

VICTORY OVER VOLATILITY

How should treasurers manage interest rate risk? Will Spinney explains

It could be argued that interest rate risk can never be eliminated – only reduced – unless a business has neither debt nor cash, or only in small amounts.

In many businesses, interest rate risk is very much a centralised risk. The operating units don't influence financing and are measured on operating profit, with no account taken of interest charges.

For some businesses, however, the interest rate is a crucial input cost in much the same way that rent or labour might be for a manufacturing business. For example, airlines use expensive assets where the interest rate is a large component of leasing or financing costs. Customers ultimately must pay for any higher interest costs, assuming that they still want to travel.

Interest rate risk within a pension scheme is another aspect of interest rate risk. But it is possible to eliminate risk in a scheme, even if it presents many practical difficulties.

In private equity and similar situations, such as project finance or infrastructure projects, the return calculations (of which debt cost is one) can make a deal succeed or fail.

Finally, we must remember margin risk. Margin (the interest paid over the base of Libor, treasuries, etc) can bear as much risk as the underlying interest rate. Note that the classic responses to interest rate risk don't usually address margin risk.

A business may do better or worse depending on whether interest rates rise or fall. So it is important to consider any such possible link when managing the risk. Remember that governments tend to reduce interest rates in times of recession.

We often measure interest rate risk by seeing what happens with a change in rates, say up 1bp or up 1%, reflecting a parallel shift of the yield curve. (See Figure 1.) But interest rate risk is complex since the yield curve can move in many ways. (See Figure 2.)

One approach to measuring interest rate risk is to use an implied volatility from the interest rate options market and model what the business might look like under the range of scenarios predicted by the market. A higher volatility in interest rates points to higher interest rate risk.

Before we can consider a response to interest rates, we need to work out what is important to our business as this will lead us to a possible response. (See Table 2.)

A response to interest rate risk is often a simple fixed/floating ratio. It is not always clear what that is trying to achieve, however. It is far better to manage such a ratio with a particular aim in mind. The fixed/floating ratio is typically managed with interest rate swaps. Many studies have shown that, over long periods, floating rates are cheaper than fixed rates.

Finally, you should ask yourself: "What does my business look like if interest rates are X%?"

Figure 1
Parallel yield curve shift

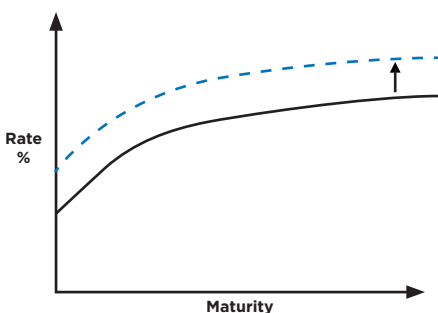


Figure 2
Some possibilities for yield curve shift

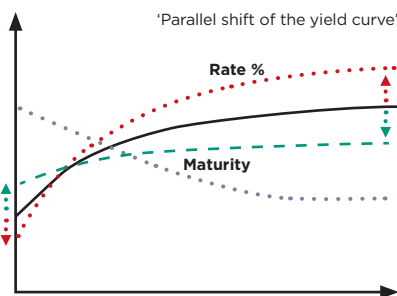


Table 1
Types of interest rate risk

Risk	Description
Risk over future interest payments or receipts (for investors)	The classic risk, related to underlying interest rates, such as Libor.
Risk on future capital purchases	For example, property, transport, utilities, private equity, infrastructure, etc. Can affect the fundamental nature of the business model and competitiveness of the company. The cost of future capital may require price increases on traded goods (for example, property or transport).
Risk over value of fixed-rate instruments	Mostly applies to investors with bond portfolio (and borrowers redeeming early). Applies to pension funds with defined benefit obligations.
Firms with higher financial risk (ie higher leverage)	Leveraged transactions (such as in private equity and project finance) will have high levels of financial risk from high debt, implying high interest rate risk.
Margin risk	A refinancing risk, applying to the next time a margin is set for the borrower.

Table 2
Key performance indicators and risk responses

Risk	Risk feature	Possible response
Risk of future interest receipts or payments	Probability of breach of covenant in debt facility	Manage fixed/floating ratio of debt. More fixed rate should be taken on when volatility is high.
Risk on future capital purchases	Ability to raise prices over a time period	Manage fixed/floating ratio of debt. More fixed rate may be taken on when ability to raise prices is weak.
Linkage between business performance and interest rates	Correlation of interest rates and business performance over cycles	Businesses that do better when interest rates rise should have lower fixed-rate debt and vice versa.
Risk inside pension schemes	Change in funding level for a change in interest rates	Detailed hedging of cash flows.
Leveraged transactions	Probability of breach of covenant in debt facility	Manage fixed/floating ratio of debt. More fixed rate should be taken on when leverage is high.
Margin risk	Average time until complete refinance or time until next refinance	Refinance early and long if margin is historically low.

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