GC 3450 Guideline: Embedded Derivatives

1. Overview

New accounting standard PS 3450 Financial Instrumentsrequires that certain contracts be reviewed to identify embedded derivatives that may require separate accounting treatment (PS 3450.14).

An **embedded derivative** is a provision in a contract that causes the cash flows to vary, either based on an underlying measure, such as an inflation index, foreign exchange rate or commodity price, or due to an optional term. A provision is called an embedded derivative if it meets the definition of a stand-alone derivative.

Embedded derivatives have the same characteristics as derivatives but are incorporated into a host contract. Embedded derivatives change the way that risk is distributed among the parties to the contract. Such embedded derivatives are found in many types of host contracts, such as leases, insurance contracts and multi-year purchase agreements. For example, a lease agreement with future rent increases based on the consumer price index (CPI) is a host contract with an embedded derivative, by which the lessor transfers inflation risk to the lessee.

The **host contract** may be a financial or non-financial contract that is in the scope of PS 3450. Embedded derivatives in such host contracts should be identified. However, they are accounted for separately as derivatives **only when** their economic characteristics are **not** closely related to those of the host contract.

This document explains which contracts are in the scope of PS 3450 and provides an overview of the common, variable cash-flow features that may indicate the existence of embedded derivatives and whether they are closely related to the host contract.

1.1 Timing

These requirements apply prospectively to new contracts entered into on or after April 1, 2022, or to amendments to existing contracts where the amendment causes a significant change to the cash flows under the contract after April 1, 2022.

1.2 Materiality

Departments must review all contracts worth $10 million or more. Accounting policies need not be applied to immaterial items. Departments may establish thresholds for contracts below $10 million based on materiality.

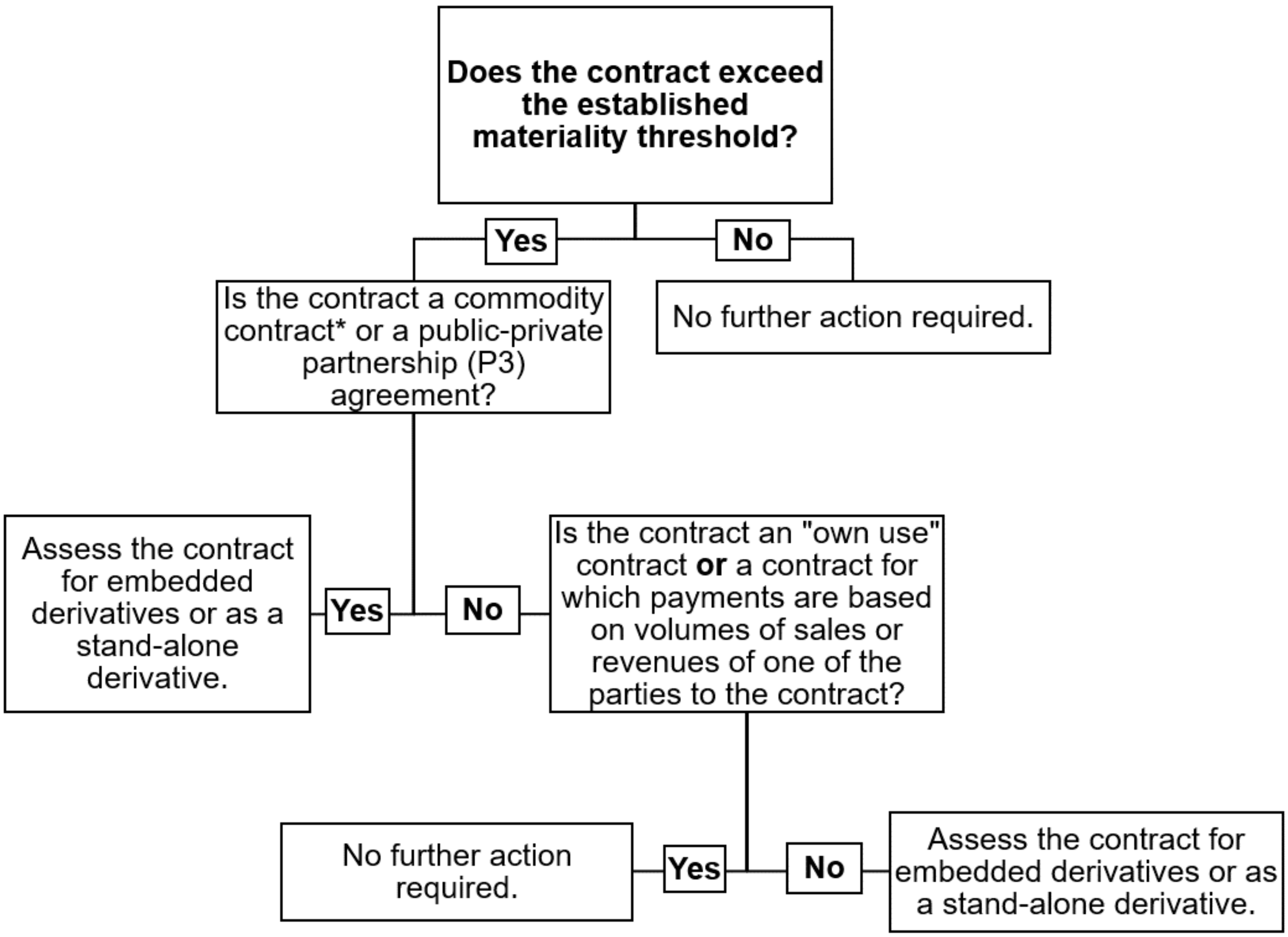
2. Scope of contract review (PS 3450.03-.08)

Contracts that are excluded from the scope of PS 3450 do not need to be reviewed for embedded derivatives.

2.1 Contracts for the purchase or sale of goods or services

The following flow chart may be used to decide whether to review contracts for the purchase or sale of goods or services for embedded derivatives.

Figure 1: flow chart to determine whether to review contracts for embedded derivatives



▶ Figure 1 - Text version

Commodities are goods or raw materials that can be bought, sold, or traded. As basic goods, commodities, such as oil, metals and agricultural goods, are interchangeable with other goods in the same category.

According to PS 3450.A13:

> Some contracts to buy or sell non-financial items that can be settled net or by exchanging financial instruments, or in which the non-financial item is readily convertible to cash, are within the scope of this Section as if they were financial instruments.

As commodities are readily convertible to cash, commodity purchase or sale contracts may be derivatives in their entirety or fail the own use exemption. Consequently, it is advised to include such contracts in the contract review, although entities may instead determine whether the contract meets the own use exemption as noted above.

Table 1: types of contracts excluded from the scope of the review for embedded derivatives

Type of contract	Description

Type of contract	Description
Own use contracts (PS 3450.03(p))	Contracts to buy or sell non-financial items when quantities are in accordance with a department's expected purchase, sale or usage requirements. Such contracts include: • contracts for goods or services purchased in accordance with the department's purchasing or operating requirements, that is, contracts entered into for the purpose of taking physical delivery of the goods or services under the contract; and • sales contracts entered into for the purpose of making physical delivery of the goods or services under the contract, including user fees contracts for services provided to customers. **Note:** In accordance with PS 3450.005, contracts to buy or sell non-financial items where quantities are in excess of the entity's purchase, sale or usage requirements for which there is an option to **settle net**, in cash or another financial instrument instead of taking physical delivery, are **not** own use contracts and are in the scope of PS 3450.
Volume-related contracts (PS 3450.03(m))	Contracts that require payments based on specified volumes of sales or service revenues of one of the parties to the contract, and that are not traded on an exchange.

2.2 Contracts in scope of PS 3450

A review for embedded derivatives should be performed for the following types of contracts if the contract value exceeds the established materiality threshold:

a. **financial contracts,** such as loans receivable, portfolio investments, market debt and loan guarantees;
b. **leases,** such as operating leases and capital leases; and
c. **non-financial contracts,** such as:
    - purchase or sales contracts where quantities are in excess of purchase, sale or usage requirements, and where the contract can be **net settled** (no physical delivery);
    - commodity contracts;
    - public-private partnership (P3) contracts;
    - insurance contracts; or
    - contracts involving payments based on a climatic or geological variable.

3. Identification and assessment of embedded derivatives

3.1 Identification of embedded derivatives in host contracts (PS 3450.A18-.A24)

When a contract under review is determined to be in scope of PS 3450, it should be assessed for embedded derivatives.

A contract may include embedded derivatives when there is a change in contractual cash flows:

a. due to pricing features based on an underlying variable; or
b. based on optional contract features.

3.1.1 Examples of changes in contractual cash flow due to pricing features based on an underlying variable include:

a. Foreign currency: cash flows vary based on a foreign exchange rate. Assess whether the currency is:
    - the functional currency of the counterparty,
    - the currency in which commercial transactions for the good or service are routinely denominated globally, or
    - a currency commonly used in contracts to purchase or sell non-financial items in the economic environment of the transaction;

b. Inflation index: cash flows that are adjusted by:
    - inflation indices based on Canadian or non-Canadian rates, or
    - **leveraged** inflation and CPI adjustments (factor above 2);

c. Cash flows adjusted by any other underlying variable (for example, share price, commodity price, interest rate index, credit risk of a third party, stock exchange); or

d. Settlement permitted with **non-cash consideration** whose value changes with an underlying variable (that is, with warrants, options of a company, shares or commodities).

3.1.2 Examples of changes in contractual cash flows based on optional contract features include:

a. Cash flows that are modified by a pricing cap or floor. Assess whether the cap is above or below the market rate or whether the floor is below or above the market rate;

b. **Call**, **put**, prepayment or redemption option that requires the payment of a penalty that:
    - is fixed, or
    - varies based on current interest rates or some other variable;

c. Term-extension option or options. Consider whether this option is at a market or non-market rate;
d. Complex interest rate features or formulas that calculate the contractual cash flows. Assess whether the holder would not substantially recover their investment or would receive a return that is at least twice the market return; or
e. Terms allowing the transfer of credit risk of a reference asset. Consider whether this is related to the creditworthiness of the obligor.

3.1.3 Assessment to determine whether the embedded derivative is closely related to the host contract (PS 3450.A25-.A26).

Not all contracts containing provisions with the features of an embedded derivative will warrant the recognition of the embedded derivative and measurement of its value. When an embedded derivative is closely related to the host contract, it has the same economic characteristics as the host contract. In such instances, the embedded derivative does not need to be accounted for as a separate derivative instrument. In addition to the examples provided in PS 3450.A25-.A26, the following table includes examples that indicate host contracts with embedded derivatives that are closely related or not closely related to the contract.

Table 2: examples of embedded derivatives in host contracts

Type of host contract	Embedded derivatives that are closely related to the contract	Embedded derivatives that are not closely related to the contract

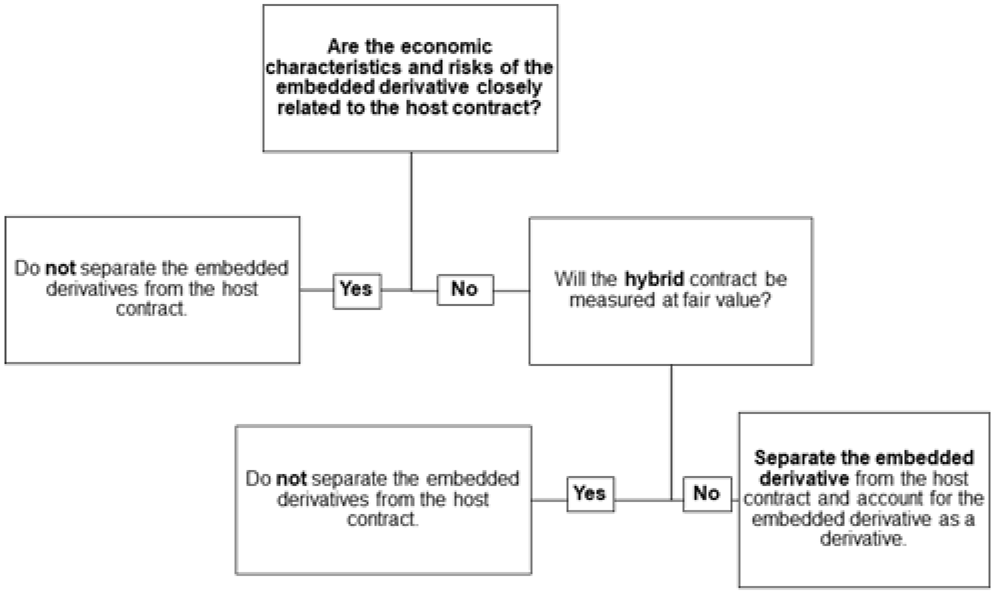
Type of host contract	Embedded derivatives that are closely related to the contract	Embedded derivatives that are not closely related to the contract
Loan receivable with floating interest rate	Floating interest rate is capped at 4%. Market interest rate at inception is 3% (below cap).	Floating interest rate is capped at 2%. Market interest rate at inception is 3% (above cap).
Loan receivable with prepayment option	Prepayment option at par value of the loan plus accrued interest (equals the amortized cost of the loan).	Prepayment option at 110% of the par value of the loan, plus accrued interest (does not equal the amortized cost of the loan).
Deposit liability	Interest payments linked to an interest rate index.	Interest payments linked to an equity or commodity index.
Building lease	Annual payments based on the consumer price index (CPI).	Annual payments based on two times CPI; or annual payments based on a non-Canadian inflation index.

Type of host contract	Embedded derivatives that are closely related to the contract	Embedded derivatives that are not closely related to the contract
Executory contract to purchase copper in a foreign currency (commodity contract) **Note:** If this contract meets the definition of a stand-alone derivative, the entire contract is measured at fair value.	Payments are in US dollars, which is the currency in which copper prices are routinely denominated around the world.	Payments are in Japanese yen, which is not one of the following: • The functional currency of either party to the contract; • The currency in which transactions for this service are routinely denominated around the world; **or** • The currency of the economic environment in which the transaction took place.

4. Accounting requirements for embedded derivatives

The following flow chart provides an overview of the accounting requirements for embedded derivatives.

Figure 2: flow chart to determine the accounting requirements for embedded derivatives



▶ Figure 2 - Text version

4.1 Embedded derivative closely related to the host contract

If the embedded derivative is determined to be closely related to the host contract at inception, it is not separated from the host contract and there are no further accounting requirements (PS 3450.A19-.A.26).

Subsequent reassessment of the embedded derivative is prohibited unless there are changes to the contract that significantly modify the cash flows (PS 3450.A21).

4.2 Embedded derivative not closely related to the host contract

When it has been determined that the embedded derivative is not closely related to the host contract (PS 3450.A25), there are two accounting options available:

a. Measure the combined (hybrid) contract at fair value at inception and throughout its life (PS 3450.A22). Embedded derivatives in financial instruments classified in the fair value category are not separated (PS 3450.A19(c)); **or**

b. Separate the embedded derivative and account for it separately as a stand-alone derivative, as long as a separate instrument with the same terms as the embedded derivative would meet the definition of a derivative (PS 3450.A19(b)).

4.3 Accounting requirements for derivatives

Apply the accounting requirements for derivatives in PS 3450 as follows:

a. Determine the fair value [1] of the hybrid contract or the embedded feature at inception (PS 3450.A24) and continue to measure the derivative at fair value throughout the life of the contract;
b. Recognize the derivative asset or derivative liability on the statement of financial position; and
c. Present unrealized fair value gains or losses on the derivative in the statement of remeasurement gains and losses until settlement, except for unrealized exchange gains and losses that are recognized directly in the statement of operations (according to Government of Canada accounting policy election).

Contact the Office of the Comptroller General for specific coding requirements.

5. Definitions

call or put option

An option to buy or sell assets at an agreed price on or before a particular date in the future.

closely related derivative

An embedded derivative is closely related to the host contract when the risk and economic characteristics of the embedded derivative, such as the changes in fair value, are similar to the risk and economic characteristics of the host contract.

derivative

A financial instrument that has **all three** of the following characteristics:

- Its value changes in response to the change in a specified interest rate, financial instrument price, commodity price, foreign exchange rate, index of prices or rates, credit rating or credit index, or other variable, provided in the case of a non-financial variable that the variable is not specific to a party to the contract (sometimes the variable is described as “underlying”);
- It does not require an initial net investment, or it requires an initial net investment that is smaller than would be required for other types of contracts that would be expected to have a similar response to changes in market factors; and
- It is settled at a future date or dates.

host contract

A contract that is currently being assessed for the existence of an embedded derivative or derivatives.

hybrid contract

A combined contract that includes both a non-derivative host contract and an embedded derivative. Such a contract has the effect that some of the cash flows of the combined instrument vary in a way similar to a stand-alone derivative.

net settlement

A settlement method used where the seller (or buyer) of an item does not deliver (or purchase) the actual physical asset but instead exchanges (pays) the associated cash value based on the change in fair value.

non-cash consideration

Consideration received or receivable in a form other than cash, which typically includes options, stocks, warrants, or non-financial assets, such as equipment or materials.

Footnotes

1 Determining the fair value of a derivative may require the services of a valuation expert.

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