

A **derivative** is a financial contract or instrument that *derives* its value from one or more underlying assets, quantitative measures, or economic or financial indices. Derivatives manifest themselves in three general categories: (i) exchange-traded derivatives, (ii) over-the-counter (**OTC**) derivatives, and (iii) structured securities. Exchange-traded derivatives are standardized contracts that are traded on regulated exchanges and include futures and options. In contrast, OTC derivatives are privately negotiated contracts that can be either standardized or highly customized as to their terms and include forwards, options, and swaps. Structured securities, such as credit linked notes, are debt securities or other instruments that contain embedded derivatives.

Futures

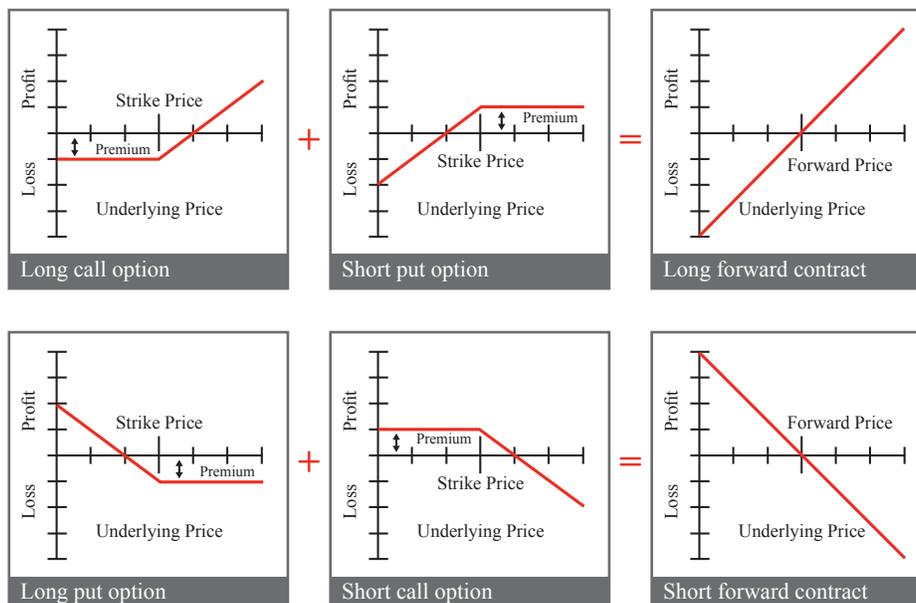
A **futures contract** is an agreement under which the buyer is obligated to purchase a given quantity of a particular asset or index on a specified future date at a predetermined price or rate. Futures contracts have standardized terms (e.g., type of asset, size of trading units, delivery dates) due to the fact that they are traded on regulated exchanges, such as the New York Mercantile Exchange, and are cleared through an exchange's clearinghouse.

Forwards and Options

Like a futures contract, a **forward contract** is an agreement that obligates the buyer to purchase a given quantity of one or more particular assets or indices on a specified future date at a predetermined price or rate. Unlike futures contracts, however, forward contracts are OTC derivatives that are not traded on an exchange. A forward contract's value is based on the difference between the aggregate market value of each underlying asset or index and the forward contract price or rate.

An **option** is an agreement that gives the buyer the right, but not the obligation, to purchase (a **call option**) or sell (a **put option**) a given quantity of one or more particular assets or indices at a predetermined price or rate (the **strike price**) on one or more future dates (the **exercise date**). In exchange for this right, the buyer pays the seller, or option writer, a **premium**. If the buyer does not exercise its right on or prior to a specified future date (the **expiration date**), the option will expire worthless. A **European option** may be exercised only on the expiration date, while an **American option** may be exercised at any time during the term of the option. A **Bermuda option** may be exercised on a number of predetermined dates, including the exercise date.

The following diagrams illustrate the economics of plain vanilla options and forwards. Each of the diagrams is from the perspective of an investor that has either purchased (i.e., gone **long** and, for an option, paid a premium) or sold (i.e., gone **short** and, for an option, received a premium) the applicable contract and shows the investor's profit or loss as the underlying price increases or decreases from the strike price or the forward price. Note that the economics of the long/short option combinations, with their off-setting premiums, replicate the economics of a forward contract.

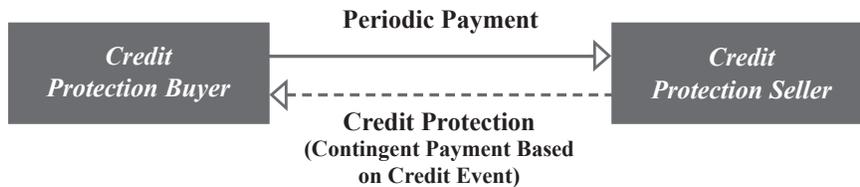


Swaps

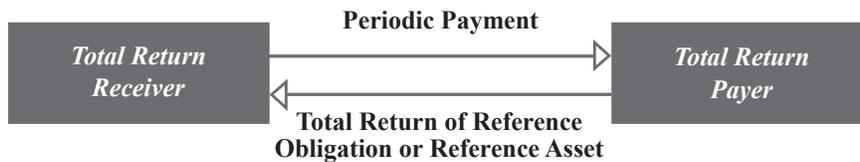
A **swap** is an agreement to exchange cash flows determined by reference to a specified **notional** amount at regular intervals during a stated period. Forwards and options are common components of swaps. For example, an interest rate swap is a series of forward contracts on interest rates, with each forward contract settling on a payment date under the swap.

Swaps, as with other OTC derivatives, are typically entered into under a standard form Master Agreement published by the International Swaps and Derivatives Association, Inc. (**ISDA**). An ISDA Master Agreement consists of the preprinted form master agreement and a Schedule that contains the relevant credit terms and any additional provisions negotiated between the parties. It also may include a credit support document, such as the New York law governed, security interest-based ISDA Credit Support Annex. Transactions under an ISDA Master Agreement are evidenced by written confirmations, which are often based on a standard form and may incorporate one or more of ISDA’s product-specific definitional sets (e.g., for commodity, credit, equity, foreign currency, or interest rate derivatives). The following diagrams illustrate the basic elements of two common types of swaps: credit default swaps and total return swaps.

Credit Default Swap: A **credit default swap** is a transaction in which one party (the **credit protection buyer**) pays a single or periodic amount determined by reference to a specified notional amount, and the other party (the **credit protection seller**) pays either a fixed amount or an amount determined by reference to the value of one or more loans, debt securities, or other financial instruments (a **reference obligation**) that is issued or guaranteed by a third party (the **reference entity**) upon the occurrence of a **credit event** (e.g., bankruptcy of the reference entity or failure to pay under an obligation of the reference entity). The credit protection buyer is not required to own any underlying obligations of the reference entity or suffer an actual loss in order to receive its payment under the transaction.



Total Return Swap: A **total return swap** is a transaction in which one party (the **total return receiver**) pays a single or periodic amount determined by reference to a specified notional amount and any depreciation in the market value of one or more loans, debt securities, equity securities, hedge fund interests, indices, or other financial instruments (each, a **reference obligation** or **reference asset**), and the other party (the **total return payer**) pays either a single or periodic amount based on the total return on the reference obligations or reference assets, calculated by reference to interest, dividend, and fee payments and any appreciation in the market value of each reference obligation or reference asset. Unlike a credit default swap, payments typically are not contingent on the occurrence of a credit event.

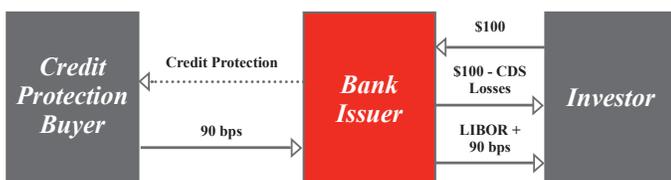


Structured Securities

A **structured security** contains one or more embedded derivatives that provide exposure to one or more asset classes such as equities, currencies, economic measures, or commodities. Structured securities can be issued by traditional issuers (usually banks or other financial concerns) or by special purpose vehicles.

The following are two examples of bank issued structured securities. Example 1 is a **credit linked note**, which combines a debt security with a credit default swap. If no credit event occurs, the investor will receive the \$100 principal back at maturity. However, if a credit event occurs, the credit linked note will be redeemed early and the investor will receive the \$100 principal, less any losses under the embedded credit default swap. Example 2 is an **equity linked note**, which combines a debt security with a derivative linked to the underlying asset (e.g., an equity index). No interest will be payable on the note. However, at maturity the investor will receive (i) if the change in value of the equity index is positive, an amount equal to the \$100 principal plus a multiple of the amount of that change, subject to a capped return of a specified percentage, and (ii) if the change in value of the equity index is negative, an amount equal to the \$100 principal, less the absolute value of the amount of that change. There are many variations of structured securities. Additional features may include, among other things, full or partial principal protection, caps on returns, interest payments, and performance multipliers.

Example 1



Example 2

