Managing Interest Rate Risk With Swaps and Other Hedging Strategies

Executive summary
Interest rate swaps and other hedging strategies have long provided a way for parties to help manage the potential impact on their loan portfolios of changes occurring in the interest rate environment. A standard interest rate swap is a contract between two parties to exchange a stream of cash flows according to pre-set terms. In essence, the transaction involves trading costs associated with two different types of loans—typically swapping the terms of a floating rate loan for those of a fixed rate loan or vice versa.

Borrowers may have specific objectives when choosing to participate in an interest rate swap or related hedging strategy. For example, the goal may be to reduce interest expense on a particular loan by swapping a higher fixed rate for a lower floating rate. Alternatively, a borrower may wish to hedge existing interest rate risk related to the potential that rates will move higher in the future. This is accomplished by swapping the terms of an existing variable rate loan for those of a fixed rate loan that will lock in the interest rate on a loan for the loan duration.

An important distinction of an interest rate swap compared to other types of financial transactions is that principal is never exchanged. The swap represents an agreement to exchange interest cash flows over time. Interest rate swaps are completely customizable with flexible terms. The contract is legally separate from the hedged item, and no upfront premium is required to execute a swap.

This paper provides an overview of the workings of interest rate swaps and related strategies that individuals or entities may want to consider to help manage interest rate risk. This includes a discussion of how the interest rate environment may affect any decisions made about swaps or related hedging strategies.

Fundamental interest rate considerations
Interest rate swaps typically involve trading of a variable rate loan structure for one with a fixed rate or vice versa. Before considering the viability of pursuing an interest rate swap, it is important to understand some underlying fundamentals about loans and how they may influence a swap strategy.

Loans can typically be structured either with a floating rate or a fixed interest rate. Each comes with its own advantages and disadvantages.
### Type of Loan | Potential Advantages | Potential Disadvantages
---|---|---
**Floating Rate Loan** | • Applicable interest rate tends to be the lowest available at the time the loan is initiated.  
• If interest rates trend lower, interest expense can be reduced. | • When interest rates trend higher, loans become more expensive.  
• Borrower carries the interest rate risk. |
**Fixed Rate Loan** | • Risk of changes in interest rate market are removed.  
• Takes advantage of a favorable rate environment to lock-in long-term interest stability on a loan. | • More expensive form of a loan at the time it is initiated compared to a floating-rate loan.  
• Pre-payment penalty may be required if loan is paid off early. |

These are factors that need to be considered not only when first obtaining a loan, but also when considering whether to swap a loan for one with different terms.

Another consideration is the current state of the interest rate market. While the future direction of interest rates is not predictable, historical trends may provide some helpful insight on potential future trends that could impact a hedging strategy.

**Why consider an interest rate swap?**

There are a variety of reasons that an interest rate swap might be considered:

- To lock in a fixed interest rate, taking advantage of a favorable environment and removing interest rate risk as a consideration.
- To reduce current interest expense by swapping for a floating rate that is lower than the fixed rate currently being paid without having to refinance a loan and pay the associated costs.
- To more effectively match interest rate sensitive assets and liabilities.
- To better diversify financial risks in a loan portfolio by converting a loan portfolio from all fixed or all variable to a mix of the two.
- To change the interest rate composition of a current loan without facing the expense associated with refunding or issuing new debt.

**Mechanics of an interest rate swap**

An interest rate swap represents a derivative product. When two parties agree to an interest rate swap, they are trading interest rate arrangements. In a typical case, a borrower that currently carries a loan with a variable interest rate arranges with a counterparty (such as U.S. Bank) to swap loan terms, exchanging the variable rate for a fixed rate. The borrower will pay a fixed rate plus any spread that is applied to the proxy used to determine the variable rate. In return, the counterparty provides payment of the lending rate (not including any spread), so that portion of interest is, in essence, canceled out for the borrower.

The exchange includes only interest cash flows over time, with no principal involved. Each party is simply swapping its existing obligation for the desired obligation. The fixed rate is based on an average of expected future floating rates.

Other terms that drive the mechanics of the transaction include:

- The notional amount of the principal (not the principal itself)
- The effective date, termination date and payment dates of the loan
Here is a simple example of how an interest rate swap arrangement works:

A family business borrowed $5 million dollars using a variable rate loan and is now interested in locking in a fixed rate. Its variable rate loan is priced at 2.17 percent (the current LIBOR rate of 0.17 percent + a 2 percent spread). It comes to an agreement to pay an additional 1.5 percent to lock in a fixed rate. In effect, the business agrees to pay interest on its loan at a rate of 3.5 percent (the 2 percent spread plus 1.5 percent premium to fix the interest rate). The variable rate loan minus the spread (currently at 0.17 percent but subject to change) becomes the responsibility of the counterparty, generally a financial institution. The borrower is no longer at risk for changes in the variable rate loan. There is no exchange of principal amounts.

**Additional hedging strategies for borrowers**

A straightforward swap of one interest rate for another is only one strategy that can be pursued. Depending on circumstances, other approaches may be more appropriate. Here are examples of different strategies that can be considered:

**Partial Hedge (Blended Rate strategy)**

This allows a borrower to use a combination of fixed rate and variable rate loans in order to manage interest rate risk. For example, consider an individual or entity that needs to borrow $10 million dollars. The borrower can lock in a fixed rate and limit the interest rate risk, or use a variable rate as a way to save interest expense provided that rates don’t rise significantly.

Another option is to use a mixed approach, hedging variable rates by locking in a fixed rate for a portion of the loan. For example, an interest rate swap could be executed for $6 million of the loan, while the remaining $4 million would be placed in a variable rate loan. This allows the borrower the potential to obtain a blended rate that is lower than the fixed rate, reducing interest expense for the period of the loan. If at some point the borrower chooses to swap the variable portion of the loan, this can be done with less cost than would be the case if the entire loan were based on a variable rate. Depending on the interest rate environment, the borrower may realize significant savings by using this blended strategy.

**Blend and extend strategy**

An offshoot of the blended rate strategy is to consider refinancing a fixed rate loan before the term of that loan matures. Terms of commercial loans are often for a limited number of years. At the time the loan matures, the borrower has to either refinance or pay off the loan balance. If the interest rate environment is favorable before the loan matures but the risk of higher rates by the time the loan
the term ends is high, it may be beneficial to refinance
the loan prior to maturity of the term. Even if a swap
prepayment penalty is due by refinancing early, the penalty
could potentially be blended into the new rate. This could
generate important savings by eliminating the risk of paying
higher interest expenses in the future and the need to pay
an upfront fee.

**Interest rate cap strategy**

Borrowers who are interested in taking advantage of low
rates sometimes hesitate to seek a loan due to the risk that
rates will rise down the road. Interest expense may be the
difference in determining whether an investment that must
be financed will ultimately be profitable for the borrower.
To help eliminate interest rate uncertainty, using a variable
rate structure, terms can be arranged (for an additional
premium) that allow for the borrower to set a maximum
interest rate (ceiling). The applicable interest rate, which will
fluctuate, is capped. Even if rates exceed the ceiling, the
borrower would not pay interest charges higher than the
ceiling. This can eliminate the potential of higher interest
expense in the future while still retaining the possibility for
lower interest expense when interest rates remain low.

**Forward Rate Lock**

Using this strategy, a borrower can arrange a series of
loans over a number of years and lock in a pre-determined
interest rate. The rate will be higher than the current market
rate, but it may be an appropriate way to hedge against a
significant increase in rates occurring down the road.

**Assessing the interest rate environment**

Any swap or hedging strategy needs to take into account
the outlook for interest rates. At the same time, it is
important to note that interest rate trends are inherently
unpredictable. Historic trends show that rates can rise or
fall quickly in certain environments. When such dramatic
changes occur, borrowers can be caught by surprise.
Hedging positions to prepare for potential changes in
interest rates can be an effective strategy. Borrowers need
to consider the current state of the interest rate environment
as they determine a suitable strategy for their loan portfolio.

In recent years, interest rates have hovered near historically
low levels. This has created favorable conditions for
borrowers regardless of whether they chose fixed rate
or variable rate loans. The extended period of low rates
made variable rate borrowing particularly attractive. This
environment will likely not continue indefinitely. One lesson
from the past is that a dramatic rise in interest rates can
occur over a short period of time. There are numerous
eamples. Between December 1976 and December 1978,
the Fed Funds\(^2\) effective rate rose from 4.17 percent to
10.84 percent. The Fed Funds rate stood below 8 percent
in June 1980 and by the end of that year had risen to
20.89 percent. From June to December, 1985, the Fed
Funds rate jumped from 7.95 percent to 13.46 percent.
More recently, from June 2004 to September 2006, the
rate increased from 0.94 percent to 5.27 percent. All
provide examples that interest rate spikes can happen in
short order, and often without much notice.
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In this current low interest rate environment, borrowers who have been increasingly dependent on variable rate loans may want to consider swapping for a fixed rate loan to help manage interest rate risk. This is one way to secure still low interest rates.

In circumstances when interest rates are at higher levels, borrowers may want to consider swapping their fixed rate loans at higher rates for variable rate loans, seeking to take advantage of the potential for an improving interest rate environment. Keep in mind, however, that future interest rate trends are difficult to predict.

Suitability for interest rate swaps and hedging strategies

Changes in suitability requirements have been implemented for interest rate swaps as part of the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010, for example, net worth requirements must be met in order to participate in the type of transactions discussed in this paper. A financial professional can provide more details about suitability requirements to participate in interest rate swaps or related strategies.

Risks associated with derivatives transactions

It is important to be aware of risks that are inherent in any transactions related to interest rate swaps and related hedging strategies. These include:

- **Opportunity Costs** – locking in a fixed rate may result in higher interest expense than the average of the floating rate over the same period.
- **Potential Mark-to-Market (Make-Whole)** – if the swap is unwound prior to maturity and interest rates have declined, the borrower may be subject to a termination cost.
- **Liquidity & Credit Pricing Risk** – the derivative contract is separate and distinct from the underlying loan. It does not create any commitment to lend or act as a source of funding. It represents a hedge of changes in a variable rate index only, not a hedge of the actual credit pricing on the underlying loan. Especially in instances where the derivative contract maturity extends beyond the loan maturity date, liquidity risk can result from a failure of the underlying financing to be extended along with the potential for changes in credit price at any renewal/amendment date.
- **Basis Risk** – it is possible that changes in the variable rate index used in the derivative contract do not perfectly mirror changes in the variable rates used to set the pricing on the underlying loan.
- **Settlement** – a risk exists that the counterparty will fail to make required payments. A weak credit profile can offer the potential for increased counterparty risk (increased settlement risk) on derivative transactions.
- **Tax & Accounting Issues** – any person or entity entering into a derivative transaction is strongly encouraged to consult with tax, legal and accounting advisors to determine appropriate tax and accounting treatment.
Conclusion
The need to effectively manage interest expense is an important part of any borrowing plan. The goal may be to limit interest expense or to gain a degree of certainty about the extent of future interest payments. Managing a loan portfolio can be challenging given the inherent unpredictability of interest rate trends. Interest rate swaps and other hedging strategies are tools that borrowers can use to try to reduce interest expense and/or mitigate interest rate risk.

The Private Client Reserve of U.S. Bank can leverage the capabilities of U.S. Bancorp Capital Markets' Derivative Products Group. This team of experienced specialists is focused on providing interest rate management strategies and products to U.S. Bank's high net worth and broader corporate banking clients. By providing our own professional capabilities in this specialized area, U.S. Bank offers the potential for more cost-effective access to swaps and other interest rate strategies that require the work of a derivatives team.

Our professionals from the Derivative Products Group can work directly with clients to review an existing loan portfolio. We'll provide an assessment of the interest rate environment and discuss potential strategies to position the portfolio in a way that is consistent with your objectives.

Contributed by:

David Crittendon
Managing Director of Banking, Colorado, The Private Client Reserve of U.S. Bank

Polly Ip
Vice President, Derivative Products Group, U.S. Bancorp Capital Markets

1 The London Interbank Offered Rate, a benchmark interest rate that some banks charge for short-term loans. This is commonly used to calculate rates on a variety of loans.

2 The interest rate at which a depository institution lends funds on an overnight basis to another depository institution. It is considered an influential interest rate in the U.S. economy since it affects monetary and financial conditions.