Borrowing and depositing alternatives

What are the borrowing and depositing alternatives for short-term liquidity management? Geoff Henney of the Bank Relationship Consultancy explains.

Short-term liquidity management is by no means the most complicated of the many tasks facing the treasurer. But it is important to remember a number of factors to ensure that valid decisions are being taken in regard to alternative borrowing and/or depositing opportunities.

Experienced treasurers know that neither the real cost of borrowing nor the actual return on deposits are simply to be found in the prices quoted by banks. However, it can do no harm to remind ourselves of the principles behind how borrowing and depositing options are evaluated. This article will compare the cost of overdrafts with money market borrowings and explore the implications of borrowing/depositing for different periods of time before reviewing how interest is calculated for particular investment instruments.

Borrowing: overnight vs. overdraft

When choosing between borrowing on overdraft and borrowing on the money markets, the treasurer's first instinct will be to compare the interest charges repayable on these borrowings. Typically, overnight money market borrowings attract a base interest charge (ie, Libor for the period in question) plus a margin of around a quarter of a percent, while interest on an overdraft is more likely to be charged at base plus 1% or more.

Knowing this the treasurer should also weigh up the implications of the differences in the way interest is calculated and paid. Whereas interest on overnight money market borrowings is calculated – and payable – on daily maturity, interest on overdraft borrowings is normally payable at the end of each quarter on the basis of daily debit balances. Hence interest on an overnight borrowing may need to be paid (and funded) up to 90 days earlier than for an equivalent overdraft borrowing. The compound impact of daily interest calculations can add to the effective cost of overnight funding as *Table 1* shows.

TABLE 1 Effective funding cost of overnight funding (%)

Nominal overnight rate	For 30 days	For 60 days	For 90 days
5%	5.01	5.02	5.031
10%	10.04	10.08	10.123

Accordingly, if a borrowing is funded in the overnight market at a constant rate of 10% from the beginning of an overdraft charging quarter, the effective rate that will have been paid at the end of that period will be 12.3 basis points (bp) higher than if the borrowing had been funded at a constant overdraft rate of 10% for the same period. Thus, appropriate adjustments need to be made to money market borrowings to draw valid comparisons with the overall costs of borrowing on overdraft.

While money market borrowings might appear to be a more cost-effective source of funding, generally speaking, the cost of money market borrowings must be more competitive at the beginning of the quarterly cycle than at the end, in comparison with overdraft borrowings, if their apparent advantage is to be held over the period of the corporate borrowing requirement.

An additional cost consideration is that overnight borrowings on the money market require a CHAPS payment to be made the next day to return the amount borrowed. Banks may charge anything from £4 to £20 for this service. Thus, in certain cases, the cost-effectiveness of any prolonged use of overnight borrowings over a concentrated period might be compromised by CHAPS charges.

Geoff Henney

Borrowing vs. deposit rates

The compound impact of interest calculations also comes into play when the treasurer is deciding whether cheaper borrowing costs/better investment returns can be obtained by borrowing/depositing for different periods of time (eg, a six-month period, two successive three-month periods or six successive one-month periods).

Clearly, such a decision may be highly influenced by the uncertain expectations of future interest rate movements. But there will be an additional compounding effect arising from payment/receipt of interest at the maturity of each of the shorter borrowing/deposit periods. Using as a benchmark a six-month interest period with interest paid on maturity and a sterling LIBOR rate of 6%, the rates that would be required so that successive shorter periods are economically equivalent to the six-month rate would be as follows:

one week	5.915%
one month	5.925%
two months	5.94%
three months	5.955%

As when comparing the costs of borrowing overnight on the money markets against borrowing on overdraft, the treasurer will need to strike a balance

between flexibility and cost. If the treasurer considers the cost difference of borrowing for six one-month and two three-month periods to be negligible, he/she may well opt for the latter, particular if there is short-term uncertainty on the future direction of interest rates. Clearly for comparisons between overnight money market borrowings and overdraft, and for those between different periods, the compounding effect has a more limited impact when interest rates are at their current historically low levels, but is a factor not to be forgotten if interest rates again approach double-digit levels.

The algebraic formula in *Example 1* below can be used to calculate the effect of compound interest on alternative investments over different periods. While not wishing to be accused of trying to 'teach our grandmother to suck eggs', we have included the formula for calculating the return and annualised yield when investing for different periods, including compound intervals, in sterling (ie, 365-day year). Of course, by replacing 'return' with 'cost' (ie, substituting 'Rp' with 'Cp' in the equation) the calculation can be used to calculate the cost of borrowing over different periods.

Alternative investment instruments

Although excess funds are frequently invested in time deposits (ie, for periods longer than overnight) held at lead banks, this is only one of a number of options available for the investment of short-term cash surpluses. As time deposits offer the depositor no legal right to repayment prior to maturity, the treasurer who is unsure as to how long such surpluses may continue will tend to keep his time deposits very short term.

If, as is all too likely, he subsequently finds that he is continually rolling over core liquidity on overnight deposit, this will inevitably limit the extent to which his company can take advantage of an upward sloping yield curve by investing for longer periods (thus, hopefully, enhancing his returns).

Many will be familiar with investment instruments such as certificates of deposit (CDs) and commercial paper (CP). CDs are issued by banks, while CP is offered by a range of issuers including sovereigns, financial institutions and industrial corporates. Once purchased, these negotiable instruments can be sold prior to maturity, such that the price obtained will be a reflection of how long it has been held and what interest has accrued in that period, together with an adjustment reflecting any change in interest rates that has occurred since the investment was made (this latter adjustment should incorporate only a small 'spread' that reflects the level of liquidity of the instrument). Hence, if a company had a level of core surplus cash which may or may not remain surplus, it could buy a three-month sterling instrument currently yielding 5.875% (compared with an overnight deposit rate of 5%) knowing if it needed cash before maturity it could sell the instrument.

EXAMPLE 1

$$Rp = \left(1 + \frac{i \times n}{365}\right)^{CI} - 1$$

$$Ya = Rp \times \frac{365}{p} \times 100\%$$

Therefore

$$Ya = \frac{365 \times 100}{p} \times \left((1 + \frac{i \times n}{365})^{CI} - 1\right)$$

Where:

Rp	=	Compound return for p days, where p is the total length of the investment period
n	=	Number of days in each compounding interval
CI	=	Number of compounding intervals (hence, p = n x CI)
Ya	=	Annualised yield from investment
i	=	Interest rate for compounding interval

Unless interest rates had risen in the meantime, the company would have earned a higher yield for the period in which the instrument was held than it would have done by placing a stream of overnight deposits. The benefit of the high level of liquidity in the certificate of deposit market is reflected in a lower yield offered (between 5bp and 12.5bp) compared with a time deposit of equivalent maturity.

Although the size of the commercial paper market is growing significantly, the sterling component remains rather small and the resulting limited market liquidity is reflected in CP yields varying between 0bp and 10bp above the bid rate for time deposits. Issuers of similar credit quality can be found in both the CD and CP markets.

The treasurer who is considering the use of such instruments must bear in mind the fact that they also differ from time deposits in terms of how returns are calculated. Furthermore, interest earned or due on instruments issued at a discount to their par value (ie, commercial paper) is calculated differently to instruments issued at par value, such as certificates of deposit (calculated on a yield to redemption basis).

Discount instruments – discount instruments such as commercial paper are bought at a discount to face value and then sold at a higher price which reflects the interest. No actual interest payments are made. Taking the example of commercial paper issued for three months at 97½ of face value, the annualised interest rate on the instrument if held to maturity can be calculated as follows:

EXAMPLE 2

Total return over three months = $2^1/_2$
Three months = 91days
Annualised return = $\frac{2^1/_2}{97.5} \times \frac{365}{91}$
= 10.28

Yield to redemption – this method relates to instruments, such as certificates of deposit, in which a number of interest payments are made during the lifetime of the instrument and the principal value may be greater or less than 100% although repayable at par on maturity. The yield is calculated as the discount rate which, applied to future coupons and principal payments, results in the current price.

EXAMPLE 3

A CD for GBP 1m is issued at 7% for one year. It is brought forward by a secondary buyer with 30 days to run at 6.25%

$$\text{The proceeds} = £1{,}000{,}000 \times \frac{36{,}500 + (7 \times 365)}{36{,}500 + (6.25 \times 30)}$$

$$= £1{,}064{,}531.52$$

The calculation below shows that seller of the CD earns a return higher than the 7% coupon on the CD, thus illustrating the additional returns that can be gained by investors in CDs when interest rates decline

$$\text{The yield} = \frac{(£1{,}064{,}531.52 - 1{,}000{,}000) \times 36{,}500}{335 \times 1{,}000{,}000}$$

$$= 7.03\%$$

The following calculation shows yield on the CD with just 30 days to run for the secondary buyer

$$\text{The yield} = \frac{(£1{,}070{,}000 - 1{,}064{,}531.52) \times 36{,}500}{30 \times 1{,}064{,}531.52}$$

$$= 6.25\%$$

Examples 2 and 3 both demonstrate the different methods by which yields are calculated for two of the alternative investment instruments which treasurers may utilise when attempting to optimise their short-term liquidity management.

Although they should not be an impediment to the pursuit of active short-term liquidity management, the administrative implications of such a strategy should not be ignored by the treasurer. As well as the dealing skills that are required, controls and procedures must be implemented to ensure borrowing and depositing is conducted within boundaries agreed at senior level. Also, the treasurer must have access to same-day value funds transfer and should be recording transactions on a treasury management system.

While constraints on borrowing alternatives are normally imposed externally (ie size and credit status determines access to market), limits on deposits/investments are more often imposed internally. It remains the case that many corporates appear more comfortable with depositing surplus cash in time deposits than alternative investment instruments. Any investment strategy should be chosen with due consideration of liquidity, counterparty credit risk and sensitivity to interest rate changes. If not, it may be time to review the company's short-term liquidity management policy. ■

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