What Is An Interest Rate Swap Anyway?

An investment officer at a community bank recently told me that he kept hearing and reading about “swap spreads” and “the swaps curve” and really didn’t know exactly what those things were. He was right to ask since a great deal of financial analysis these days relies on the swaps market as a source of information about expectations for interest rates, credit risk and bond market behavior. I was quick to explain that interest rate swaps are primarily the domain of money center banks, super-regionals, and large financial institutions. It really doesn’t make sense for small community banks to engage in interest rate swaps for a number of reasons including minimum size requirements, high transaction costs, and burdensome accounting issues. Nonetheless, some basic understanding of the swaps market is worthwhile.

**Interest Rate Swaps:**
An interest-rate swap is a contract between two counterparties to exchange periodic interest payments on agreed upon dates for a specified period of time. The dollar amount of the interest payments exchanged is based on some predetermined dollar principal, which is called the notional amount. The interest payments that are exchanged by the counterparties are determined by the difference between two agreed-upon rates (usually one fixed and one floating) multiplied by the notional principal amount. The only dollars that are exchanged between the parties are the net interest payments, not the notional principal amount.

Large banks generally will use interest rate swaps as an asset/liability management strategy to hedge exposure to fixed or floating rates (coupon swap), to floating rate indices (basis swap), or to lower funding costs. For example, a coupon swap would be used by a bank which has a positive gap (fixed rate funding and floating assets). The bank could enter into a swap agreement with a dealer in which it pays a floating rate and receives a fixed rate, thus achieving a more neutral asset/liability position.

A swap receiving a fixed rate (and paying a floating rate) is equivalent to buying (owning) a fixed-rate bond by borrowing short-term funds. If interest rates rise, the value of the fixed stream of interest payments decreases just as the value of a bond would decrease. Similarly, a swap paying a fixed rate (and receiving a floating rate) is equivalent to selling a fixed-rate bond and granting a floating-rate loan using the proceeds of the bond sale. If interest rates rise, the value of the floating stream of payments increases just as the value of a floating-rate loan would increase and vice versa.

The primary risk associated with interest rate swaps is counterparty risk. This is simply the risk that the swap counterparty will not fulfill their obligation under the agreement. This risk is very similar to default risk associated with corporate debt.

**Swap Spreads and the Swaps Curve:**
Just as the Treasury yield curve is made up of bond yields across the maturity spectrum, the swaps curve is made up of swap rates across the same maturities. Moreover, the yields that make up the swaps curve provide the basis for computing expected future payments on the floating side of an interest rate swap. The same concept of spot rates and forward rates is embedded in both the Treasury curve and the swaps curve.

We often hear market analysts or bond traders talk about swap spreads. Swap spreads are simply the difference between the swap rate for a given maturity and the Treasury rate with the same maturity. For example, if the fixed rate on a 5-year swap is quoted at 5.45% and the 5-year Treasury rate is 5.00%, the five-year swap spread is 45 bps. Since swap rates are based on expected future LIBOR rates, the swap spread also represents the difference between a risk-free borrowing rate (Treasury) and the rate at which the market expects borrowing between and among banks to occur in the future.

The two principal factors that drive swap spreads wider or tighter are credit risk and the level of corporate borrowing. Since AA rated banks generally quote swap spreads, we can assume that to some degree spreads reflect the credit risk of that banking sector. Another interpretation is that conditions in the corporate debt market affect swap rates since the swaps market is generally considered as an alternative source of fixed rate funding for corporate borrowing. If swaps widen, a possible explanation is that there is an increase in perceived risk for banks. Another explanation is that LIBOR rates will rise because borrowing needs are high. A tightening of swap spreads would indicate a decrease in perceived risk for banks or a low level of borrowing needs.

The Relationship between Swaps and Bonds:
There are both direct and indirect relationships between swap spreads and bond spreads. New issue agencies are typically priced relative to swaps since the agencies generally swap the fixed rate funding back to LIBOR via the swaps market. The same is true for many issuers in the corporate sector. Swap spreads tend to mimic credit spreads in the corporate bond market as swap rates represent the levels at which high rated banks can borrow and lend with each other. Therefore, we can look at swap spreads as a proxy for the corporate credit cycle. Some mortgage-related securities are also priced to swaps and exhibit high correlation with swap spreads because of the pricing relationship to competing spreads. The bottom line is that spreads on most fixed income products have exhibited relatively high correlation with swap spreads.

The swaps market has become an integral part of the banking system and global financial markets. It is a highly liquid market with relatively low levels of credit risk due to the generally high creditworthiness of most major swap dealers. Like the Treasury curve, the swaps market has the characteristic of identical credit across all maturities. Because swap rates represent generic, high quality bank credit, it is not necessary to price additional credit risk into spreads for longer maturities. Unlike the treasury curve, however, supply in the swap market is theoretically unlimited as it is only constrained by the willingness of the participants to enter the agreements. For these reasons among others, we can expect that financial markets analysis will continue to rely heavily on reference to interest rate swaps, swap spreads, and the swaps curve. This means that even smaller institutions and community banks that are not involved directly with the swaps market should nonetheless keep track of trends and developments in this important market sector.