the objectives, policies, procedures, and practices for the company to control and manage its interest rate risk position."

II. Hedging Objective

A company should explain the quantifiable end results that it expects to achieve when undertaking hedging transactions and derivative positions.

Example #1:

"Fundamental to the Company's approach to risk management in general, and interest rate risk management in particular, is its willingness to tolerate a relatively small amount of risk through use of floating-rate debt instruments and some shorter-term debt maturities. The Company eliminates significant interest rate risk with the use of substantial equity capital, significant fixed-rate borrowings, extended maturities on such fixed-rate borrowings, and interest rate swaps and caps on a significant amount of floating-rate borrowings."

Example #2:

"Management of the Company wants to eliminate or reduce the risks that variability of cash flows, based on interest rates or changing exchange rates, imposes on the Company. Many such risks, based on exogenous factors, can be mitigated. However, in each significant business transaction, management will articulate the risks and identify the costs and benefits of hedging the specific business risks. Certain risks can be hedged utilizing mechanisms discussed further under "Hedging Strategy and Products" below. Management will review with and secure approval from the board of directors of the Company, the overall hedging objective and the specific mechanisms to be undertaken to fulfill this objective."

III. Hedging Strategy and Products

A company should explain the business activities that result in interest rate risk. It should include an explanation of the particular types of derivatives that are likely to be beneficial to the organization, including:

- each type of product that might be used,
- how each type of product works,
- the benefits and weaknesses of each product,
- the types of risk methodologies to be used for specific types of derivative instruments,
- the purpose of the specific types of derivative instruments,
- how each type of hedge instrument is valued,
- the criteria used to value each transaction, and
- circumstances when alternatives to derivatives may be used to manage interest rate risk.

Some of the derivative instruments typically used in the real estate industry are listed below. All of the following are over-the-counter (OTC) instruments (i.e., they are privately-traded instruments, customized to meet specific needs, for which the counterparty is not an organized exchange).

1. Forward-Rate Agreement, Rate Lock, or Forward Starting Swap - used to fix the interest rate on a future transaction.
2. Interest Rate Swap - used to fix a rate on an existing floating rate loan.
3. Foreign Currency Swaps - converts income in a foreign currency at a predetermined exchange rate.
4. Option products - used to control rates within an acceptable interest rate range.

A full discussion of each type of instrument is located in the Appendix of this framework.

Example #1:

"The Company may be exposed to the risk that variability in cash flows might impact the earnings of the Company. Our hedging strategy, therefore, is to eliminate or reduce, to the extent possible, the volatility of cash flows.

Examples of items that would impact the variability of cash flows include: (1) lease rates based on floating rates, or interest payments based on floating-rate indices, (2) floating-rate lease income on assets funded with fixed-rate debt, and (3) rental income of assets financed with foreign currency borrowings. In the first instance, we may execute an interest rate

hedge that will fix the rate of the debt or the lease stream. In the second case, the Company may execute a hedge contract that might "unfix" the interest rate in a manner to match the variability of floating rate cash flows. Finally, in the third case, we may execute a foreign currency hedge to eliminate the risk of change in the US dollar exchange rate at the inception of the deal with relative changes in interest rates."

Example #2:
"Debt maturities are staggered to minimize the re-financing risk at any point in time. Debt maturities for secured fixed-rate first-mortgage loans are established taking into account the anticipated holding period of the individual asset. Unsecured debt maturities are set as long as deemed feasible given the board's Capital Markets Committee (CMC) interest rate view and current market conditions.

The Company both develops properties and buys newly-constructed properties. Although the economic lives of these properties is anticipated to approximate 40 years (with an approximate salvage value at the end), the Company rarely holds a property that is more than 20 years old, and may hold a property for as little as five years. Accordingly, the company mitigates its interest rate risk only with respect to a period of time no greater than the anticipated holding period of the asset."

[The Company would include here a list of potential derivative instruments.]

IV. Hedging Within Parameters for REIT Qualification

A company should set forth the permissible hedging strategies in the context of the REIT tax qualification requirements. In many cases, the tax accounting rules for hedges may yield different income and expense amounts than that recognized under generally accepted accounting principles (GAAP). For example, a derivative may constitute a bona fide hedge for tax purposes, such that hedge income is accrued as an offsetting interest expense is incurred. However, for GAAP purposes, the derivative will be subject to mark-to-market treatment. In addition, in certain instances, amounts realized from a hedge may constitute non-qualified income for REIT qualification purposes. In these cases, assurances must be provided that potential income from a hedge cannot exceed five percent of a REIT's gross income. Finally, this section requires that the REIT properly and timely identify hedges for tax purposes in order to ensure appropriate tax accounting.

Example #1:
"As a mortgage REIT, the Company enters into a forward swap transaction to convert the variable interest rate on an anticipated acquisition of a mortgage portfolio into a fixed rate. The Company properly and timely identifies the transaction as a hedge for tax purposes. If the derivative is treated as a hedge for tax purposes, the mark-to-market value of the swap, if any, at the time the mortgages are acquired would be recognized over the life of the mortgages, and net periodic payments received under the swap would be recognized when received. However, since the mortgages are capital assets for tax purposes, rather than ordinary assets, the derivative may not qualify for hedge accounting under the tax code. Thus, there is a risk that income from the derivative could constitute non-qualified income. Accordingly, the amount of hedging activity should be limited to ensure that there is no reasonably foreseeable risk that potential income from the hedge transaction could exceed five percent of the REIT's gross income."

V. Board and Senior Management Involvement in Managing Interest Rate Risk

A company should define the roles for the members of the board of directors and senior management in relation to risk control of derivatives.

Example #1:
"The board of directors approves the use of derivatives and determines the overall objectives of derivatives usage so that their use remains consistent with the organization's risk vision, culture, objectives, level of competence, expertise, and financial capability. The board has also directed that no hedging strate-

gy may be entered that could potentially threaten the REIT's qualified status. For practical reasons, the authority to undertake specific derivative transactions have been delegated to senior management."

Example #2:
"Senior management and the Company's board of directors have established the risk vision and parameters for the organization. Further, the board and senior management have established an effective set of policies for the purpose of using derivatives consistent with the Company's underlying strategy, commercial objectives, level of risk tolerance, and financial capacity and flexibility. Management has implemented practices and procedures consistent with company policies, and these practices and procedures, as well as this interest rate risk management policy, is subject to review on an ongoing basis by the audit committee of the board of directors."

Example #3:
"The board of directors approves:

- The types of derivative contracts that may be used by the CMC to hedge interest rate risk:
  - Swaps (including options and forwards)
  - Caps (including options and forwards)
  - Collars (including options and forwards)
  - Treasury locks
- The use of any derivatives for other than cash flow hedging purposes (if applicable)
- General parameters for use:
  - How far forward an anticipatory hedge can be placed
  - Documentation requirements regarding acquisition or development commitments, or re-financing needs, in anticipation of obtaining a fixed-rate term-loan commitment, etc.
- Absolute limits (individual and aggregate) on the notional amount and term of derivative contracts
- General parameters for credit-worthiness of counter-parties
- Engagement of independent interest-rate risk-management consultants
- Acceptance of tax opinion from tax counsel respecting effect of hedging on REIT qualification

The Capital Markets Committee (CMC) of the board of directors:

- identifies specific financing risks for which it may be desirable to hedge and defines precisely the hedging objective, and
- works in consultation with the independent risk-management consultant to structure a derivative transaction to meet the defined objective.

The board of directors delegates the following responsibilities to senior management:

- execution of the hedging transaction using the services of the independent interest-rate risk-management consultant,
- preparation of timely memoranda necessary to document hedges for both GAAP and income tax reporting purposes,
- monitor the fair values of the derivatives in the hedging portfolio,
- communication of the appropriate periodic valuation information received from the independent interest-rate risk-management consultants,
- monitor the Company's overall capital structure to ensure that it remains within limits approved by the Company's board of directors,
- supervision of the performance of calculations related to the effectiveness of the hedge during the entire period of time the hedge contract is in effect,
- engagement of tax consultants to review and opine on hedging strategy, and
- apprise the other members of the CMC as to all the above activities."

VI. Acceptable Counterparty

A Company should address the criteria for suitable counterparties in relation to various specific types of risk (credit risk, reputation risk).

Example:
"Acceptable Counterparty - Credit Risk
The counterparty must have a credit rating of 'A' or better from Standard & Poor's, Moody's or another nationally recognized rating agency. Exceptions to this credit rating will be granted only if the counterparty's parent or related entity issues a Guaranty on the counterparty's behalf (as a Credit Support Provider). Guarantor entity must have a credit rating of 'A' or better.

Acceptable Counterparty - Reputation Risk
Lenders to include in the interest-rate instrument auction will meet the credit risk requirements above and are chosen from:

- Lenders currently in the bank group for the related debt,
- lenders that the Company has done business with in the past and had a good working relationship with, or
- lenders that third-party advisors recommend based on their experience with similar type instrument auctions."

VII. Credit Issues

A company should address various methods that it might use to control credit exposure. These are considered as either counterparty enhancement tools or part of an ongoing process of credit analysis:[2]

- Collateral agreements: provision for security in the case of default.
- Netting agreements: provision setting off total amounts of reciprocal obligations.
- Credit guarantees: third party usually with superior credit rating guarantees principal balance.
- Credit triggers: outstanding contracts can be terminated if the counterparty's credit rating falls below a certain predetermined level.
- Mutual termination options: permit either counterparty to terminate unconditionally on a specified date before maturity.

VIII. Third Party Advisors

A company should explain the types of advisors that might be relied upon in the hedging and derivatives transaction process. Companies may rely on tax counsel, accounting/audit firms, or third-party interest-rate risk advisors. It is important to consider and indicate in the policy the professional qualifications and experience needed by third party advisors.

Example:
"The Company relies on a third-party interest-rate risk advisory firm that has experienced staff to understand derivative instruments and market conditions. The third-party firm provides:

- assistance in advising on the type of hedges that should be employed relative to meeting the company's objectives for each financial transaction,
- explanation of the level of effectiveness that can be expected in the hedging transaction,
- information on fair values on a regular basis for financial reporting requirements,
- measurements of the effectiveness of the derivative instrument on an ongoing basis and related financial disclosure information, and
- maintenance of the documentation and term sheets on each transaction.

Our advisors (specified here) have specialized in hedging advisory for a number of years, and have the business education and market familiarity in the field of hedging in order to provide reliable and useful services."

IX. Transaction Process, Authorization, Procedures and Controls

A company should explain the process for approving the use of derivative instruments, including who is authorized to engage in derivatives transactions and the people involved in entering into, negotiating, approving, executing, and reviewing the accounting and transaction documentation. A company also should explain circumstances when it should obtain tax, legal and accounting advice from outside accountants or hedge advisors. It should also outline how policies and procedures should be communicated to the staff and how such communications should be acknowledged and understood.

A company also should outline the procedures

and controls for recording and monitoring the use of all derivatives transactions. It also should explain how:

- the underlying assets and component risks of derivative instruments should be analyzed,
- records will be maintained and how frequently they will be updated,
- counterparties will be pre-qualified and approved for derivatives transactions,
- the risk management function will proactively supervise derivatives exposures, and
- the risk managers will exercise their control over approved limits.

Example:

"A. Qualification criteria for hedge accounting under Statement of Financial Accounting Standard No. 133, *Accounting for Derivative Instruments and Hedging Activities* (SFAS 133), requires that the hedging relationship, risk management objective, and strategy for undertaking the hedge will be documented at the inception of each individual hedge. For each hedge position, the Company's Treasury function will document the following information in a Hedge Designation Memo:

1. Date of hedge inception
2. Identification of hedging instrument
3. Description of hedged item or transaction
4. Risk management objective and strategy
5. Nature of risk being hedged
6. Benchmark interest rate being hedged in a hedge of interest rate risk (either LIBOR or Treasury). For variable-rate instruments, the benchmark only can be hedged if the hedged instrument and derivative are indexed to the same benchmark. Note that if the benchmark interest rates are not the same, an entity may be able to designate the overall changes in cash flows as the hedged risk instead of interest rate risk.
7. Method to be used for assessing effectiveness of hedging derivative in achieving offsetting changes in cash flows attributable to the risk being hedged (i.e., dollar offset or regression). This method must be used throughout the hedge period. The method can be changed, but it will result in hedge termination and re-designation.
8. Analysis showing that the hedge is expected to be effective.

B. The following procedures will be followed for each new derivative:

1. The Assistant Treasurer and Financial Reporting Director will make a determination whether the derivative must be reviewed with tax counsel and auditors prior to entering into the derivative. A preliminary Hedge Designation Memo is generated and an analysis of expected effectiveness is performed.

2. The Treasurer reviews the derivative and related hedged item to determine that the instrument as documented in the Hedge Designation Memo meets the company's hedging policies and objectives. The Treasurer makes a recommendation to the CFO.

3. The CFO approves the derivative transaction.

4. Treasury engages in the derivative transaction through its Third Party Advisor (TPA). The TPA conducts an auction among counterparty's chosen that meet the Acceptable Counterparty requirements. The preliminary Hedge Designation Memo is revised as neces sary.

5. The Treasurer signs the derivative transaction confirmation. Copies of such transaction are forwarded to:

   - Assistant Treasurer
   - Financial Reporting Director
   - Auditor(s)
   - Tax Counsel
   - Counterparty
   - Third Party Advisor

6. The final documentation includes a signed Master Agreement with the appropriate entity and if necessary, the agreement must have been reviewed with counsel prior to signature. Exceptions to this requirement must be approved by the CFO.

7. A final Hedge Designation Memo is prepared by the Treasury Senior Analyst and approved by the Assistant Treasurer and the Financial Reporting Director. The original is kept in the SFAS 133 documentation files in the Treasury Department. Copies are distributed to accounting and auditors.

C. The following procedures and controls will be followed to monitor the company's derivatives:

- Derivatives are monitored at least quarterly. The company maintains a report listing all derivative agreements, including those with effective dates in the future, and their terms. The report also includes the terms of the related debt for those derivatives that have been designated as hedges. The report is issued to the CFO, Treasurer, Chief Accounting Officer (CAO), and the Company's auditors.

- Treasury reviews hedge designation memos quarterly and, if necessary, updates are made and included in the SFAS 133 documentation binder.

- If applicable, Treasury reviews loan covenants to ensure compliance. Issues are communicated to the Treasurer and CFO.

- Each quarter, Treasury obtains valuations of the derivatives and reviews their reasonableness. The Company may decide to use a third-party advisor to obtain valuations.

- Each quarter, Treasury assesses the effectiveness of existing hedging instruments:
  - Treasury will assess the effectiveness of each derivative designated as a hedge using the method specified in the related designation memo.
  - Each derivative intended to be used as a hedge must sustain an effectiveness level to continue to be accounted for as a hedge.

- If critical terms of the hedging instrument and of the entire hedged asset or liability, or hedged forecasted transaction are the same, the entity will conclude that changes in cash flows attributable to the risk being hedged are expected to be completely offset by the derivative at inception and on an ongoing basis. For swap transactions and interest rate caps under SFAS 133, identically matching terms provides for the short-cut method of effectiveness testing.

- A report stating Treasury's conclusions as to effectiveness will be approved by the Treasurer and will be distributed to the CFO, CAO, and the Company's auditors.

- The information regarding valuation and effectiveness of the derivatives is given to the accounting department, which then records the adjustments to mark the derivatives to market each quarter and any necessary entries to Other Comprehensive Income or to the P&L in accordance with SFAS 133.

- Treasury continuously monitors the status of existing derivatives, as well as short term and long term hedging needs. As necessary, issues and needs are brought to the attention of the Treasurer and CFO.

D. The accounting processes and related internal controls that the Company should consider in an effort to meet its risk management objectives should involve consideration of the following key elements:

Control Environment - The control environment considers the integrity, ethical values, and competence of personnel, as well as management's philosophy and operating style

Risk Assessment - Risk assessment refers to the identification and analysis of risks relevant to achieving objectives that form a basis for the overall risk management.

Control Activities - The control activities represent the policies and procedures that are implemented to ensure management's objectives are met.

Information and Communication - The information and communication element refers to the nature, quality of information, systems requirements and types of reports that are necessary to meet the Company's objectives.

Monitoring - The monitoring element addresses the ongoing assessment of the quality and effectiveness of the control system.

Specific items to consider as part of establishing a strong accounting process and control are the following:

- An active and effective board of directors that is responsible for the approval of the Company's overall risk management strategies
- Senior management should assume the following responsibilities:
  - Ensure that derivatives used are consistent with the Company's risk management objectives
  - Authorize and approve the use of derivatives products
  - Clearly communicate objectives and expectations for derivative activities to individuals responsible for executing such trades
- Ensure that employees involved in derivative activities have the necessary skills and experience
- Prepare and update periodically an approved counterparty list, which may include types of products, maximum/ minimum exposures, credit rating, credit limits, collateral requirements (both initially and on an ongoing basis), etc.
- Segregation of duties between individuals responsible for making investment and credit decisions, custody of assets, disbursing and receiving funds, record keeping, confirmation of positions, and the individuals responsible for reconciliations.
- Ensure that the standard disbursements/receipts controls are in place.
- Preparation and timely review by Senior Management of a report that matches "open derivative positions" to hedged items."

Appendix

The following is a description of derivatives products typically used by real estate companies:

1. Forward-Rate Agreement, Rate Lock, or Forward Starting Swap: These are types of forward contracts that are widely used to manage interest rate risk. A forward contract specifies a reference interest rate and an agreed upon interest rate on an assumed deposit of a specified maturity at a specified future date (settlement date). The term of the assumed deposit may begin at a subsequent date (e.g., the contract period may be for six months, commencing in three months). At the settlement date, the seller of the forward contract pays the buyer if interest calculated at the reference rate is higher than that calculated at the agreed upon rate; conversely, the buyer pays the seller if interest calculated at the agreed upon rate is higher than that calculated at the reference rate. Reference rates are typically the US Treasury rate or LIBOR. By using a forward contract, a company can fix the Treasury portion or LIBOR portion of an anticipated transaction. It is a simple product; however, it does not protect a company from changes in credit spreads.

The accounting for this product usually follows the cash flow hedge model specified under SFAS No. 133, *Accounting for Derivative Instruments and Hedging Activities* (SFAS 133), when the fair value of the rate lock is carried on the balance sheet, with unrealized gains and losses on the marked-to-market instrument recorded in Other Comprehensive Income. Any ineffectiveness will be recorded through the income statement. Accumulated gains and losses are recognized in earnings during the same period in which the forecasted debt cost is charged to expense.

2. Interest Rate Swap: This is a contract in which two parties agree to swap streams of payments over a specified period. The payment streams are based on an agreed-upon (or notional) principal amount. The term notional is used because swap contracts generally involve no exchange of principal at either inception or maturity. Rather, the notional

amount serves as a basis for calculation of the payment streams to be exchanged.

Interest rate swaps are the most prevalent type of swap contract. One party generally agrees to make periodic payments, which are fixed at the outset of the swap contract. The counterparty agrees to make variable payments based on a market interest rate (index rate). Swap contracts allow the company to achieve net payments similar to those that would be achieved if the end user actually changed the interest rate of designated assets or liabilities (underlying cash position) from floating to fixed rate, or vice versa.

Interest rate swaps normally run to maturity. However, circumstances might eliminate the end user's need for the swap contract before maturity. Accordingly, entities may cancel contracts, sell their position, or enter an offsetting swap-contract and realize gains or losses, depending on the value of the swap.

A company could enter into a legally enforceable master netting agreement that may reduce total credit risk to the company. Should a counterparty ever default, the agreements provide that entities may set off (for settlement purposes) all their related payable and receivable swap contract positions.

The accounting for interest rate swaps under SFAS 133 requires that the instrument be carried at fair value on the balance sheet. Unrealized gains and losses are reported in Other Comprehensive Income with no effect recognized in earnings so long as the characteristics of the swap and the hedged item are identically matched. Some earnings effects occur when mismatches in the hedge and the designated hedged item occur.

3. Foreign Currency Swaps are used to fix the value of foreign exchange transactions that will occur in the future. Foreign-currency swap contracts also are used to transfer a stream of cash flows denominated in a particular currency or currencies into another currency or currencies. Foreign currency swaps typically feature a principal amount exchanged at the initiation of the swap contract, periodic interest payments are made based on the outstanding principal amounts at the respective interest rates agreed upon at inception, and the principal amount is usually re-exchanged at the maturity date of the swap contract.

4. Option products - Collars, Caps, Swaptions, and Treasury Options are over the counter and thereby negotiated between two parties. Option contracts allow the holder to buy (call) or sell (put) a specific financial instrument at a specified price during a specified period (as in an American option) or at a specified date (as in a European option). The option holder does not have to exercise the option, whereas performance under a futures or forward contract is mandatory.

At inception, the option holder typically pays a premium, which is the fee to the writer of the option contract. The premium includes two values, the intrinsic value and the time value. The intrinsic value of a call option is the excess, if any, of the market price of the item underlying the option contract over the price specified in the option contract (the strike or exercise price). The intrinsic value of a put is the excess, if any, of the option contract strike price over the market price of the item underlying the option contract. The intrinsic value of an option cannot be less than zero. The other component of the premium's value is the time value. The time value reflects the probability that the price of the underlying item will move above the strike price (for a call) or below the strike price (for a put) during the exercise period.

The advantage of holding option contracts is that they can be used to mitigate downside price risk without totally negating upside profit potential. This is because the loss on a purchased option contract is limited to the amount paid for the option contract. Profit on a written option contract is limited to the premium received, but the loss potential is unlimited because the writer is obligated to settle at the strike price if the option is exercised.

Option contracts are frequently processed through a clearinghouse that guarantees the writer's performance under the contract. This reduces credit risk, much like organized

exchanges reduce credit risk for futures contracts. Thus, such option contracts are primarily subject to market risk. However, for option contracts that are not processed through the clearinghouse, the holder may have significant credit and liquidity risks.

Different option contracts can be combined to transfer risks from one entity to another. Examples of such option-based derivatives are caps, floors, collars, and swaptions.

Interest-rate caps are contracts in which the cap writer, in return for a premium, agrees to limit, or cap, the cap holder's risk associated with an increase in interest rates. If rates go above a specified interest-rate level (the *strike price* or the *cap rate*), the cap holder is entitled to receive cash payments equal to the excess of the market rate over the strike price multiplied by the notional principal amount. Issuers of floating-rate liabilities often purchase caps to protect against rising interest rates, while retaining the ability to benefit from a decline in rates.

Because a cap is an option-based contract, the cap holder has the right, but not the obligation, to exercise the option. If rates move down, the cap holder has lost only the premium paid. However, because caps are not exchange traded, they could expose the cap holder to credit risk if the cap writer fails to fulfill its obligations.

A cap writer has virtually unlimited risk resulting from increases in interest rates above the cap rate. However, the cap writer's premium may potentially provide an attractive return.

Interest-rate floors are similar to interest-rate caps. Interest-rate floors are contracts in which the floor writer, in return for a premium, agrees to limit the risk associated with a decline in interest rates based on a notional amount. If rates fall below an agreed upon rate, the floor holder will receive cash payments from the floor writer equal to the difference between the market rate and an agreed upon rate multiplied by the notional principal amount. Floor contracts allow floating-rate lenders to limit the risk associated with a decline in interest rates, while benefiting from an increase in rates. As with interest-rate caps, the floor holder is exposed to credit risk because the floor writer could fail to fulfill its obligations.

Interest-rate collars combine a cap and a floor (one held and one written). Interest-rate collars enable an end user with a floating-rate contract to lock into a predetermined interest-rate range.

Swaptions are option contracts to enter an interest-rate swap contract at some future date or to cancel an existing swap contract in the future. As such, a swaption contract may act as a floor or a cap for an existing swap contract, or be used as an option to enter, close out, or extend a swap contract in the future.

SFAS 133 requires that a company recognize in earnings the change in the time value portion of an option each reporting period when they are used as cash flow hedges. The potential for earnings volatility resulting from changes in time value are great, and are expected to be a material concern for when considering whether to use option products. The company should undertake a hypothetical analysis of the extent to which the time value changes have a material influence on earnings.

[1] This National Policy Bulletin has been developed pursuant to internal control requirements of Statement of Financial Accounting Standard No. 133, *Accounting for Derivative Instruments and Hedging Activities*; governance practices recommended by the Blue Ribbon Commission Recommendations for the performance of Audit Committees (commissioned by the Securities and Exchange Commission), December 1999; recommended audit review questions and requirements from the AICPA Current Accounting and Audit Literature on Derivatives - A Report of the Financial Instruments Task Force of the Accounting Standards Executive Committee, 1994; and the need for board of director and senior management controls described in the G-30 Global Derivatives Study Group: Practices and Principles, 1993.

[2] "Derivatives Optimal Risk Control," Malcolm, Sharma, and Tanega, Prentice Hall, 1999. p. 78-79.