

A fine balance

Treasurers can realistically enhance value for their companies in two areas: balancing the benefits of reserving debt capacity for future financing needs against associated costs, and understanding when risks are worthwhile to hedge.

EVALUATING DEBT How much excess debt capacity and/or discretionary cash reserves are appropriate? Assuming that the treasurer has some latitude to adjust debt levels within the company's target credit rating range, the basic question is how much 'dry powder' should be retained in terms of debt capacity or actual cash on hand to meet contingent funding requirements. There is a balancing act between costs and benefits.

The hard cost of excess debt capacity is the value of the lost tax shield during the period that debt is below capacity. Note that the value of the tax shield is muted when individual tax rates applicable to interest income are higher than personal taxes on common stock dividends and capital gains. In the US, where dividends and capital gains are taxed at 15%, the tax shield is worth around two-thirds of its nominal amount (66% tax effectiveness), whereas in the UK, where the different personal tax rates are much closer to each other, the tax shield is worth closer to 90% of its nominal amount.

Another offset to the benefit of the tax shield is the credit spread cost on debt. Historically, most of the credit spread on investment-grade debt has not been reflected in subsequent default losses. There are two possible reasons why investors have demanded this risk premium on corporate debt:

- Investors do not like the binary outcome of owning investment-grade debt with a high probability of a low return and very small probability of a large loss. A very large number of bonds of different issuers would have to be bought to replicate the bell-shaped return distribution of other investments such as common stock.
- Because investors do not know which companies are cheating on their financials or are planning a leveraged buy-out, they must charge all issuers a premium for this risk.

Holding cash as a discretionary reserve can also be costly in that cash has a negative tax shield (basically, the flip side of the debt tax shield) because holding cash at corporate level imposes a second level of

ROGER HEINE LOOKS AT WAYS TO ENHANCE SHAREHOLDER VALUE THROUGH CAPITAL STRUCTURE AND RISK MANAGEMENT.

Executive summary

- Enhancing a company's value can be achieved through balancing appropriate debt capacity against costs, and knowing when to hedge risk.

taxation that would not be incurred if shareholders held the cash themselves. And funding discretionary cash with long-term debt additionally incurs a carry cost equal to the spread over Libor (assuming that the entire credit spread is a risk premium, as discussed above) at which the debt trades compared with the spread over Libor at which cash is invested on a nearly riskless basis.

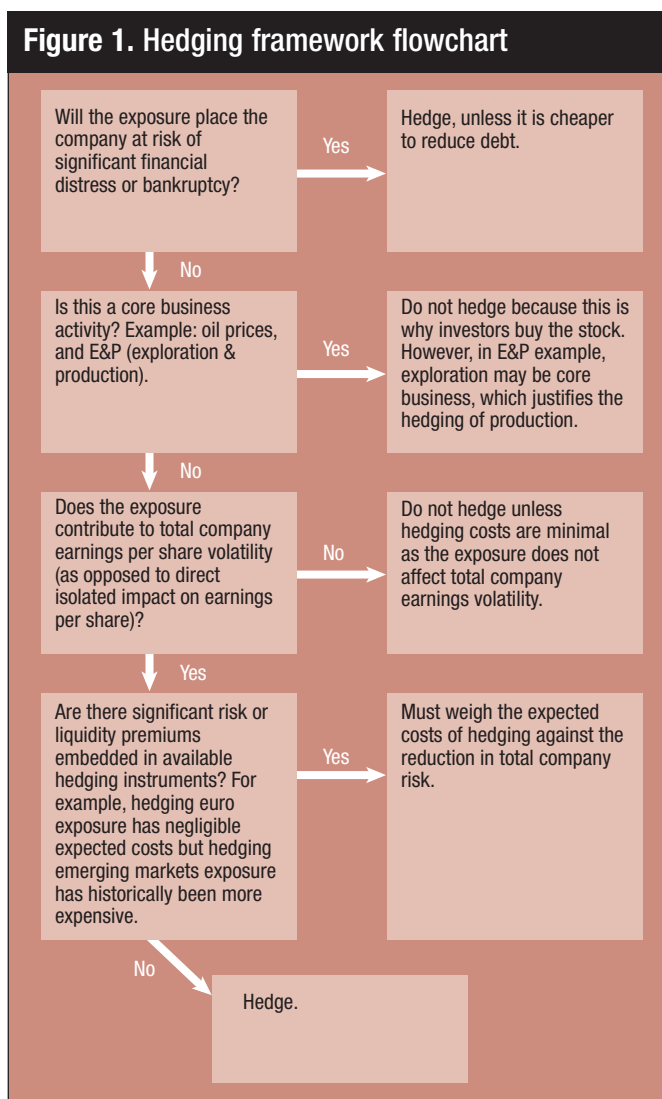
The benefit of excess debt capacity is that when funds are suddenly needed for an important value-adding investment, the company has ready access to low transaction-cost debt issuance without needing to resort to expensive equity issuance – and still remain within its rating target.

Equity issuance is expensive not only because of much higher transaction costs than issuing debt but also because equity issuance tends to signal that management believes the company's value has topped off and could lead to the perception that the company is undertaking low-return investments. Significant secondary equity issuance can require a share price discount of around 5% to get executed.

This cost/benefit analysis suggests that treasurers can quantify the ongoing opportunity costs of debt capacity and discretionary cash, compared to the continuing probabilities of various funding needs times the funding cost avoided due to maintaining excess debt capacity. For example, assume that a company could issue £1bn of



Figure 1. Hedging framework flowchart



debt within its rating target at 5.5%, or 0.50% above the 5% swap rate, with a 30% tax rate and 90% tax shield effectiveness. This implies an annual opportunity cost of not issuing the debt of about 1%.

When, then, is it beneficial to hold back some debt capacity? When the avoided expected cost exceeds 1%, which could happen if there was a 25% chance of needing to raise £1bn for an important investment and the cost of raising these funds above the rating's debt capacity exceeds 4%.

RISK HEDGING The hedging framework flowchart (see Figure 1) helps determine when hedging makes sense. From top to bottom:

- If the exposure is so great that it could bankrupt the company or result in severe financial distress, it is probably appropriate to hedge the risk. This assumes that appropriate cost-effective hedging instruments exist; otherwise debt reduction may be the only route to reducing risk. In deciding whether a risk is really this threatening, the company should consider whether it or its industry has the pricing power to pass along higher costs to customers. For example, in the airline industry, organisations appear to have had great difficulty passing on higher fuel costs; food companies, on the other hand, are generally able to quickly hand on changes in agricultural commodity costs.

- Assuming the risk does not threaten survival, companies should not hedge their core business activity because that is the "play" that investors buy the stock for.

- Does the risk actually contribute to overall company earnings per share volatility? If it doesn't, then the case for hedging is weak unless such costs are minimal. A very basic statistical formula quickly shows how adding relatively small risks to larger ones does not materially affect overall risk. If we let σ_T represent total earnings risk, σ_b the basic business earnings volatility and σ_r a distinct hedgeable risk with $cor(b,r)$ being the correlation factor, then:

$$\sigma_T = \sqrt{(\sigma_b^2 + \sigma_r^2 + 2 \cdot cor(b,r) \cdot \sigma_b \cdot \sigma_r)}$$

So, for example, if $\sigma_b = 100$ and $\sigma_r = 10$ with $cor(b,r) = 0$, then $\sigma_T =$ only 100.5! Even when the correlation is 0.5, the total risk still remains just 105.4. Only with $cor(b,r) = 1$ would total risk equal 110.

However, the organisational tendency is to compartmentalise risks and measure their impact on earnings in isolation from total company risk. The classic example is hedging interest expense by having fixed-rate debt: treasury management is assigned an interest expense budget as if interest expense were a normal

operating expense, and treasury management naturally reacts by limiting floating rate exposure. But for many companies with investment-grade levels of debt and typical earnings volatility, the added risk of floating-rate debt is immaterial.

Another organisational challenge is to overcome 'worst case' thinking. The management imagines, for example, that an adverse two standard deviation move could occur in both basic earnings and a hedgeable risk, yet the probability of this happening with two independent variables is only about six in 10,000. There are likely to be any number of highly unlikely adverse risks that the company cannot even contemplate, so why should this one be singled out for hedging?

- Should the risk be material in the context of overall company risk, the cost of hedging must justify the risk reduction. The really important component of the cost of hedging is the likely risk premium. For example, the term structure of US dollar interest rates has historically tended to overpredict the future path of short-term rates, implying the existence of a risk premium in the dollar yield curve.

Likewise, 'weak' currencies with high interest rates tend not to devalue against stronger currencies as much as implied by forward electronic foreign exchange rates, implying a risk premium in many emerging market currencies. Both the dollar and emerging market interest rate risk premiums are driven by natural demand to fix interest costs outstripping the natural supply of investors willing to

take the risk. Conversely, commodity forwards may frequently exhibit the opposite direction where risk premiums may favour those who lock in cost. Producers of commodities have historically been keener than consumers of commodities to hedge.

Finally, the default rates implied by investment-grade credit spreads have historically been much higher than actual default experience, implying that hedging investment-grade counterparty exposure is done with some expected cost. Conversely, the credit spread on debt that is not investment-grade has often been inadequate to compensate for subsequent default losses, implying that it may often be cost-effective to hedge non-investment-grade counterparty exposure.

In conclusion, treasurers can add value by discouraging hedging where there is no real material increment to total company risk and risk premiums are against the hedger, but should encourage hedging where either the risk is material to the company or risk premiums work in the hedger's favour.

Any opinions or recommendations expressed in this article are those of the author and not necessarily representative of Deutsche Bank. The issue will also be discussed at The Treasurers' Conference 2006.



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