

## Characteristics of a swap

There is a mystique which surrounds swap contracts due to lack of knowledge or available information. By explaining the basics of swaps, including how they work and what their purpose is, I hope this will help to clarify them.

A swap is an agreement between two parties to exchange a series of future cash flows. Swaps are financial instruments that fall under the general umbrella of financial derivatives. Other types of derivatives are forward agreements, futures and options (calls and puts). Most swaps are over-the-counter instruments; this means that they are customised to the requirements of the counterparties to the swap. A swap can be viewed as the exchange of one loan for another. A standard loan will have interest and principal repayment terms and the interest is based on either a fixed or floating rate. The three most common types of swaps are interest rate swaps, currency swaps and equity swaps.

## Interest rate swaps

An interest rate swap involves two parties and a set notional value. One party will pay the other a fixed rate of interest on the notional value and the other will pay back a floating rate of interest on the notional value. As both sets of payments are in the same currency, the notional value is not swapped and only the interest payments are made. Furthermore, the interest payments due by each party are netted so only the net interest is paid by the party who owes it.

## Example

Party A agrees to pay Party B a fixed rate of 5%.

Party B agrees to pay Party A a floating rate of 12-month LIBOR + 2%.

The payments will be made annually and will be based on a notional amount of £10,000,000.

At the end of the first year, 12-month LIBOR is quoted at 4%.

At that point, Party A owes Party B  $(£10,000,000) \times (0.05) = £500,000$ .

Party B owes Party A  $(£10,000,000) \times (0.06) = £600,000$ .

Since only the net interest is paid, only one payment will be made. In this case, Party B will pay Party A,  $£600,000 - £500,000 = £100,000$ .

## Purpose

An interest rate swap agreement allows a party to hedge against risk. Let us take a hypothetical case of a company which has borrowed €10mm from a large institution. The interest payments in this loan have been set at LIBOR + 3%. The company now has interest rate risk arising from an increase in LIBOR. The company can hedge against this risk by entering into an interest rate swap. The company can enter into a swap with the same notional value as the initial loan and the same repayment dates. For example, the company shall pay the swap counterparty a fixed rate on a €10mm swap and the counterparty will pay the company a floating rate of LIBOR on the €10mm. By offsetting the variable (LIBOR) on the first loan with the payments it will receive from the swap, the company has effectively converted its €10mm floating rate loan into a fixed rate loan. The company is now completely hedged against the movements of LIBOR.

## Currency swaps

Currency swaps work in a similar manner to interest rate swaps. However, in a currency swap both parties will make payments in different currency on different notional amounts. Therefore, the full notional amounts and interest payments are made and are not netted.

## Example

Party A borrows £10,000,000 from Party B and agrees to pay annual interest at 5% and pay back the borrowed amount after 3 years.

Party B borrows €10,000,000 from Party A and agrees to pay annual interest at 4% and pay back the borrowed amount after 3 years.

Party A will make repayments in £. Party B will make repayments in €.

## Purpose

A party would look to enter into a currency swap in order to get a better deal on borrowing in a currency in which it does not normally deal in. For example, a US firm looking to set up a branch in Europe will need to borrow in Euros in order to pay for all the start up costs. Since the US firm has no business in Europe or Euros, it will not be able to borrow at a competitive rate so it enters into a currency swap with a European firm which needs to, for some reason, borrow US dollars. The interest rates agreed to between both firms will be better than those that could be obtained by each firm if they were to borrow direct from a bank.

## Equity swaps

An equity swap is similar to an interest rate swap. The distinction is that at least one of the parties will make payments based on the return on a stock or a stock index. In an equity swap, floating payments can be made by both parties.

## Example

Party A agrees to pay Party B a fixed rate of 3%.

Party B agrees to pay Party A a floating rate based on the return of the index S&P 500.

The payments will be made annually and will be based on a notional amount of £1,000,000.

At the end of the first year, the S&P 500 has appreciated by 5%.

At that point, Party A owes Party B  $(£1,000,000) \times (0.03) = £30,000$ .

Party B owes Party A  $(£1,000,000) \times (0.05) = £50,000$ .

Since the payments are in the same currency, only the net interest is paid. Therefore, Party B will pay Party A,  $£50,000 - £30,000 = £20,000$ .

## Purpose

An investor may enter into an equity swap to protect capital gains, to avoid the sale of the underlying stock or stock index for tax reasons or in order to hedge against the volatility of the underlying stock or stock index.

## Termination of a swap

There are four ways to terminate a swap prior to the termination date embedded in the swap contract. A swap contract may be terminated by mutual termination, by entering into an offsetting swap contract, by resale or by using what is called a swaption. A swaption is an option granting its owner the right but not the obligation to enter into an underlying swap.

If you would like further information please contact the author Aaron Payas.