

Embedded Derivatives

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An embedded Derivative is a derivative like feature embedded in a non-derivative contract (the “host contract”). An embedded derivative can modify the cash flows of the host contract because the embedded derivative can be related to an exchange rate, commodity price, interest rate, or some other variable. Companies are required by accounting literature to take a derivative feature that is not clearly and closely related to the host contract that is embedded in a contract that does not meet the definition of a derivative in its entirety and is not measured at fair value to be bifurcated and accounted for separately. Accounting literature was developed to ensure that companies did not embed a derivative in another contract solely for the purpose of achieving an accounting result different from the accounting result that the entity would have achieved if it had issued two separate contracts. Companies need to do a thorough evaluation of contracts to determine whether a contract contains an embedded derivative.

Background

Accounting literature defines a derivative as:

1. Having one or more underlying – underlying is a specified interest rate, exchange rate, equity price, commodity price or other variable
2. One or more notional amounts or payment provisions – notional is a number of currency units, shares of stock, units of weight or any other units specified in the contract, a payment provision provides for a settlement if the underlying behaves a certain way
3. Requires no initial net investment – there should be no upfront cost to enter into derivative
4. Requires or permits net settlement – net settlement means that the contract’s underlying is not physically exchanged and parties can settle the contract financially (e.g. cash settle), or it can be readily settled outside of the contract, or the asset delivered is readily convertible to cash

Embedded Derivatives

Contracts that do not meet the definition of derivative instrument may contain embedded derivatives with terms that impact cash flows or other exchange in a manner similar to a derivative. A host contract is the base instrument that the company would have issued if the

hybrid instrument did not contain an embedded feature. The combination of the host contract and the embedded feature is referred to as the hybrid instrument. The value of an embedded feature and the host contract should add up to the value of the total hybrid instrument.

First, companies need to perform a thorough evaluation of the terms of the contract to evaluate if an embedded feature is present. Second, companies need to evaluate whether an embedded feature is embedded or free standing.

A free standing derivative is entered into separately from any of the entity's other financial instruments or is entered into in conjunction with the host contract and can be legally detached and separately exercised. Free standing derivatives are accounted as derivatives separately from the host contract.

A derivative feature is considered to be an embedded derivative if it cannot be legally separated from host contract and transferred to a third party. Embedded derivatives require additional analysis to determine if the embedded derivative should be accounted for as a derivative separate from the host contract.

In order for companies to perform an embedded derivative analysis, they need to define the host contract appropriately. Debt instrument, equity instrument, supply contracts, sales contracts, executory contracts, insurance policies and leases are examples of host contracts.

Companies need to evaluate if a contract exhibits features that, if in a stand-alone instrument, would meet the definition of a derivative. Example of potential embedded derivatives include:

- Payments denominated in a currency other than the functional currency of either entity
- Interest payments linked to company's credit or its own cost of funds
- Pricing or payments linked to an index such as commodity or inflation index
- Call or put provisions on financial instruments linked to a change in control
- Options or contracts to purchase equity at some point in future
- Caps or floors on debt instrument
- Credit default swaps
- Leverage features

A company would need to identify an embedded derivative instrument and separate it from the host contract and account for it separately as a derivative instrument with changes in fair value reported in current period earnings if, and only if, all of the following criteria of accounting standards have been met:

1. The economic characteristics and risks of the embedded derivative instrument are not clearly and closely related to the economic characteristics and risks of the host contract
For example, if debt instrument is the host contract and embedded derivative that has a rate of return tied to S&P 500 index would not be clearly and closely related to the host contract as the equity price risk of embedded derivative is dissimilar to interest rate and issuer credit risk
2. The hybrid instrument is not re-measured at fair value under otherwise applicable generally accepted accounting principles (GAAP) with changes in fair value reported in earnings as they occur
Bifurcation in these situations is unnecessary, because both instruments are re-measured at fair value with changes in fair value reported in earnings
3. A separate instrument with the same terms as the embedded derivative would be a derivative instrument

Bifurcation is the process of separating Hybrid contracts into the Host Contracts and Embedded Derivative. If bifurcation is performed, the Host and the Embedded derivatives are accounted for as if they are two separate contracts.

IR Embedded Derivatives in Debt Hosts

Companies need to evaluate if embedded derivatives in debt host contracts are clearly and closely related. Companies are effectively evaluating if embedded derivatives introduce risk that are atypical of debt instruments or if the return that investors may receive is positively or negatively leveraged. If the economic characteristics and risks of the embedded derivative have features unrelated to interest rates of borrower credit, like equity or commodity features, or leverage features then the embedded derivative is not clearly and closely related and may require bifurcation if the other criteria are met.

When an interest feature alters the contractual interest payments on the host contract, it may not be considered clearly and closely related even though both the embedded derivative and

the host contract both have interest rate underlying. For example, a debt host that provides a return that is positively or negatively leveraged. Embedded interest rate derivatives that alter net interest payments on debt hosts are considered clearly and closely related unless either of the following two conditions exist:

- a) The hybrid instrument can be contractually settled in a way that the investor (or creditor) would not recover substantially all of its initial recorded investment
- b) The embedded derivative meets both of the following:
 - 1. There is a possible future interest rate scenario (even if remote) where the embedded derivative would double the investor's initial rate of return on the host contract, and
 - 2. The embedded derivative would at the same time result in a rate of return that is at least twice what otherwise would be the then-current market return for a contract with the same terms as the host contract.

Put/Call Embedded Derivatives in Debt Hosts

Put and call features that accelerate the repayment of principal on debt are generally considered clearly and closely related to debt hosts except when issued at discount or premium, puttable or callable under some formulaic arrangement that yields an amount other than par, or contingently exercisable. If any of these conditions exist, additional analysis is needed and bifurcation may be required.

FX Embedded Derivatives

Accounting literature provides the following guidance on embedded foreign currency derivatives:

Companies are not required to separate an embedded foreign currency derivative from host contract and consider a derivative instrument if all of the following criteria are met:

- 1. The host contract is not a financial instrument
- 2. The host contract requires payment denominated in any of the following currencies:
 - a. Functional currency of any substantial party to the contract
 - b. The currency in which the price of related good or service is acquired or delivered is routinely denominated in international commerce (for example, the U.S. dollar for crude oil transactions)
 - c. Local currency of any substantial party to the contract

- d. The currency is used because a substantial party to the contract operates in a highly inflationary environment
3. Other aspects of embedded foreign currency derivative are clearly and closely related to the host contract

The evaluation of whether the contract qualifies for the exception should be performed at inception of the contract.

Credit Embedded Derivatives

The creditworthiness of the debtor is considered clearly and closely related to a debt host contract. For debt instruments that have the interest rate reset in the event of any of the following conditions, the related embedded derivative is considered clearly and closely related to the host contract:

1. Default (such as violation of a credit-risk-related covenant)
2. A change in the debtors published credit rating
3. A change in the debtors creditworthiness indicated by a change in its spread over U.S. Treasury bonds

If an instrument incorporates a credit risk exposure that is different from the risk exposure arising from the creditworthiness of the obligor under that instrument (e.g. the value of the instrument is affected by an event of default of a third party), then the embedded credit derivative is not considered clearly and closely related and may require bifurcation.

Other Embedded Derivatives

(A) Equity Embedded Derivatives in Debt Hosts

Equity indexed payments are not clearly and closely related to debt instruments and require bifurcation. For example, a company issues a USD denominated bond that pays interest rate equal to higher of (1) increase in price on a pre-determined basket of 10 NYSE-traded stocks or (2) 0%. In this case, equity indexed payment is not clearly and closely related to the host bond, and would require bifurcation.

(B) Indexed Rentals in Lease Hosts

1. Rent payments for the use of leased assets and adjustments for inflation – generally are considered to be clearly and closely related and do not require bifurcation unless a significant leverage factor is involved
2. Rent payments that include contingent rentals based on the lessee's sales volume – generally do not require bifurcation because the features usually do not meet the definition of a derivative (i.e. the contracts are physically settled)
3. Rent payments for the use of leased assets indexed to a variable interest rate – are generally considered clearly and closely related and do not require bifurcation

(C) Contracts indexed to Inflation

Contracts indexed to inflation are generally considered to be clearly and closely related if the specified inflation index is relevant to the country of the currency in which the contract is denominated. Therefore, non-leveraged inflation-indexed contracts (debt instruments, capitalized lease obligations, and so forth) will not have the inflation-related embedded derivative separated from the host contract.

Timing and frequency of assessment

Companies need to perform the analysis of whether an embedded derivative is clearly and closely related to its host contract either on the date that the hybrid instrument is issued or on the date that the reporting entity acquires the instrument. Embedded Derivatives should be assessed at all the following points in time:

- At inception/acquisition of the hybrid contract the analysis of the “Clearly and Closely Related” criterion of the embedded derivative analysis and the embedded foreign currency derivative analysis must generally be performed.
- On an ongoing basis during the life of the hybrid contract, companies are required to perform an ongoing assessment at each reporting period as to whether the remaining criteria of the embedded derivative analysis have changed, for example: whether the hybrid instrument is re-measured at fair value and whether a separate instrument with the same terms as the embedded derivative would be a derivative instrument.

Conclusion

Evaluating whether a contract contains an embedded derivative and the embedded derivative's specific terms can be difficult in practice. A thorough evaluation of the contract must be performed to determine whether an embedded derivative is present.