REPORT #630

TAX SECTION

New York State Bar Association

Report on Tax Accounting for Notional Principal Contracts

September 28, 1989

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New York State Bar Association

September 28, 1989

The Honorable Fred T. Goldberg
Commissioner of Internal Revenue
1111 Constitution Avenue, N.W.
Washington, D.C. 20224

Dear Commissioner Goldberg:

Enclosed is a Report by our Committee on Financial Instruments on Tax Accounting for Notional Principal Contracts. This report was prepared by a subcommittee comprised of Peter C. Canellos, Suzanne F. Greenberg, Edward D. Kleinbard and Jodi J. Schwartz.

The Report discusses certain accounting issues that will need to addressed to implementing the requirement, announced in Notice 89-21, that lump-sum payments made or received in connection with interest rate and currency swaps, exchange rate caps and similar finance instruments be recognized over the life of the contract.

The Report generally focuses on tax accounting issues relevant to "end-users" of "notional principal" products designed to manage interest rate exposure. It does not consider the additional tax accounting issues raised by notional principal contracts used as foreign currency hedges, any special tax rules that may be appropriate for "dealers" in notional principal contracts or various other issues that will have to be addressed in this area.

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In the case of interest rate swaps, the Report recommends a bond premium type approach. Both the inclusion and the deduction of any lump-sum payment would be recognized on a market accrual or economic amortization basis that is intended to reflect the way such financial products are priced and sold in commercial transactions. The Report recommends that similar economic amortization principles be applied to interest rate "caps" and "floors" as well as interest rate swaps. It recognizes that the approach proposed is markedly different from the general rules that have been adopted from multiple year options generally, but argues in favor of market accrual or economic amortization even though adoption of some controls may be needed to prevent avoidance of the proposed rules.

Sincerely,

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Tax Report #630

September 28, 1989

New York State Bar Association Tax Section

Committee on Financial Instruments

Report on Tax Accounting for Notional Principal Contracts[1]

I. INTRODUCTION.

On February 7, 1989, the Internal Revenue Service (the "Service") issued Notice 89-21,[2] which provides preliminary guidance concerning the tax accounting treatment of lump-sum payments made or received in connection with interest rate and currency swaps, interest rate caps and similar financial instruments (collectively, "notional principal contracts"). Notice 89-21 effectively disallows a method of tax accounting that reports such lump-sum payments either as includible (or deductible) entirely upon receipt or as deferred entirely until termination of the notional principal contract, on the ground that such methods do not clearly reflect income, as required by section 451.[3] Instead, the notice endorses a tax accounting method that "properly recognizes such payment over the life of the contract. . ." Notice 89-21 indicates that the Service will

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[1]   This report was prepared by a subcommittee composed of Peter C. Canellos, Suzanne F. Greenberg, Edward D. Kleinbard and Jodi J. Schwartz. Helpful comments were received from Jill E. Darrow, Jules S. Goodman, Bruce Kayle, Richard L. Reinhold and Charles E. Stiver, Jr.

[2]   1989-8 I.R.B. 1.

[3]   In this report, section references are to the Internal Revenue Code of 1986 and the Treasury regulations promulgated thereunder, unless otherwise indicated.

issue regulations, generally with prospective effect, to provide specific rules concerning the appropriate method of amortization for lump-sum payments made or received with respect to various types of notional principal contracts.

The focus of this report is a narrow one, in that it discusses certain tax accounting issues that the Service will need to address in drafting the implementing regulations contemplated by Notice 89-21. The report generally focuses on tax accounting issues relevant to "end-users" of notional principal products designed to manage interest rate exposure, and does not consider the additional (and generally more complex) tax accounting issues raised by notional principal contracts used as foreign currency hedges or any special tax rules that may be appropriate for "dealers" in notional principal contracts.[4] In an attempt to create certainty in this ambiguous area, the report proposes a conceptual framework that relies to a great extent on existing tax rules in suggesting appropriate tax accounting principles for notional principal contracts generally.

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[4]   The Committee notes with approval the statement in Notice 89-21 indicating that the Service is continuing to consider adopting a mark-to-market system of tax accounting for dealers in notional principal contracts. As noted below, a mark-to-market system for dealers solves many complex accounting issues and comports with the economics in swap pricing by dealers. Such a system would, however, have to address the complex tax issues arising from a dealer's participation in large numbers of notional principal contracts and related hedges.

This report does not attempt to describe or assess the tax accounting positions that have been adopted by tax-payers with respect to notional principal contracts in the absence of definitive guidance, or to comment on the merit of any such positions. Moreover, this report does not address the extent to which any particular positions taken by taxpayers in connection with notional principal contracts might be considered to involve a "reasonable amortization method" for purposes of the interim tax accounting standards provided by Notice 89-21.

The Committee notes that the forthcoming regulations concerning timing issues will represent only one step toward developing an overall tax regime for notional principal contracts. Notional principal contracts, like most other financial transactions, raise three conceptual tax issues: the source of income and expense, the character (capital or ordinary) of that income or expense, and the timing of income or expense inclusion. The combined effect of new temporary regulation sections 1.863-7T and 1.861-9T(b)(6) generally address source questions relating to a taxpayer's functional currency denominated notional principal contracts. However, sourcing uncertainties remain with respect to notional principal

contracts not covered by either of these provisions, including
contracts that provide for substantial accelerated or deferred
payments, and therefore involve a time value of money component.
Moreover, the Service has not yet promulgated any guidance as to
the character of income or expense for notional principal
contracts -- an issue that has taken on increased importance in
the wake of the U.S. Supreme Court's opinion in Arkansas Best
Corp. v. Commissioner.[5]

The need for clear guidance as to the taxation of
notional principal contracts is accentuated by the phenomenal
growth of the market for these products, which now runs to more
than a trillon dollars in notional principal amount.[6] Virtually
every money-center commercial bank and investment bank actively
runs a "book" of notional principal contracts. Similarly,
financial officers at U.S. companies increasingly view notional
principal contracts as standard hedging tools crucial to the
effective management of interest rate risks.[7] The Committee
believes that the Service can accomplish the dual objectives

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[5]   108 S. Ct. 971 (1988). See Kleinbard and Greenberg, "Business Hedges
       After Arkansas Best," 43 Tax Law Review 393 (1988).

[6]   Quint, "Eliminating Risk of Rising Rates," The New York Times, July 31,
       1989 at D-1.

[7]   Id.

of providing tax certainty for these taxpayers, while assuring that it collects the appropriate revenues from activities involving notional principal contracts, by developing pragmatic solutions to the taxation of notional principal contracts that accord with the underlying pre-tax economics of those contracts.

It should be noted at the outset that many of the difficult timing questions with respect to notional principal contracts result from the realization requirement under current law. In a pure "mark-to-market" system there would be no need, for example, to determine whether offsetting positions should be treated as one or several properties. Likewise, there would be no need to be concerned with whether a complex instrument is one or multiple properties (some of which under current law might be taxed under an accrual regime while others are treated as open transactions until disposition). Moreover, complex rules for basis recovery (which in effect determine what part of cash receipts are income and what part are cost recovery) are obviated in a mark-to-market system.

There are, of course, serious legal and practical problems in a full mark-to-market system. Many of the analytical issues dealt with below would arise in a mark-to- market system in the guise of valuing non-traded property. Except for certain

regulated futures contracts and other similar arrangements dealt with on a mark-to-market basis under section 1256, realization remains (and for the purposes at hand presumably will continue to remain) a requirement for the taxation of property gain. Accordingly, the rules which must be crafted to deal with financial products must work within the confines of a realization-based tax system.

Assuming "mark-to-market" is not adopted (except perhaps for dealers), it nonetheless serves as a useful check on the soundness of any other accounting method as applied to financial products. We would suggest as a guiding principle the rule that, where more than one reasonable interpretation of current law is possible, that interpretation should be adopted which causes the taxation of the financial product in question to come closest to that which would prevail in a "static" mark-to-market regime. That is to say, we generally should apply that interpretation which causes income recognition and basis recovery during a particular period to come closest to the income recognition and basis recovery that would prevail if (i) the taxpayer were required to mark-to-market such position (and all related positions) and (ii) prevailing interest rates and related factors (such as volatility assumptions) remain constant throughout

the entire period the financial product is outstanding. The result would be, in effect, accrual based on market expectations at the time that the contract was entered into, without adjustments for interim fluctuations prior to "realization" as would be reflected in a pure mark- to-market system.

Discussed below are a number of new financial products and the interpretive questions which they raise under current law. In each case an accounting method is suggested which causes the tax results to be most comparable to those which would prevail in such a "static" mark-to- market tax system, although in the case of interest rate caps and floors, one proposal -- based on the current tax treatment of actual options -- would necessitate some deviation from the general "static" mark-to-market model.

Part II of this report discusses the difficult issues involved in attempting to craft a general definition of notional principal contracts. Part III then considers the tax accounting issues raised by interest rate swaps, caps and floors — currently the most common forms of notional principal contracts used to hedge interest rate exposure. Finally, Part IV examines the special tax accounting issues associated with certain derivative notional principal transactions, such as options on swaps and forward swaps.

II. DEFINITIONS.

    A. Notional Principal Contracts as Financial Instruments.

The attempt to define notional principal contracts presents an analytical challenge, because the economic characteristics of these contracts cannot readily be explained by existing analytical frameworks.[8] The Service to date has issued little guidance that clarifies the nature of notional principal contracts, choosing instead to focus on pragmatic solutions to the pressing tax issues raised by the burgeoning market for the products.

The Committee favors this practical approach to notional principal contracts, and urges the Service to continue to elevate the need for rational results over the restrictions of formal labels. There is no reason, for example, why the analytical analogy appropriate to develop <u>timing</u> rules for such contracts necessarily must be consistent with the <u>source</u> solution

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[8]   For example, although interest rate swaps involve payments measured by traditional interest rate formulae, swaps themselves cannot fairly be equated with indebtedness, because, unlike a classic borrowing, most interest rate swaps do not provide either party with cash to spend today (on equipment, expenses or whatever) in exchange for the promise to return that cash (with rent for the use thereof) in the future. Similarly, while caps and floors have cash flows that resemble traditional cash settlement options, they do not in fact represent interests in specifically identified underlying property.

reached in temporary regulation section 1.863-7T. Precisely because notional principal contracts are unique, the framework developed for their taxation must address individually each aspect -- source, timing and character -- of resulting income and loss.

As more fully discussed below in Part II.A., the Committee believes that the timing of taxable income and loss in respect of notional principal contracts can best be reflected by rules that are based on the economic fundamentals (including stated cash flows and pricing formulas) of such contracts. For the most part, the Committee believes that the economic characteristics of notional principal contracts will allow the Service to develop timing rules by analogy to the existing rules for traditional financial instruments, such as debt securities, options and forward contracts. Like these traditional financial instruments, notional principal contracts are executed by or through financial intermediaries operating in the world's capital market centers, are priced and structured by reference to underlying financial instruments, and involve credit considerations similar to lending and related financial

transactions.[9] Most important, notional principal contracts are employed by the vast bulk of end users (issuers of and investors in debt securities) to reduce the cost, or vary the characteristics, of their debt securities; tax accounting rules for notional principal contracts that vary materially from the rules applicable to debt securities thus could disturb the pre-tax economic assumptions used to structure these hedges. The Committee also strongly urges the Service, where possible, to adopt a tax methodology for notional principal contracts that relies on proven tax technologies relating to financial products (such as the taxation of debt instruments), rather than drawing analogies to other areas of the tax law, interesting though they may be (such as gambling contracts) where clear rules remain elusive.

   B.   Distinguishing Criteria.

   In theory, the primary characteristics of notional principal contracts as hedging tools distinguish them from other types of financial instruments, such as debt obligations,

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[9]   The Financial Accounting Standards Board has concluded, for example, that "an interest rate swap is a financial asset and a financial liability to both parties." Proposed Statement of Financial Accounting Standards: Disclosures about Financial Instruments, November 30, 1987, paragraph 42.

that are designed primarily to raise capital. However, because notional principal contracts often involve cash flows that closely resemble the terms of more traditional financial instruments, this bright-line distinction easily can become blurred. A so-called "premium swap," for example, might provide for one party to prepay a single fixed amount in exchange for a series of future floating- rate payments -- cash flows that in another context might be characterized as a contingent payment debt security. Similarly, it would be difficult to distinguish, on economic grounds, between a single cap contract and a related series of European-style put options on a specified certificate of deposit.

Notice 89-21 nonetheless indicates that the Service intends to develop special tax accounting rules that will apply only to payments made or received in respect of notional principal contracts, and that "[n]o inference should be drawn . . . as to the proper treatment of transactions that are not properly characterized as notional principal contracts . . . ." As a preliminary task, the regulations implementing the notice therefore will need to establish a definition, or series of definitions, that identify the peculiar class of transactions to

which the substantive rules will apply.[10] For these purposes, the Committee believes that a notional principal contract can be defined generally as a transaction that satisfies the following criteria:

(1) The transaction is structured as a private, arm's-length contractual arrangement between two parties, which typically (but not necessarily) is restricted as to free transferability without the consent of the other party;

(2) The terms of the transaction provide for the exchange (on a gross or net basis) of: (A) payment by one party in a specified currency of any of (i) a lump sum, (ii) a schedule of fixed amounts, (iii) a series of payments based on the

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[10] The economic similarity between notional principal contracts and other financial instruments suggests a partial solution to these definitional problems. By developing tax accounting rules for notional principal contracts that conform to the economic assumptions used in pricing those contracts, the Service generally can assure results similar to those produced by the existing rules applicable to more traditional financial instruments. Such similarity of end results should reduce substantially taxpayers' motivation to design transactions that manipulate the objective criteria used to define a notional principal contract.

Example (3) recently added to temporary regulation section 1.861-9T(b)(1) sets a good precedent for this approach. In applying the general interest allocation rules to a taxpayer's net expense under a "premium swap," the example removes one incentive for a taxpayer to enter into such a premium swap transaction, rather issuing a traditional debt security, as a means to raise funds.

current values of an objective measure of interest rates as applied to a notional principal amount or (iv) any combination of the foregoing; for (B) payment by the other party of either (i) a corresponding series of payments in that same currency based on the current values of another objective measure of interest rates for that currency as applied to a notional principal amount (which may include or be accompanied by the payment of a lump sum), or (ii) a series of payments in that same currency based on the difference between the current values of one objective measure of interest rates for that currency and either a schedule of fixed amounts or another objective measure of interest rates for that currency as applied to a notional principal amount;

(3) The transaction provides for each party's payments to be determined by reference to the same notional principal amount which is not exchanged between the parties; and

(4) The transaction is of a type typically entered into by taxpayers for the principal purpose (A) of reducing the risk of fluctuations in interest rates or effectively altering the interest rate characteristics with respect to property (including receivables) that is held by or to be held by the taxpayer or obligations (including payables) incurred or to be incurred by

the taxpayer, or (B) of reducing the taxpayer's cost of borrowing with respect to a related financing specifically identified by the taxpayer for these purposes and (c) not for the primary purpose of raising capital.[11]

C. Description of Common Notional Principal Contracts.

The special characteristics of notional principal contracts, and the tax accounting issues raised by such products, are best illustrated by a description of the two most common types of notional principal contracts: (i) interest rate swaps and (ii) interest rate caps and floors.[12]

1.   Interest Rate Swaps. The parties to an interest rate swap agree for a specified period of time to exchange periodic payments measured by traditional interest rate

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[11]   As noted above, this report does not consider the special tax problems of taxpayers that are dealers or otherwise engaged in the trade or business of entering into notional principal contracts. Until such time as a special regime is implemented for dealers, however, the definition of a notional principal contract also should include transactions entered into in the ordinary course of the taxpayer's trade or business of offering such financial products to or acquiring such financial products from customers.

[12]   The special features of "derivative" notional principal contracts, such as options on swaps and forward swaps, are discussed in Part IV, below.

formulae and based on the same notional principal amount. Typically, one party will make payments at a fixed interest rate while the other party's payments will be determined by a specified floating-rate index, such as the London Interbank Offered Rate ("LIBOR"). Alternatively, the parties may agree to exchange payments based on two different floating-rate indices, for example swapping LIBOR for a 90-day Commercial Paper Rate, again based on the same notional principal amount. Under an interest rate swap, the notional principal amount serves only as a reference for the floating-rate payments and is never actually paid as between the parties. The payments under an interest rate swap normally will be denominated in a single currency, which need not be the functional currency of the parties. A U.S. taxpayer that does business in Tokyo, for example, might enter into a yen-denominated interest rate swap with a Japanese party solely to hedge against fluctuations in prevailing Japanese interest rates.

Because swaps are private contracts whose terms can be arranged to suit the individual needs of the parties, they provide extraordinary flexibility to manage interest rate and currency exposure -- a feature that explains in large part their increasing popularity. A taxpayer that has outstanding $100,000 of 8% fixed-rate debt, for example, effectively can convert

that debt to a floating-rate LIBOR obligation at little or no initial cost by entering into an interest rate swap with a notional principal amount of $100,000, pursuant to which the taxpayer will receive the periodic $8,000 amounts necessary to satisfy its interest payments on the debt and, in return, will make corresponding periodic payments of LIBOR on $100,000; at maturity, the swap will expire by its terms, and the taxpayer will be left with its original $100,000 principal obligation. An investing taxpayer likewise can use interest rate swaps to conform the characteristics of its investment portfolio or business assets to the taxpayer's best funding capabilities.

While most swaps provide for an essentially level payment stream over the term of the agreement, taxpayers have become increasingly sophisticated in designing swaps with novel payment schedules, such as "deferred" or "amortizing" payments or optional "call" features, to match their interest rate and currency hedging needs. For example, a party that has issued zero coupon debt obligations effectively can convert those obligations into floating-rate coupon debt by agreeing to make current floating-rate payments under an interest rate swap in exchange for a single fixed swap receipt that matches its accrued interest obligation at maturity of its zero coupon bonds. A party that

issues or holds redeemable debt securities similarly can design a "callable" swap to match the interest flows paid or received on those debt securities for the period that the securities actually remain outstanding.

2.   <u>Interest Rate Caps and Floors</u>. Unlike an interest rate swap, which provides for cash flows that rep-resent an effective exchange by the parties of ongoing interest obligations, the economic characteristics of an interest rate cap or floor more closely resemble a series of interest rate options.[13] Under a typical interest rate cap, one party (the "purchaser") pays an initial "premium" amount in exchange for an agreement by the other party (the "writer") to make a series of payments equal to the excess on each payment date of a floating-rate index over a specified fixed rate, each as applied to a notional principal amount. An interest rate floor, conversely, requires the writer to make payments based on the amount

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[13]   Interest rate caps and floors also can be said to resemble gambling contracts or insurance policies. By the same token, however, similar arguments can be made with respect to actual options on interest rate sensitive instruments. As described below, taxpayers have come to view caps and floors in many cases as effective surrogates for actual options on interest rate sensitive instruments, and caps and floors in fact are priced by reference to option pricing models. The Committee sees no benefit in further confusing the tax issues for caps and floors by labelling such contracts as gambling transactions or insurance policies.

by which a floating rate is less than the specified fixed rate. If, on a scheduled payment date, the relevant floating rate is less, in the case of a cap, or more, in the case of a floor, than the specified fixed rate, no payment is made. Less frequently, parties may structure a cap or floor arrangement that provides for payments based on the difference between two floating-rate indices as applied to the same notional principal amount (e.g., a cap that pays amounts determined by the excess, if any, of 3-month LIBOR over 3-month U.S. Commercial Paper rates on each payment date).

Interest rate caps and floors are attractive to taxpayers that wish to obtain protection against adverse interest rate movements without eliminating the potential to profit from favorable rate movements. For example, a taxpayer that has issued $100,000 of five-year floating-rate debt might purchase a five-year cap with a "strike" of 10 percent and a national principal amount of $100,000. If floating rates rise above 10 percent over that five-year period, the taxpayer will receive payments under its cap agreement sufficient to cover the excess interest costs on its debt; if interest rates fall substantially during that period, however, the taxpayer will enjoy the full benefits of a lower interest rate cost for its debt at the cost of the initial

premium paid to purchase the cap. For similar reasons, a taxpayer that holds floating-rate assets might purchase an interest rate floor to protect against reductions in the value of those assets as a result of lower interest rates, while continuing to participate in the benefits of higher rates.

Writers of interest rate caps and floors for the most part are financial institutions that act as "dealers" in respect of notional principal amount products generally. These financial institutions employ sophisticated option pricing models to determine the premium charged for each cap or floor transaction, in effect by treating a cap or floor contract as a series of individual interest rate options exercisable on the payment dates specified in the cap or floor contract.

III. TAX ACCOUNTING ISSUES FOR INTEREST RATE SWAPS, CAPS AND FLOORS.

    A.   Interest Rate Swaps.

    1.   General Characterization. The understanding of the Committee is that swap market participants -- including, in particular, the financial intermediaries whose role it is to structure and price efficiently both upon original issuance and in secondary market trades -- generally calculate the fair market values of swap contracts by treating a swap as a matched

financial asset and liability: that is, as a combination of a loan and borrowing. Accordingly, the Committee believes that the Service could develop economically rational tax accounting rules for interest rate swaps by adopting the view (solely for this purpose) that a taxpayer's position in respect of an interest rate swap effectively involves a matched financial <u>asset</u> (<u>i.e.</u>, the "inflow" leg of the swap position) and a financial <u>liability</u> (<u>i.e.</u>, the "outflow" leg of the swap position).

To ensure the appropriate application of existing tax concepts to these matched loans and borrowings as a mechanical matter, it will be necessary to impute an "issue price" and a "stated redemption price" for each leg of an interest rate swap position. The Committee believes that, as further described below, these imputed amounts should generally be determined by reference to the stated notional principal amount of an interest rate swap, with appropriate adjustments to take account of cash flows that deviate from the traditional level swap payments.

For example, a five-year interest rate swap under which a taxpayer is to make 8% annual payments and receive annual LIBOR payments on a notional principal amount of $100,000 could be analyzed, <u>solely</u> for timing purposes, as the taxpayer's issuance of a five-year 8% bond with a principal amount of $100,000 in

exchange for the purchase of the counterparty's $100,000 five-year LIBOR bond. Under this analysis, such a taxpayer would report the positive or negative cash flows that actually accrue under its swap positions as current income or expense, using the normal tax accounting method adopted by the taxpayer for coupon interest on its liabilities and assets.

2.   Interest Rate Swap Premium. (a) Overview. For the vast majority of generic swap transactions that do not involve upfront payments or irregular cash flows, a hypothetical bond analysis would require current income inclusions and deductions that simply match the periodic cash flows under a swap. Using a hypothetical bond analysis as a guide for swap tax accounting, however, would allow the Service to rely on existing "bond yield" concepts in resolving the timing issue at which Notice 89-21 specifically was directed: the receipt or payment of an upfront amount ("swap premium") in connection with the execution of a new swap or the assignment of an existing swap position.

Swaps with initial premium payments typically arise where (i) a party desires to match an existing asset or liability, and therefore wishes to pay (or receive) fixed-rate amounts that do not correspond to current market rates, or (ii) a party wishes to assume (or induce another party to assume)

an existing interest rate swap position that no longer reflects market rates. The timing rules proposed herein therefore would be applied to taxpayers that enter into such "off-market" swaps, or that take assignments of existing "off-market" swap positions.[14] For simplicity, the examples consider the case of a taxpayer that receives an upfront payment in connection with entering into or assuming an off-market swap position. Of course, a taxpayer that makes an upfront payment to induce a counterparty to enter into an off-market swap with the taxpayer (or to assign an existing off-market swap position to the taxpayer) should be required to deduct that payment in precisely the same manner as the taxpayer in our examples is required to include that payment in income.

The discussion that follows takes as a fundamental premise that any upfront payment relates to the fixed-rate side, rather than the floating-rate side, of any interest rate swap. This premise is based on the fact that most interest rate swaps are written as fixed rates versus a floating-rate index (such as LIBOR) "flat." Moreover, while interest rates in general,

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[14]   Part III.A.5., below, discusses the Committee's proposals for the taxation of an <u>assignor</u> of an existing swap that makes (or receives) a payment in connection with the assignment of that swap to another taxpayer.

including floating-rate indices, vary considerably from time to time, the "spread" over such indices at which borrowers actually borrow in the floating rate markets does not vary substantially over time. Thus, even interest rate swaps whose floating-rate sides are pegged to a party's actual cost for floating-rate money should not involve material variations in terms from swap to swap.

Obviously, if a taxpayer entered into an unusual interest rate swap that provided for floating-rate payments of, for example, LIBOR minus 200 basis points, the foregoing premise would not be valid. In such an unusual case, however, the interest rate swap could be recast, for example, as a fixed rate 200 basis points higher than the rate nominally stated in the swap contract versus LIBOR "flat," with the rules developed in the text then applied to the restated swap contract. Accordingly, consideration should be given to providing anti-abuse rules, under which any interest rate swap whose floating-rate side is not written within a band defined by (i) the relevant index (e.g., LIBOR) and (ii) the actual floating rate at which the floating rate payor under the swap could borrow in the floating-rate markets (e.g., LIBOR plus 50 basis points), would be restated by adjusting the fixed and floating-rate sides of the contract as a fixed rate versus the index "flat."

(b) <u>Calculation of Swap Premium</u>. A rational taxpayer will enter into an interest rate swap with an unrelated party only if the present value of the financial asset it thereby acquires is at least equal to the present value of its matching liability. In the case of a typical "par" swap, the financial values of the matched asset and liability comprising the swap can be demonstrated to be comparable, because each leg (including the notional principal amount) has terms that correspond to current market rates for bonds with the cash flow characteristics of the swap legs. Where an interest rate swap provides for payments at "off-market" rates, the party that desires to induce the other to enter into the unfavorable position generally must make an upfront payment to compensate for the excess financial liability that such other party assumes under that off- market swap.[15] This upfront payment generally corresponds to the present value of that excess liability or, stated differently, the cash amount that the taxpayer would need to invest at then-current interest rates to ensure receipt of a stream of payments sufficient

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[15]   Similarly, an assignee that steps into a favorable position will make an upfront payment to compensate the assignor for relinquishing that favorable position.

to fund the excess of (i) the taxpayer's periodic liability under the off-market swap over (ii) the "par" liability that the taxpayer normally would incur based on current swap market rates, in exchange for the right to receive the periodic payments specified under the off-market swap.

To use a simple example, assume that at current market rates, a taxpayer could enter into a five-year interest rate swap under which the taxpayer would make annual payments at 8% and receive semi-annual payments at LIBOR, each as applied to a notional principal amount of $100. Suppose, however, that the counterparty, in order to match an existing liability, instead requested that the taxpayer make annual payments at 10% while continuing to receive LIBOR flat. (Alternatively, suppose the taxpayer assumed an outstanding 10% versus LIBOR swap position at a time when market interest rates had dropped to 8%.) In such case, the taxpayer would need to receive an upfront payment sufficient to allow it to purchase an annuity at current interest rates to fund the excess of its actual 10% liability over the 8% "par" liability that would correspond to the current value of the asset (or "inflow") leg of the swap.

As demonstrated by the following table, the net present value of the taxpayer's excess liability at current 8% interest rates is approximately $7.99, and the taxpayer therefore should be willing to enter into this unfavorable off-market swap only if it receives an upfront cash payment of that amount:

<u>TABLE ONE</u>

Taxpayer's Actual Fixed-Rate Swap Payments	Taxpayer's Fixed-Rate Swap Payments Under a New "Par" Swap	Excess of Actual Liabilities over Current "Par" Swap	Present Value of Excess at 8% Interest Rate
(1) $10.00	$8.00	$2.00	$1.85
(2) $10.00	$8.00	$2.00	$1.72
(3) $10.00	$8.00	$2.00	$1.59
(4) $10.00	$8.00	$2.00	$1.47
(5) $10.00	$8.00	$2.00	<u>$1.36</u>
			$7.99

For tax purposes, this $7.99 upfront payment at some point in time will constitute income to the recipient taxpayer (or, alternatively, an offset to an expense): the difficult question, of course, is the period to which the $7.99 appropriately relates. The answer to the question can be found by remembering what the $7.99 represents: it is the sum which, if invested at 8%, will permit the withdrawal of $2.00 per annum for five years -- the amount required to "pay down" the off-market swap to a par swap.

(c) <u>Bond Premium Analogy</u>. In the Committee's view, the $7.99 upfront swap payment in the above example can be analyzed as analogous to "bond premium" received by the taxpayer for issuing a hypothetical liability (the fixed-rate "outflow leg"

of its swap position) with an above-market coupon interest rate.
If a taxpayer in fact issued a five-year 10% bond with a
principal amount of $100 in an 8% rate environment, the taxpayer
would take in proceeds of $107.99, representing the present value
of all the cash flows on that 10% five-year bond, discounted at
8%. Under long-standing tax principles, the taxpayer would treat
that extra $7.99 not as current income, but as amortizable bond
premium that reduces the taxpayer's nominal coupon interest
expense over the life of the financing.[16]

As applied to the swap example described above, the bond
premium approach would treat the taxpayer as having purchased the
counterparty's hypothetical five-year $100, LIBOR-rate bond in
exchange for issuing its own hypothetical five-year $100, 10%
bond at a premium of $7.99 (for a total issue price of $107.99).

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[16] Regulation section 1.61-12(c)(2). Since 1986, the Code has required
that investors take deductions for amortizable bond premium on a
constant-yield basis, so that a taxpayer's annual interest income in
respect of a premium bond represents a fixed rate applied to a
declining principal balance. Moreover, the legislative history to the
Tax Reform Act of 1986 specifies the Congressional intent that the
regulations applicable to issuers of premium bonds (which regulations
currently state only that premium "should be prorated or amortized over
the life of the bonds") be redrafted to mandate the use of a constant
yield amortization method. See Joint Committee on Taxation, Explanation
of the Technical Corrections Provisions to the Tax Reform Act of 1986,
(May 15, 1987), at 14.

This $7.99 premium amount effectively would reduce the yield on
the "outflow" leg of the taxpayer's swap position from 10% to 8%.
Accordingly, the taxpayer would be required to reduce its nominal
$10.00 annual deductions for swap expense by the appropriate
premium amortization for each year, as illustrated by the
following table:

TABLE TWO

(A)	(B)	(C)	(D)	(E)	(F)
				Premium Amortized	
	Adj. issue			into Income	Adj. Issue
	Price –	8% Yield	Coupon	to Reduce	Price
Year	Begin. Year	on (B)	Expense	(D) to (C)	of Year
1	$107.99	$8.64	$10.00	$1.36	$106.63
2	$106.63	$8.53	$10.00	$1.47	$105.16
3	$105.16	$8.41	$10.00	$1.59	$103.57
4	$103.57	$8.28	$10.00	$1.72	$101.85
5	$101.85	$8.15	$10.00	$1.85	$100.00
				$7.99	

Column f this table represents the manner in which the
issuer of an actual premium bond includes that bond premium in
income for tax purposes. Column C -- which represents a constant
8% yield on the hypothetical liability's adjusted issue price --
equals the net swap expense that the taxpayer would report each
year (i.e., its "coupon" expense of $10 offset by the

amortization of its bond premium).[17]

     (d) <u>Annuity Analogy</u>. An alternative, but economically identical, method of analyzing the upfront swap payment in this example would be to treat the pre-tax $7.99 as if it actually were used to acquire an appropriate annuity from an unrelated party. Under this approach, the $7.99 should be taken into income over five years in the same manner that principal on an annuity is recovered; only under this type of amortization approach will the after-tax results of the taxpayer's swap position correspond precisely to the pre-tax economic calculus.

     The tax (and economic) characteristics of a five- year 8% annuity with a present value of $7.99 are shown in the following table, which represents a constant interest rate (8%) applied to a declining principal balance:

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[17]   Similar rules should be developed for upfront payments made in connection with floating-to-floating-rate swaps (<u>e.g.</u>, LIBOR versus commercial paper rates); in such cases, the discount rate used to calculate the amortization of the upfront payment should be determined by reference to then-current fixed rates for fixed-to- floating interest rate swaps of comparable maturity.

(A)	(B)	(C) Interest Income from Annuity	(D) Principal Recovery	(E) Total Annuity
Year	Principal Balance at End Of Year	Investment	on Annuity	Payment
0	$7.99	–	–	–
1	$6.63	$0.64	$1.36	$2.00
2	$5.16	$0.53	$1.47	$2.00
3	$3.57	$0.41	$1.59	$2.00
4	$1.85	$0.28	$1.72	$2.00
5	$0	$0.15	$1.85	$2.00
			$7.99	

In the usual case, of- course, an annuity is purchased with after-tax dollars, and the amortization of its principal amount consequently is treated as a non-taxable return of capital. In the swap premium case, the hypothetical annuity is acquired with pre-tax dollars, and therefore its amortized principal amount must be included in income (or offset against expense).

Column D of Table Three -- showing the amortization of the $7.99 annuity principal on a constant-yield basis --represents the appropriate schedule for including the $7.99 swap premium payment in the taxpayer's income, because, at prevailing interest rates of 8%, it is the amortization schedule that would yield the $2.00 of taxable income per annum required to compensate the taxpayer for entering into the off-market swap. The amount shown in Column C as interest earned on the annuity should not be treated as taxable income to the

taxpayer under the swap, however. In order to fund its above-market obligations under the swap, the taxpayer in fact must invest the $7.99 upfront payment to earn at least an 8% return. Because that interest will be included in the taxpayer's income as it actually is earned, taking it into account again as part of the premium paid under the swap would result in double counting of the same income.

This annuity approach to the amortization of swap premium can be illustrated by the following table:

<center>TABLE FOUR</center>

(A) Year	(B) Swap "Coupon"	(C) Interest Annuity Portion of Coupon	(D) Principal Recov. on Annuity	(E) Net Swap Expense
1	$10.00	$2.00	$1.36	$8.64
2	$10.00	$2.00	$1.47	$8.53
3	$10.00	$2.00	$1.59	$8.41
4	$10.00	$2.00	$1.72	$8.28
5	$10.00	$2.00	$1.85	$8.15
			$7.99	

The schedule for recovery of the $7.99 premium amount -- shown in Column D of this table -- and the net swap expense resulting in each period as shown in Column E, of course, are identical to their counterparts under the bond premium approach (Columns E and C of Table Two).

(e) Imputed Loan Approach. It has been suggested that swap premium might be analyzed for tax purposes as a type of

loan of the prepaid amount to the recipient by the swap counterparty (or by the assignor in the case of premium paid to the assignee of an off-market position), that is repaid over the term of the swap through the recipient's above-market periodic payments. Continuing the example from above, this imputed loan analysis would treat the portion of the taxpayer's annual swap payments that represented a market rate ($8.00 in our example) as fully deductible swap expense. However, the excess annual $2.00 payments made by the taxpayer would be viewed effectively as repayment of the initial $7.99 loan represented by the taxpayer's receipt of swap premium. The portion of each such $2.00 loan payment equal to an 8% return on the remaining unpaid $7.99 principal would constitute deductible interest for the taxpayer and taxable interest income to the counterparty (or assignor); the remainder of the $2.00 payment would be non- taxable return of "principal" on the $7.99 loan, as illustrated by the following table:

TABLE FIVE

(A)	(B)	(C)	(D)	(E)	(F)
	Mkt.	Loan	Int.	Principal	Loan
Year	Swap Payment	Payment	Portion	Portion	Balance
0	–	–	–	–	$7.99
1	$8.00	$2.00	$0.64	$1.36	$6.63
2	$8.00	$2.00	$0.53	$1.47	$5.16
3	$8.00	$2.00	$0.41	$1.59	$3.57
4	$8.00	$2.00	$0.28	$1.72	$1.85
5	$8.00	$2.00	$0.15	$1.85	$0
				$7.99	

The net amount deducted by the taxpayer (and included in income by the counterparty) in each year under this imputed loan approach (the sum of Columns (B) and (D)) would be exactly the same as under the annuity or bond premium approaches to swap premium. The imputed loan approach to swap premium, however, would treat the amount shown in Column D of Table Five as interest income to the swap counterparty. This interest income would not qualify for the residence-based source rules generally applicable to swap income, and thus in many cases would reintroduce the U.S. withholding tax issues for cross-border swaps that temporary regulation section 1.863-7T was designed to eliminate. The imputed loan approach to swap premium also complicates unnecessarily the analysis of the consequences of assigning a swap position, by treating every assignment as an assignment of both a swap and a loan — complications not raised by the bond premium or annuity approaches to swap premium. The Committee therefore urges the Service to avoid recasting swap premium as a type of lending transaction, and instead to rely on the bond premium or annuity analogies in developing tax accounting rules for swap premium.

3. Accelerated or Deferred Fixed-Rate Swap Payments. In certain cases, swaps that otherwise contemplate current market rates may be structured to provide for front-loaded or

back-loaded payments -- a phenomenon that raises tax accounting issues very similar to the "off-market" swaps described in Part III.A.2., above. For example, a taxpayer might enter into a three-year "zero coupon" swap position with a stated notional principal amount of $1,000, pursuant to which the taxpayer makes semiannual LIBOR payments, but receives no corresponding fixed-rate payments other than a payment of $265.32 at the end of the third year (representing the future value of semiannual 8% payments). Similarly, a taxpayer might structure a "premium swap" position, pursuant to which the taxpayer makes semiannual LIBOR payments for three years on a notional principal amount of $1,000, and receives only an initial fixed payment of $209.69 (representing the present value of semiannual 8% payments).[18]

To the extent that a swap position is viewed as a set of matching Hypothetical bonds for tax accounting purposes, the timing of income and expense in respect of such non-generic fixed payments easily can be determined using existing "original issue discount" concepts. In each case, the "stated redemption price"

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[18]   As indicated earlier, the Committee has assumed, solely for purposes of the analysis set forth in this section, that the swap positions discussed will in fact be characterized as swaps for federal income tax purposes.

of a swap leg could be calculated by adding to the stated notional principal amount the sum of all payments provided by that leg that, by analogy to proposed regulation section 1.1273-1(b)(1), would not constitute "qualified periodic interest" on a hypothetical bond with the cash flows of that swap leg. This "stated redemption price" then could be compared with the "issue price" of that swap leg to determine that amount, if any, to be treated analogously to original issue discount on a debt instrument. For these purposes, the "issue price" of a swap leg would be equal to the stated notional principal amount of the swap plus (or minus) any initial payments received (or made) under that leg.

For example in the "zero coupon" swap described above, the "inflow" leg of the swap could be characterized as a hypothetical zero coupon bond with an issue price of $1,000 and a stated redemption price of $1,265.32 ($1,000 + $265.32). Such a hypothetical bond would have a yield of 8% (compounded semiannually), by analogy to proposed regulation section 1.1272-1(f). The taxpayer then would compute its annual income in respect of the zero coupon swap position using the constant yield methodology set out in proposed regulation sections 1.1272 - 1.1273, as illustrated by the following table:

(A)	(B)	(C)	(D)
	Adj. Issue Price-Begin.	Accrued Inc. at	Adj.Issue Price-End
Year	Year	8%	Year
1	$1,000.00	$81.60	$1,081.60
2	$1,081.00	$88.26	$1,169.86
3	$1,169.86	$95.46	$1,265.32
		$265.32	

Similar principles could be applied to the "premium swap" example described above. Under the hypothetical bond analysis, the "inflow" leg of that swap could be characterized as a bond with an issue price of $790.31 ($1,000 of notional principal amount deemed paid less $209.69 cash actually received) and a stated redemption price of $1,000. Such a hypothetical bond would have a yield of 8.00% (com-pounded semiannually), by analogy to proposed regulation section 1.1272-1(f). The taxpayer then would compute its annual income in respect of this swap position using the constant yield methodology of proposed regulation sections 1.1272-1.1273, as illustrated by the following table:[19]

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[19] As described in Part III.A.2.(e), above, the same net income results theoretically could be derived by treating the premium swap as if it involved a traditional "par" swap, combined with an imputed loan of the premium amount between the parties. Such an imputed loan analysis, however, would require the parties to a premium swap (i) to reconstruct the periodic fixed-rate swap flows that served as the basis for the initial swap payment, (ii) to treat such reconstructed, fixed- rate flows as actual income or expense in each period, and (iii) to offset against this reconstructed swap income or expense an amount representing accrued interest on the imputed loan of the initial payment amount. The complexity of these calculations would make such an approach difficult to administer. Moreover, as described in Part III.A.2.(e), the construction of an imputed interest element for "premium swaps" would create additional complexities for cross-border transactions. The Committee therefore urges the Service generally to avoid recharacterizing "premium swap" transactions in this manner.

(A)	(B)	(C)	(D)
	Adj. Issue Price-Begin.	Accrued Inc. at	Adj.Issue Price-End
Year	Year	8%	Year
1	$790.31	$64.49	$ 854.80
2	$854.80	$69.75	$ 924.55
3	$924.55	$75.45	$1000.00
		$209.69	

As described in Part III.A.2., above, with respect to swap premium, the taxpayer under such a "premium swap" must be assumed to invest its discounted initial payment at market rates in order to fund in part its floating-rate payment obligations under the swap. Assume, for simplicity, that the taxpayer in our example invested the $209.69 initial payment it received in a three-year zero-coupon debt security that provided an 8% yield (compounded semiannually). The taxpayer's overall return from the combined swap and investment transaction then would be identical to the 8% constant yield results for the "zero coupon" swap described above, as illustrated by the following table:[20]

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[20]   The taxpayer's actual return on investment of its initial swap payments should not be taken into account, of course, in determining the timing of its income under the swap contract. As discussed in Part III.A.2., above, any such investment income in fact will be subject to tax as earned, and including it again as part of the taxpayer's imputed swap return would result in double-counting.

TABLE EIGHT

(A)	(B)	(C)	(D)	(E)
	Adj. Issue Price of	Accrued Inc. on	Accrued Inc. on	Net
Year	Investment	Investment	Swap	Result
1	$209.69	$17.11	$64.49	$81.60
2	$226.80	$18.51	$69.75	$88.26
1	$245.31	$20.02	$75.45	$95.46

4.   Non-Fixed Swap Payments. The various cash flows under a swap contract, as with other financial instruments, generally can be divided into two categories: (i) payments that are fixed in amount and timing and (ii) payments whose amount and timing is not determinable at inception of the transaction ("non-fixed" payments). The Committee believes that, as already described in this Part III.A., the "constant yield" principles represented by sections 1272-1274 and the proposed regulations thereunder provide rational tax accounting rules for fixed cash payments, which rules easily can be adapted to swaps and other notional principal contracts. In the case of non-fixed payments, however, experience suggests that the current proposed regulations under section 1275 governing "contingent" amounts can create serious tax accounting anomalies in a variety of situations. The Committee urges the Service not to apply such rules (in their present form) and to develop, instead, an independent approach to govern tax accounting for nonfixed payments under swaps and other notional principal contracts. That approach could be based on the "variable interest" rules under section 1275, as modified to reflect the special circumstances relating to swaps.

The rules governing fixed payments under sections 1272-1274 provide appropriate tax accounting results primarily because those rules are consistent with the economic assumptions that drive the cash flow structure and attendant pricing of fixed-payment debt instruments. As a result, income or loss from debt instruments with fixed payments generally is reported for tax purposes in a manner that reflects the pre-tax economic results for issuers and investors. Taxpayers thus have little incentive to structure non-economic fixed-rate debt securities in hopes of obtaining special tax advantages. The Committee believes that the same convergence between tax reporting and economic results is appropriate for instruments that provide for non-fixed payments. The Committee accordingly urges the Service to adopt an approach that requires taxpayers to report income and loss from non-fixed payments under notional principal contracts in conformity with the economic assumptions used to structure and price such non-fixed payment instruments.

As posited above, swap positions normally are structured and priced as if they comprised two offsetting hypthetical debt transactions. For the vast majority of swap contracts, the leg that produces non-fixed payments thus will have the characteristics of a traditional floating-rate bond. The taxpayer's LIBOR payments under the "outflow" leg of each of the non-generic swap positions described in Part III.A.3., above, represent a good example of this typical structure for non-fixed swap payments. In those cases, the $1,000 notional principal amount on which the LIBOR swap payments are based, and the formula for determining the LIBOR rate, remain constant throughout the term of the swap in a manner that economically

resembles a traditional floating-rate debt security. Such
constant LIBOR payments would constitute "qualified periodic
interest" on the hypothetical bond representing the swap leg, by
analogy to the rules under section 1273. No adjustment therefore
is necessary to the $1,000 notional principal amount in computing
the stated redemption price of that hypothetical bond. Because
the floating-rate leg provides for no initial payment, the $1,000
notional principal amount also can be used without adjustment as
the issue price of that hypothetical bond. Based on the pricing
assumption that the non-fixed payments under this swap leg
economically resemble floating-rate interest on a par instrument,
the taxpayer's periodic LIBOR payments on that "outflow" leg
should be deductible as paid or accrued, by analogy to the
taxpayer's treatment of LIBOR coupon interest on an actual
floating-rate debt security.

     5.   <u>Dispositions of Interest Rate Swap Positions</u>.
(a) <u>General Rules</u>. The concept of an interest rate swap position
as involving a matched financial asset and liability further
provides a useful approach to measuring gain or loss from
dispositions of swaps. A taxpayer traditionally has been
considered to have a zero tax basis in its swap position on the
grounds that, at least in the case of a typical "par" swap,
neither party makes any initial investment in its swap position.
Even in the case of swaps that provide for substantial premium
payments or other non-generic cash flows, the present value of
the "inflow" and "outflow" legs of a swap position initially are
presumed to be equivalent, so that any positive or negative value
of an individual leg should net to a zero overall investment.

Under this approach, the full amount of any cash paid or received by the assignor of a swap position constitutes gain or loss for tax purposes.[21]

Such results generally are appropriate for the usual situation where a party assigns simultaneously both legs of its par swap position. The simple zero basis assumption becomes problematic, however, in the case of swaps that provide cash flows that may be difficult to distinguish from a debt security or other financial instrument. For example, in the "premium swap" described in Part III.A.3., above, one party would make an initial payment of $209.69 and thereafter would have contractual rights to receive periodic LIBOR payments with no further corresponding obligations. If such a party then should assign its right to the future LIBOR payments to a third party in exchange for a cash payment, it would seem incorrect to treat the entire amount of that payment as taxable gain to the assignor.

Under a hypothetical bond approach, however, each leg of a taxpayer's swap position would have an "adjusted notional principal amount," as a parallel to the concept of the adjusted issue price of a bond under proposed regulation section 1.1272-1(e). The "adjusted notional principal amount" of each swap leg would be calculated for these purposes as the original "issue price" of the hypothetical bond that represents that leg, adjusted in each period to take account of any swap premium or irregular cash flows (as described in Part III.A.3., above).

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[21]   References in this report to the recognition of "gain" or "loss" are intended only to reflect the Committee's view as to the appropriate <u>timing</u> of such items. As noted above, this report does not address issues relating to the character (or source) of income or expense items in respect of notional principal contracts.

In the event of a sale or other disposition of a swap position before its final maturity date, a taxpayer then would recognize current gain or loss measured by the difference between (i) the "adjusted notional principal amount" of the "outflow" leg of the swap position, plus any amount received from the assignee of the swap position, and (ii) the adjusted notional principal amount of the "inflow" leg of the swap position, plus any amount paid to the assignee of the swap position. Subject to the discussion below concerning assignment of split swap positions, the Committee's view is that the assignor of an existing swap position under this approach should take into account the full amount of any payment it made or received in connection with the assignment, and should recognize the full amount of any resulting gain or loss, in the year of the disposition.

For a typical "par" swap position, the "adjusted notional principal amount" of the inflow and the outflow legs generally would net to zero, so that the assigning party's gain or loss would be the same under this approach as if measured under the traditional "zero basis" approach. The hypothetical bond approach also will produce sensible tax accounting results for a taxpayer that assigns its position under a "premium swap" or other non-traditional interest rate swap. For example, in the "premium swap" described in Part III.A.3., above, the "outflow" leg of the taxpayer making the upfront fixed payment initially would have a hypothetical issue price, and thus an "adjusted notional principal amount," of $790.31 ($1,000 notional principal amount less $209.61 payment made); the taxpayer's corresponding "inflow" leg of future LIBOR receipts would have a hypothetical issue price and adjusted notional principal amount of $1,000. The taxpayer thus would have a positive "basis" in its net swap position (asset less liability) of $209.69. If that taxpayer

assigned its swap position shortly thereafter in exchange for a cash payment of $209.69 from the assignee, the taxpayer appropriately would have no gain or loss, based on the following calculation: [$790.31 (outflow leg) + $209.69 (consideration received)] - [$1,000 (inflow leg)] = 0.[22]

(b) Split Position Assignments. The hypothetical bond approach, like the zero basis approach, would not produce appropriate tax accounting treatment for situations in which a taxpayer assigns only one leg of its swap position and retains the offsetting leg. A party to a par swap, for example, might assign its right to receive future 8% payments on a notional principal amount of $1,000, but retain its obligation to make corresponding LIBOR payments on that same $1,000 notional principal amount. Since the cash paid by the assignee for receipt of the 8% payment stream will not include any amount in respect of the $1,000 notional principal amount, a rule that treated the assigned position as having a $1,000 tax basis under the general hypothetical bond analysis would generate an artificial tax loss for the assignor -- a result as equally inappropriate as the artificial tax gain that would arise under the current zero basis

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[22]   The converse calculations would apply in the more unusual case where the recipient of the initial fixed swap payment assigned its swap position (which would involve only future obligations) to a third party. In such case, the assignor in the above example would have a "negative basis" of $209.69 in its net swap position ($790.31 asset less $1,000 liability), and would recognize gain to the extent it paid less than $209.69 (or loss to the extent it paid more than $209.69) to the assignee.

As described above, the existence of bilateral rights and obligations is one of the principal distinguishing characteristics of a swap contract. It is the Committee's view that the attempt to assign only one leg of an outstanding swap position should be treated for tax accounting purposes not as a disposition transaction, but as an effective acceleration of the stated cash flows provided by the assigned leg. By so arranging to accelerate its swap cash flows, a party will have placed itself in the same position as if it had exchanged its par swap position for a "premium swap" position. Accordingly, the purported "assignment" of a single swap leg should not trigger current gain or loss, but instead should adjust the "assigning" taxpayer's schedule of income (or deductions) under its reconstituted swap position to conform to the amortization principles described in Part III.A.3., above, for "premium swaps." [23]

C.   Interest Rate Caps and Floors.

1.   General Concepts. The economic characteristics of cap and floor contracts distinguish them as a class of notional principal contracts that must be analyzized independently of interest rate swaps. While swaps have as a primary characteristic the bilateral exchange of rights and obligations, caps and floors have economic features that clearly distinguish the roles assigned to each of the contract parties. The single cash payment made by one party to a cap or floor transaction (the "purchaser")

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[23]   This tax accounting approach would be consistent with the Service's treatment of "premium swaps" and split position assignments for purposes of the foreign tax credit interest allocation rules. See Example (3) under temporary regulation section 1.861-9T(b)(1).

does <u>not</u> merely represent the present value of a schedule of
fixed-rate amounts, in contrast to the case under a "premium
swap" as described above. Instead, the amount of a cap or floor
premium must take into account the fact that, in contrast to a
swap, the purchaser of a cap or floor contract will receive <u>no</u>
offsetting payments from the other party (the "writer") if the
level of the specified floating rate on the measurement date is
less (more, in the case of a floor) than the scheduled fixed
rate. Because the payments to be made or received under a cap or
floor depend entirely on relative interest rate levels at each
payment date, those payments must be viewed as "non-fixed" for
both the writer and the purchaser -- a factor that further
distinguishes caps and floors from typical interest rate swaps.
As described above, the Committee believes that such non-fixed
payments should be subject to tax accounting rules that accord
with their underlying economic characteristics.

As interest rates rise, the value to the purchaser of holding a
cap contract can increase dramatically, just as would the value
of a put option on a fixed-rate debt instrument.[24] If interest
rates decline, however, the cap purchaser at most will suffer the
loss of its initial premium payment. Like the holder of an
option, the purchaser of a cap therefore has an unlimited
potential for gain, and a risk of loss limited to its initial
"premium" payment. Similarly, the writer of a cap has the
unlimited loss and limited gain potential characteristics of an
option writer.

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[24]   For a more detailed discussion of the economic similarity between caps
        or floors and options, see Johnson, <u>An Introduction to Options</u>, Salomon
        Brothers Inc, October 1987; <u>Putting the Cap on Options</u>, Euromoney
        Corporate Finance, January 1987, at 20-21.

Primarily for these reasons, the financial institutions that act as dealers in caps and floors determine the amount of the initial premium payment appropriate for each cap or floor contract by reference to established pricing models used for traditional options. These option pricing models take into account the time value of money, the anticipated volatility and similar factors that affect the value of a particular option or series of options. The most widely used of these models is the Black-Scholes formula, an example of which is attached as Appendix A.

2.   Cap/Floor Premium. Given the economic similarity of a cap or floor contract to a series of cash settlement options, the Committee believes that a Black-Scholes or similar option pricing model would produce the most appropriate allocation of the initial premium paid in respect of a cap or floor contract among the contract's scheduled payment dates.[25] For tax administration purposes, the writer of a cap or floor contract should be required to furnish to the purchaser a schedule showing the appropriate allocation of premium amounts to the relevant payment dates, along with documentation supporting that allocation schedule

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[25]   See, e.g., C. Jones, Investments: Analysis & Management, 456-7 (1985) Handbook of Modern Finance, 11-21, 11-23 (D. Logue, ed. 1984).

based on the pricing model used by the writer actually to price that cap or floor contract.[26]

This allocation procedure, however, does not answer the question of the proper schedule for recognition by the contract parties of income and expense in respect of this initial premium amount. Resolution of that basic tax accounting issue may vary, depending on which of several possible analogies is applied in developing an analytical framework for the taxation of caps and floors.

The discussion and examples that follow illustrate various approaches that might be used to determine the appropriate expense to be recognized in each taxable year by the purchaser of an interest rate cap.[27] Obviously, the writer of cap should be required to recognize income under a corresponding

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[26]   26 As an to that individualized approach, the Service mandate the use of a specified "standard" version of the Black-Scholes formula (or a similar options pricing model) to determine the tax accounting treatment of cap and floor contracts, with the cap or floor writer being required to furnish the current volatility and other variables necessary to allow each purchaser to complete the calculations required by the model. While the use of a standardized formula might at first appear attractive, the Committee believes that an attempt by the Service to develop and administer any such standardized pricing techniques for caps and floors would lead to unnecessary complexity in the enabling regulations, without any accompanying economic or compliance benefits.

[27]   Of course, identical results would apply in the case of an equivalent floor contract.

schedule (unless subject to a mark-to-market system or other special rules applied to dealers). Each example assumes a three-year interest rate cap written by a dealer on January 1, 1990 in exchange for an upfront premium payment of $600. The examples further assume that this $600 premium payment is derived by applying a Black-Scholes option pricing model to determine the cost of purchasing a series of separate interest rate options exercisable on dates corresponding to the cap's payment dates, as shown below:

<div align="center">

TABLE NINE

Year 1	($55)
Year 2	($225)
Year 3	($320)
	($600)

</div>

For simplicity, the results shown by the following examples are based on the assumption that market interest rates, volatility and similar factors remain consistent throughout the term of the cap, and that the cap remains out-of-the- money (i.e., no payments are made to the purchaser) throughout its term.

In order to determine the extent to which each tax accounting approach reflects the underlying economics of the cap, the results are compared to the schedule of expense that would be recognized if there were no changes in market factors and the cap in fact were "marked to market" by the purchaser in each period.

This illustrative comparison is <u>not</u> intended to suggest that the Committee favors the adoption of a universal mark-to-market tax accounting system for all cap purchasers, who in many cases are end users, rather than dealers, in such contracts.

(a) <u>"Static" Mark-to-Market Approach</u>. At the end of Year 1, the market value of the cap will reflect the expiration of one year of the three-year term. Accordingly, <u>assuming that all market factors have remained constant</u>, by comparing the pricing of a three-year cap to the pricing of a two-year cap on the same day, we can determine the value of the interest rate protection provided in the first year of the three-year cap. Based on the pricing model shown above, the aggregate value of a two-year cap will equal $280 ($55 + $225). If a purchaser in fact used a mark-to-market system, it therefore generally would treat as expense $320 ($600 - $280) for Year 1 in respect of the cap, as shown by the following schedule:

<div align="center">TABLE TEN</div>

Year	Beg. Value	End Value	Expense[28]
1	$600	$280	($320)
2	$280	55	($225)
3	$ 55	0	($ 55)
			($600)

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[28] These figures, of course, would not reflect adjustments that normally would be made to the initial valuation of a cap contract to take account of credit exposure, market liquidity, bid-asked spreads or similar factors.

This result accurately reflects the fact that, all other factors being equal, the protection offered a purchaser by the last remaining year of a multi-year option (or quasi-option) contract economically is the most valuable, because, as a statistical matter, for any given degree of volatility the contract is more likely to be "in-the-money" in more distant periods. As each year of the contract expires, the contract's overall value accordingly will decline by the value assigned to that last year.

        (b) Current Option Tax Rules. One possible analogy for a cap purchaser would be to treat the three periods under the cap for tax purposes as if each period represented a separate interest rate option, exercisable, respectively, at the end of Years 1, 2, and 3. Under this approach, at the end of Year 1, the first option would have lapsed, and the $55 premium allocated to that option would be deductible by the purchaser at that time. Under longstanding tax rules governing options, however, none of the $225 premium allocated to the option for Year 2 or the $320 premium allocated to the option for Year 3 would be recognized in Year 1, because those options would remain outstanding.[29] The schedule of expense recognized by a cap purchaser under this approach would be as follows:

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[29]   See Revenue Ruling 58-234. The Committee is aware that, in the context of a multi-year contract, applying the general principles of Revenue Ruling 58-234 can produce a substantial deferral of expense (or income in the case of a cap writer). A detailed examination of the' analysis underlying the longstanding tax accounting rules for options, however, is beyond the scope of this report.

Year	Beg. Value	End Value	Black-Scholes Alloc.	Amort. Expense
1	$600	$280	($ 55)	($320)
2	$280	$ 55	($225)	($225)
3	$ 55	$ 0	($320)	($ 55)
			($600)	($600)

(c) Economic Amortization. As a second approach to cap premium timing, the cap could be viewed as a single instrument providing for three contingent payments. In that case, the current tax accounting rules governing options would not be applicable, and a different set of assumptions would be necessary to construct a schedule for recognition of the $600 premium payment over the cap's three-year term. As described above, a cap is a wasting asset for the purchaser that, economically, devalues from the last year forward. An economic amortization schedule therefore would allow the cap purchaser to deduct in each year the premium amount allocated under the Black-Scholes model to the last remaining year of the cap, as shown below:

TABLE TWELVE

Year	Beg. Value	End Value	Black-Scholes Alloc.	Amort. Expense
1	$600	$280	($ 55)	($320)
2	$280	$ 55	($225)	($225)
3	$ 55	$ 0	($320)	($ 55)
			($600)	($600)

An economic amortization model thus is identical to a mark- to-market regime if market factors remain constant over the life of the contract; phrased differently, economic amortization is a mark-to-market system based only on the market information known at the time the contract is entered into.

(d) Straight-Line Amortization. One objection to the use of a Black-Scholes option pricing model for caps has been its relative complexity for the purchasers of those contracts, most of which are not dealers in financial products. If a cap is viewed as a single financial instrument, an alternative might be to allow a cap purchaser to elect a simpler straight-line recognition schedule for its premium expense. As applied to cap purchasers, this simpler approach should not allow any artificial acceleration of premium expense, as shown below:

TABLE THIRTEEN

Year	Beg. Value	End Value	Black-Scholes Alloc.	Amort. Expense
1	$600	$280	($ 55)	($200)
2	$280	$ 55	($225)	($200)
3	$ 55	$ 0	($320)	($200)
			($600)	($600)

Because the results of the straight-line approach deviate from the presumed rate at which the cap's value in fact declines, its application, if any, should be elective by cap purchasers. Cap writers, however (other than those already using a mark-to-market system), should be required to use an "economic" amortization method of the type described in (c), above, regardless of their status as dealers or non-dealers in financial products, in order to preclude any "gaming" opportunities that otherwise might arise from an artificial deferral of premium income.

(e) <u>Comparison</u>. The following table compares the results of the tax accounting methods for caps described above:

TABLE FOURTEEN

Year	Beg. Value	End Value	Mark-to-Market	Option Taxat.	Econ. Amort.	S/L
1	$600	$280	($320)	($ 55)	($320)	($200)
2	$280	$ 55	($225)	($225)	($225)	($200)
3	$ 55	$ 0	($ 55)	($320)	($ 55)	($200)
			($600)	($600)	($600)	($600)

In these examples, the mark-to-market and the economic amortization approaches produce the same expense recognition result only because of the simplifying assumption that no fluctuation in market valuation factors occurs after the date the cap is written. The results of an actual mark-to- market system, if applied by a cap purchaser, in fact would reflect fluctuations in market valuation factors over the term of a cap contract as an adjustment to recognized cap premium expense. The schedule of cap premium expense recognition under the economic amortization approach would not vary with such changes in market factors, because, like any other amortization model, those results will be established in advance, based on market factors as of the date on which the cap contract is written.

Stated differently, the identical expense recognition results produced by the mark-to-market and economic amortization approaches under constant market conditions demonstrates that, of the three approaches described above, the economic amortization model conforms most closely to the pricing assumptions commonly used by cap writers concerning the manner in which a cap contract economically will decline in value over its term. Consistent with its premise set out at the beginning of this report, the

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Committee therefore believes that interest rate cap premiums
should be accounted for on an economic amortization basis.[30]
Where multiple year contracts are involved, however, the
Committee recognizes that its proposal is markedly different from
the general rules that have been adopted for multiple-year
options generally. Under those rules, the entire income inclusion
and deduction is deferred (as a part of current law's
"realization" orientation) until the option lapses or is
exercised. While an examination of the current regime for
taxation of option premium generally is beyond the scope of this
report, the Committee believes that it is appropriate to provide
tax accounting rules in the area of interest rate caps and floors
that are more consistent with the manner in which such
instruments are priced. To the extent a discontinuity of results
would arise, the Committee believes that it puts in question
whether the current law's treatment of multi-year option premium
is sound, rather than the proper approach for interest rate caps
and floors.

The Committee also recognizes, however, that this
approach (and any other accrual approach) for multi-year caps and
floors raises difficult administrative issues while the present

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[30]   We do not mean to suggest by this conclusion that caps are economically
        different than options; rather, we suggest that the discontinuity of
        results is attributable to current law's failure correctly to tax
        multiyear options.

rules are maintained for options. In the marketplace today, caps and floors have almost completely replaced arrangements styled as multi-year option contracts on interest rate sensitive instruments. Accordingly, the Committee suggests that it would be appropriate for the Service to develop anti-abuse rules, in order to prevent taxpayers from choosing the most beneficial set of rules by alternatively documenting a transaction as a cap/floor, or as a related series of options. The Committee tentatively recommends that these anti-abuse rules treat any multi-year option contract of interest rate sensitive instruments that may (or must) be settled in cash under the economic amortization regime that we recommend for caps and floors. In the unlikely event that a market develops in multi-year options on interest rate sensitive instruments that require physical delivery, consideration could be given to extending the anti-abuse rules to all multi-year options on interest rate sensitive instruments. Pending a change, the option rule set out in subsection (b) below may have to be honored if the taxpayer is not to be given the benefit of choosing between a cap or floor taxed under one set of rules and an actual option on an interest sensitive instrument taxed under a different set of rules.

(f) Imputed Loan Analysis. As in the case of swaps, it has been suggested that the premium paid in respect of a cap or floor contract might be viewed as involving an implicit loan, because it represents an effective prepayment by the purchaser of amounts that relate to future periods under the contract. This approach would impute interest income to the purchaser, and interest expense to the writer, of a cap or floor contract based on the out-standing "principal amount" of the loan. The premium amount attributed to each period (under whatever amortization approach is adopted for cap or floor contracts generally) would be adjusted to its future value (at the same imputed interest rate), as if such premium had not been prepaid. The adjusted premium amount for the period then would reduce the outstanding principal amount of the implicit loan.

This imputed loan analysis, of course, would not change the aggregate amount of income or expense recognized by the parties to a cap or floor over the contract term. In marked contrast to the swap examples described in Part III.A.2(e), however, treating cap or floor premium as involving an implicit loan would change the schedule of income or expense recognition between the various periods of the contract. For example, assuming a ten percent interest rate, the results for the purchaser of a cap contract under each of the option taxation, economic amortization and straight-line amortization methods described above can be illustrated, respectively, by the following three tables:

TABLE FIFTEEN
(Option Taxation)

Year	Princ. of Loan	Int. on Loan	Allocated Premium	FV of Econ. Premium	Net Exp.
1	$600	$ 60	($ 55)	($ 61)	($320)
2	$599	$ 60	($225)	($272)	($225)
3	$386	$ 39	($320)	($426)	($ 55)
		$159	($600)	($759)	($600)

TABLE SIXTEEN
(Economic Amortization)

Year	Princ. of Loan	Int. on Loan	Allocated Premium	FV of Econ. Premium	Net Exp.
1	$600	$ 60	($320)	($352)	($292)
2	$308	$ 31	($225)	($272)	($241)
3	$ 67	$ 7	($ 55)	($ 74)	($ 67)
		$ 98	($600)	($698)	($600)

TABLE SEVENTEEN
(Straight-Line Amortization)

Year	Princ. of Loan	Int. on Loan	Allocated Premium	FV of Econ. Premium	Net Exp.
1	$600	$ 60	($200)	($220)	($160)
2	$440	$ 44	($200)	($242)	($198)
3	$242	$ 24	($200)	($266)	($242)
		$128	($600)	($728)	($600)

In addition to the withholding tax issues discussed above, the Committee believes that the timing distortions illustrated by these tables militates against the use of an imputed loan analysis for cap and floor contracts.

3.   <u>Periodic Cap/Floor Payments</u>. Once the issues concerning the proper allocation of the initial premium have been addressed, tax accounting rules for the remaining payments under a cap or floor contract should be straightforward. The amount of a floating-rate payment made to the purchaser of a cap or floor in any period should be treated for tax accounting purposes as current income to the purchaser (and current expense to the writer) for that period.[31] The difference between the floating-rate payment (if any) actually made in each period over the amount of the initial premium allocated to the period (as described above) thus will determine the net income or expense of the purchaser and the writer of the cap or floor in that period.

4.   <u>Dispositions of Cap Floor Contracts</u>. Because caps and floors, unlike swaps, typically are structured to provide for an initial premium payment, the purchaser of a cap or floor

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[31]   If the contract provides for the amount of the floating-rate payment to be determined in advance of the actual payment date, the net income or expense for each period should be taken into account in the taxable year that includes the date on which the amount to be paid in fact is determined. For example, if a cap provides for a payment on April 1 of the amount by which LIBOR exceeds 10% as of a March 25 determination date, the amount of that payment should be includible in income by the purchaser of the cap, and deductible by the writer, in their respective taxable years that include March 25.

normally is viewed as having a tax basis in the contract. Accordingly, in the event that the purchaser of a cap or floor terminates, sells or otherwise disposes of its rights before the final scheduled payment date, it should recognize gain or loss measured by the difference between the amount received from the assignee and the remaining amount of the initial premium that has not been recovered through expense deductions in prior periods.[32] In the rarer case where the writer of a cap or floor terminates or assigns its future obligations, gain or loss similarly should be calculated as the difference between the amount paid to the assignee and the portion of the initial premium properly allocated to the remaining periods under the contract. As discussed with respect to interest rate swaps in Part III.A.5., above, the Committee contemplates that the assignor of a cap or floor position (whether the writer or purchaser of the contract) would recognize the full amount of such gain or loss in the year of the disposition.

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[32] Obviously, the method used to allocate the initial premium payment among the various periods will affect a purchaser's remaining basis in a cap or floor contract at any particular time.

IV. DERIVATIVE NOTIONAL PRINCIPAL PRODUCTS.

A. Overview.

As taxpayers have become more sophisticated about the benefits of interest rate hedging, they increasingly have turned to techniques designed to reduce exposure not only with respect to current liabilities or assets, but also for anticipated future positions. Financial instruments that serve to hedge against future risks long have been available in the form of traditional futures contracts, forward contracts and exchange-traded or over-the-counter options. In recent years, however, taxpayers have combined the features of these traditional hedging products with the flexibility inherent in notional principal contracts to produce new types of specialized protection against the effects of interest rate fluctuations on anticipated future positions.[33] Despite their hybrid nature, the Committee believes that the underlying economic resemblance of these "derivate" notional principal products to more traditional hedging instruments makes these products susceptible to tax accounting concepts generally drawn from existing tax principles.

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[33] Derivative notional principal products, including options on swaps and forward swaps (described below), to date have evolved almost exclusively as interest rate hedging transactions. Nothing in the nature of these products, however, precludes the future development of a market for similar products as currency hedges.

B.   Options on Swaps.

As the name implies, one popular type of derivative
notional principal product provides one party (the "purchaser"),
in exchange for a initial "premium" payment, with the right, but
not the obligation, to induce the other party (the "writer") to
enter into a specified swap position on a particular "exercise"
date (or, like an "American Style" option, at any time during a
particular period). If the purchaser exercises its option, the
parties will enter into a swap on the terms specified in the
option contract. If the purchaser fails to exercise its option
prior to the stated expiration date, the parties will have no
further contractual obligations.

An option on an interest rate swap, for example, might
be attractive to a taxpayer that contemplates issuing fixed-rate
debt (or floating rate debt coupled with a swap into a fixed
rate) in the future, and is concerned that prevailing rates may
rise before it can come to market with its securities. By paying
a premium, the taxpayer can induce a counterparty to write an
option on a swap, exercisable on the anticipated issue date for
the taxpayer's debt, pursuant to which the taxpayer will pay a
fixed rate (determined by reference to rates at the time the

option is purchased) and receive a floating rate that effectively defeases the interest payments on its debt obligations. If floating interest rates in fact rise prior to the issue date of the taxpayer's debt securities, the taxpayer will exercise its swap option, thereby locking in the favorable earlier swap rates that applied at inception of the option. If, instead, prevailing rates decline, the taxpayer simply can allow its swap option to expire, and can enter into a new swap contract to match its debt securities at the more favorable later swap rates.

For tax accounting purposes, the most difficult issues concern the treatment of the parties during the open option period. In an option on a swap, the "delivery" obligations of the option writer upon "exercise" of the option consist of an undertaking to enter into a new bilateral contract for a period of years.[34] Nonetheless, the primary features of an option on a swap remain economically similar to those of any other option. The Committee therefore is of the view that the "premium" paid in connection with an option on a swap should be taxed under the same principles applicable to options generally.[35]

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[34] In this respect, the writer of an option on a swap is in a similar position to the corporate taxpayer that issues options that, on exercise, would allow the purchaser to acquire a class of newly-created debt securities not yet issued by that corporation.

[35] As discussed above, this report does not attempt any critique of the current rules governing option taxation.

Upon "exercise" of a swap option, the Committee would provide that the amount of the option premium would be added to the notional "issue price" of the hypothetical bond comprising the "inflow" leg of the option writer's new swap position (and the corresponding "outflow" leg of the option purchaser's swap position). In such a case, the amortization rules for "swap premium" described in Part III.A.2.(or, in rarer cases, the rules governing cash flows on non-generic swaps under Part III.A.3.) then would insure proper tax accounting treatment of that premium amount over the term of the new swap contract. If the swap option instead lapses unexercised, the writer would treat the premium amount as income, and the purchaser would treat such amount as a loss, for the period that includes the option's expiration date.

B.   Forward Swaps.

A forward swap contract bears the same relation to an option on a swap that a traditional commodity forward contract holds to an over-the-counter commodity option. Thus, under a forward swap, both parties have an unconditional obligation to enter into a swap on specified terms at a specific future date. A taxpayer might enter into such an arrangement, for example, if it wished to hedge a future commitment to issue or purchase debt securities, but based on current swap market rates.

In the typical case, the parties to a forward swap agree on rates that are intended to produce a "par" swap at the time that actual swap payment obligations commence. Accordingly, neither party typically is required to make any initial payment at inception of the forward swap contract. As with any other forward contract, the Committee believes that such a "par" forward swap should have no tax consequences for the parties until such future time as payments under the specified swap actually commence. At that time, the rules described above in Part III.A. should provide appropriate tax accounting results for the periodic swap flows.

Where the parties intentionally have structured an off-market future swap, however, one of the parties typically will owe swap premium to its counterparty. In such cases, credit or administrative considerations may require that such premium payment be made at inception of the forward swap contract, based on the discounted present value of the total premium amount owned in respect of the future swap payments. Little authority exists concerning the appropriate tax accounting treatment for these types of initial payments under a forward contract, because, traditionally, forward contracts almost exclusively have been designed for "par" results.

Conceptually, the contract could be bifurcated into two components: (i) a forward swap that will provide for a premium payment at the time that future swap payments commence and (ii) a lending transaction by the party that initially makes the discounted premium payment at inception of the contract. Under

this approach, the party receiving the initial premium payment would accrue interest expense (and the other party would accrue interest income) during the forward period, based on the internal discount rate used to compute the amount of the initial premium payment. At the time that payments begin to be made under the specified swap, the full premium amount would be treated as exchanged. The general tax accounting rules for swap premium described in Part III.A.2., above, then would assure proper treatment of that premium payment.

As noted throughout this report, however, the Committee generally believes that an imputed loan analysis would introduce unnecessary complexities and tax accounting distortions in connection with notional principal contracts. Instead, we suggest that the parties to a forward swap simply be required to include in income (or deduct) any prepaid swap premium on an amortization basis over the entire term of the transaction, including the forward period preceding the actual initiation of periodic swap payments. For the recipient of prepaid swap premium, this amortization approach, combined with the actual taxation of its return from investment of the discounted premium, will result in overall income inclusions similar to those achieved under an imputed loan analysis. Similarly, the payor of premium on a forward swap will have comparable net deductions under an amortization and an imputed loan analysis; while current amortization of the discounted prepaid premium produces smaller gross premium deductions than would an imputed loan approach, under an amortization approach the payor will not be required to offset its premium deductions by imputed interest income.

The Black-Scholes model is:

Value of each option = I(e-rt) N(X) - K(e-rt)N[x- (s)(sqr. root of t)

        Where:

        I = forward interest rate

        r = continuously compounded discount rate

        K = strike level

        s = yield volatility

        N = standard normal cumulative distribution function

        t = time

        x = In (I/K) + 1/2 s (sqr. root of t) [probability function] s(sqr. root of t)

        e = 2.71828 [to account for continuous compounding]

        The forward interest rate (I) is the level of the interest rate at each determination date. The discount rate corresponding to the maturity of the option (r) is continuously compounded. The strike level (K) is the specified rate in the contract. Yield volatility (s) is the estimated volatility of the interest rate index. Time (t) is the time to maturity of the individual option being priced.

        Use of the Black-Scholes model is illustrated in the following example.

EXAMPLE. On December 28, 1987, X and Y (both calendar year, accrual method taxpayers) enter into a three-year interest rate contract under which X is required to make a payment to Y each quarter equal to the excess, if any, of the index rate, three-month LIBOR, over 9%, with respect to the notional principal amount, $25,000,000, determined on a quarterly basis. In exchange, Y pays to X at the inception of the contract a premium payment of 2.37%, or $591,930. The contract therefore calls for a total of twelve payment dates, which are analyzed as twelve options. Payments are to be made on each determination date. The first determination and payment date is March 28, 1988. For the week ended December 25, 1987, the three-month. LIBOR spot rate is 7.90%. Using the Black-Scholes option pricing model, X recognizes income and Y recognizes expense in respect of this premium payment on each quarterly determination date as follows:

INTEREST RATE DETERMINATION/ PAYMENT DATE	OPTION PRICING	CUMULATIVE VALUE RECOGNIZED
March 1988	$ 1,111	0.2%
June 1988	$ 7,120	1.4%
September 1988	$ 17,213	4.3%
December 1988	$ 29,274	9.2%
TOTAL YEAR 1	$ 54,717	
March 1989	$ 40,835	16.1%
June 1989	$ 51,315	24.8%
September 1989	$ 59,995	34.9%
December 1989	$ 67,357	46.3%
TOTAL YEAR 2	$219,502	

March 1990	$ 73,352	58.7%
June 1990	$ 78,336	72.0%
September 1990	$ 82,669	85.9%
December 1990	$ 83,353	100.0%
TOTAL YEAR 3	$317,710	
GRAND TOTAL	$591,930	100.0%

If instead X and Y enter into an interest rate contract with the same terms except that the term of the interest rate contract is six years and the premium payment is 6.56% or $1,640,139, X would accrue income and Y would accrue expense on a quarterly and annual basis as follows:

INTEREST RATE DETERMINATION/ PAYMENT DATE	OPTION PRICING	CUMULATIVE VALUE RECOGNIZED
March 1988	$ 1,109	0.1%
June 1988	$ 7,103	0.5%
September 1988	$ 17,151	1-5%
December 1988	$ 29,134	3.3%
TOTAL YEAR 1	$ 54,497	
March 1989	$ 40,591	5.8%
June 1989	$ 50,948	8.9%
September 1989	$ 59,494	12.5%
December 1989	$ 66,715	16.6%
TOTAL YEAR 2	$ 217,748	
March 1990	$ 72,566	21.0%
June 1990	$ 77,403	25.7%
September 1990	$ 81,588	30.7%
December 1990	$ 82,164	35.7%
TOTAL YEAR 3	$ 313,721	
March 1991	$ 87,011	41.0%
June 1991	$ 91,590	46.6%
September 1991	$ 95,915	52.5%
December 1991	$ 80,068	57.3%
TOTAL YEAR 4	$ 354,585	
March 1992	$ 81,817	62.3%
June 1992	$ 83,408	67.4%
September 1992	$ 84,854	72.6%
December 1992	$ 87,561	77.9%
TOTAL YEAR 5	$ 337,639	

March 1993	$ 88,852	83.3%
June 1993	$ 90,019	88.8%
September 1993	$ 91,069	94.4%
December 1993	$ 92,009	100.0%
TOTAL YEAR 6	$ 361,948	
GRAND TOTAL	$1,640,139	100.0%