

What Is a Swap?

A swap is a contract to exchange interest rate payments based on an agreed-upon notional schedule. The most common swap is floating to fixed swap, where a client pays a fixed rate and receives a floating rate, like LIBOR.

Generally, swaps are ideal for long term financings, usually five years or longer.

How Swaps Work



In this scenario, the borrower has a floating rate loan at 1mL + 2.00%. He swaps this floating payment out for a fixed rate of 3.75%.

Whether LIBOR goes to 0% or 20%, the borrower will always receive a floating payment on the swap that exactly offsets what he owes on the loan. The net effect is a fixed rate of 3.75%. Here's an example using LIBOR at 0.25%:

Borrower Pays

Borrower Pays on Loan		0.25% + 2.00%
Borrower Pays Fixed on Swap	+	3.75%
Borrower Pays		6.00%

Borrower Receives

Borrower Receives on Swap		0.25% + 2.00%
Borrower Receives		2.25%

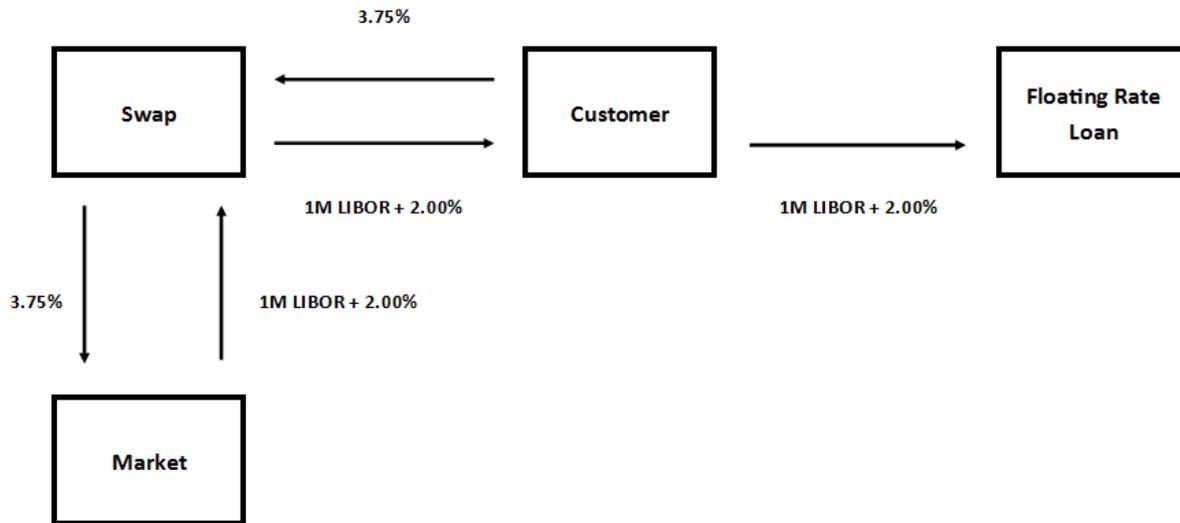
Net Payment

Borrower pays	3.75%	(6.00% - 2.25% = 3.75%)
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How Swaps Work

The bank lays the risk off in the market at the same time the customer locks in the rate over the phone. The swap marketer will usually say “let me put you on hold while I lock this in with the trader”. Unlike with a fixed rate loan, the bank now has no exposure to rising interest rates.

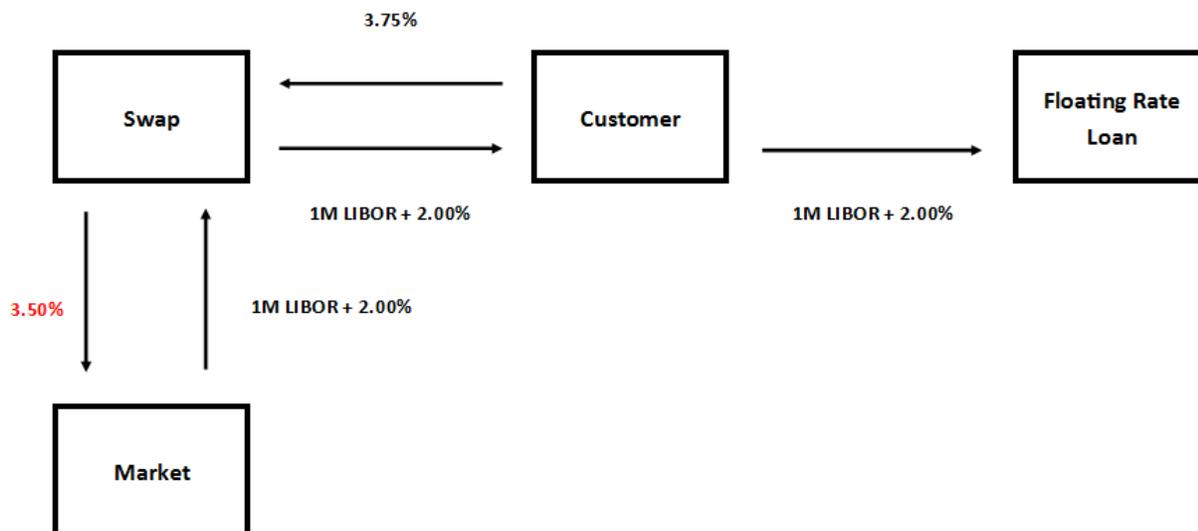


The “market” is really just other trading desks and no one is betting against the client. The desk simply quotes the rate available in the market and passes it along to the borrower.

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How Does the Bank Generate Revenue in this Scenario?

In this example, the Dodd-Frank mid rate is 3.50%, which is where the bank could execute the swap with another bank using Treasurys as collateral. The swap desk does not offer the same rate to the borrower, however, it increases the rate to compensate for credit risk and execution considerations. In this example, the bank offers a fixed rate of 3.75% to the borrower. The spread between 3.50% and 3.75% is how the bank generates revenue on swaps.



This 0.25% of profit is per year, which has the same impact as increasing the customer’s borrowing spread from 2.00% to 2.25%. Unlike a loan spread, however, the 0.25% is multiplied over the term of the swap, present valued, and recognized as an upfront fee. For example:

$$\$100\text{mm} * 0.25\% * 5 \text{ years} = \$1,250,000 \text{ swap income}$$

If swap rates fall and the borrower defaults, the bank is left with a loss on the value of the swap. Because a swap generates credit exposure, it needs to be underwritten like a loan. And, like a loan, the bank is entitled to charging for this extension of credit. That is why banks charge a fee to execute swaps.

The real estate securing the loan also typically secures the swap exposure.

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Risks and Considerations

Frequently, the biggest risk on a swap is in the event of a prepayment. While it is true that swaps can be an asset if rates climb enough, this happens less frequently than expected. Here is the back of the envelope calculation for a swap breakage. For illustration purposes, we assume a 10 year swap initially that is prepaid after 7 years and rates have not moved at all since the time the swap was locked.

Average Remaining Notional * (Fixed Rate Locked – Replacement Rate) * Time Remaining

\$100,000,000 * (3.75% - 2.85%) * 3 years = \$2,700,000

If rates don't move, the swap will have a breakage of about \$2,700,000 in seven years. Much of this is attributable to the effect of rolling down the yield curve. Three year rates are about 0.65% lower than ten year rates, so the swap naturally moves against the borrower over time.

The initial profit made by the bank becomes an imbedded prepayment penalty that is carried forward.

Other Considerations

- Additionally, swaps are commonly sold as being transferrable. Technically, this is true; however, from a practical standpoint it is very rare. The underlying real estate usually secures the swap exposure, so it is uncommon for a swap to be moved to other floating rate debt.
- The ISDA Agreement governs the swap contract. This is commonly described as being an industry standard, boilerplate document; however, they are highly negotiable and contain critical provisions that negatively impact the borrower in the event of a dispute.
- Dodd-Frank regulation has created new regulatory issues for borrowers looking to enter into a swap as well as annual renewal fees and processes.