

Information bulletin

Funding fixed rate mortgages; why break-costs# are charged and how they are calculated

How is a fixed rate mortgage funded?

When a borrower enters into a fixed rate loan, they are entering into a legally binding obligation to pay interest at a fixed rate, based on a specified principal amount, over an agreed period of time. The fixed rate interest paid by the borrower is *income* for the lender.

In order to fund fixed rate loans, lenders typically in turn raise fixed rate funds, generally via entering into an arrangement known as a 'Fixed for Floating Interest Rate Swap' (swap) with a wholesale finance counterparty. Under the swap arrangement, the lender enters into a legally binding arrangement to pay out a stream of fixed interest payments to the swap counterparty, based on an agreed principal amount and period. As a result of this arrangement, the lender is locked-in to *paying out* fixed amounts over the term of the swap agreement. These *outward* fixed rate payments are an *expense* to the lender.

By having: (i) a legally binding arrangement with the borrower to receive a flow of fixed rate interest *income*, and (ii) at the same time having a legally binding arrangement with a wholesale swap counterparty to *pay out* a flow of fixed rate interest *expense*, the lender is 'hedged'. This means that the lender has matched its fixed rate interest *income* against its fixed rate interest *expense* obligations.

If a borrower was able to simply terminate their fixed rate obligation without any form of compensation to the lender, this could leave the lender with a funding mis-match. The lender's hedged position would become imbalanced (or 'unhedged'), because the obligation on the lender to *pay out* the fixed rate *expense* to the swap counterparty would still exist, but there would be no offsetting fixed rate *income* received from the borrower. Therefore when a borrower breaks their fixed

rate arrangement early, the lender must in turn unwind the fixed rate funding arrangement with the swap counterparty. In doing so, the break-costs charged by the swap counterparty to the lender will usually be passed on to the borrower. This unwinding process is described below, from the perspective of the lender and swap counterparty.

Note. Some lenders, including many banks, enter into internal hedging arrangements, whereby fixed rate funding via swaps is handled by a different internal department. Even where this is the case, the same concepts and processes usually apply.

How are fixed rate arrangements terminated?

Swap counterparties are legally entitled to receive their fixed rate income stream regardless of the lender's income stream. But a mechanism usually exists for the swap to be unwound. In simple terms, this occurs by the lender buying-back the swap contract from the swap counterparty to unwind the agreement at the then prevailing interest rate. Depending on how interest rates have moved over time, the cost of unwinding a swap agreement can be substantial.

A simple example can be used to illustrate the concept of unwinding a swap.

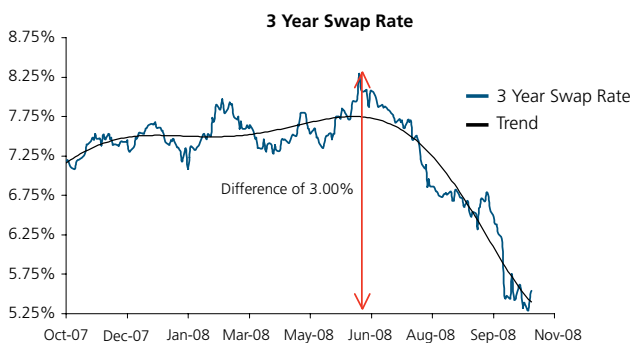
On day one, a lender enters into an agreement with a swap counterparty in relation to \$100 principal to pay interest at a fixed interest rate of 10% p.a. for a one year period. The fixed rate interest works out to be \$10.00 in total. Overnight, a financial crisis hits and interest rates plummet the very next day to 7%. As the result of a borrower request, the lender needs to immediately unwind the swap position. The swap counterparty is entitled to receive \$10.00 in interest and they will not

settle for less. But they do recognise that if they get their \$100 principal back today, they can reinvest the money at 7% for the year, generating total income of \$7.00. The swap counterparty agrees to unwind the swap, provided that they get the \$10.00 of total income to which they are entitled. A break formula is agreed whereby the swap counterparty will derive \$10.00 in total; \$7.00 will come from the interest which they will now be able to earn on the principal, which leaves \$3.00 which must be paid by the lender as a fee. Under this formula, the swap counterparty will not be disadvantaged.

The above illustration, which deliberately over-simplifies a complex situation, explains why fixed rate break-fees are charged and summarises the concept of how they are calculated. The dramatic rate reduction in this illustration demonstrates that the more interest rates fall, then the higher any fixed rate break-fee will be. In addition, a longer length of time remaining on the fixed term will also result in a higher break-cost to make good the swap counterparty.

What has happened to swap rates over the last 12 months?

Fixed rate loans are priced against long-term swap rates, such as the 3 year swap rate. In general terms, swap rates price-in rate movements expected to occur in the future, during the duration of the swap.



The above chart displays the 3 year swap rate over the last 12 months. Since June 2008, 3 year swap rates have fallen by 3%, due to expected future falls in interest rates.

How might the changes in swap rates affect my borrowers?

In a situation where the swap rate has fallen during the period between the interest rate being initially fixed and the time where a break-cost quote is obtained, the swap counterparty will wish to ensure that they are compensated for the income that they will forego. In order to unwind the remainder of a swap commitment, the swap counterparty will require any potential income forgone to be paid as a lump sum. The calculation is explained below.

As shown by the chart previously, over the last six months swap rates have fallen considerably. The outcome for borrowers who have fixed their interest rate over recent times, and are exploring the option to break the arrangement and revert to a variable rate, is that break-costs being quoted at this time are significant.

What are the factors contributing to break-costs and how can I calculate an approximate break-cost for my customer?

The following factors contribute to fixed rate break-costs and can be used together in the formula below to derive an approximate break-cost.

$$ABC = FP \times \left(\frac{RT}{365} \right) \times DS$$

Approximate Break-cost (ABC)* = The break-cost charged by the wholesale swap counterparty, that will be passed-on to the borrower.

Remaining Term (RT) – the remaining term of the fixed rate arrangement (in days).

Difference in Swap Rate (DS) – the total change in the applicable swap rates from: (i) the swap rate reflecting the applicable fixed rate term, as at the time the fixed rate arrangement was entered into; to (ii) the swap rate reflecting the remaining unexpired term, as at the date on which the break is being quoted.

Fixed Principal (FP) – the amount of principal at a fixed rate.

A working example*

A borrower elects to fix \$312,000 of their loan principal for 5 years on 25 July 2008. The 5-year swap rate as this date was 7.45%. With significant drops in variable rates, the borrower decides a few months later to inquire about breaking the fixed rate arrangement. The 5-Year swap rate on the break-cost quote date of 9 October 2008 is 5.65%, a difference of 1.80% from the time at which the loan was originally fixed. The remaining fixed term for this customer is approximately 4.8 years (1750 days).

Using the formula above, we can roughly estimate the income the swap counterparty in the swap arrangement will stand to lose.

Approximate Break-cost = \$312,000 x (1750 / 365) x 1.80% = \$26,926.03

There are also administration costs charged by both parties involved in the swap rate arrangement, including the swap counterparty's administration fee of \$250 ** and the lender's fixed rate administration fee of \$300†, which together bring the approximate total break-cost to **\$27,476.03**.

Conclusion

Swaps are used to fund fixed rate loans. The costs associated with funding via a swap are generally passed on by the lender to the borrower. When breaking a fixed rate swap agreement prior to its end date, fixed rate break-fees compensate wholesale swap counterparties for the loss of fixed rate income which they are contractually entitled to receive.

When a borrower enters into a fixed rate agreement, they are creating an obligation to pay the entire contracted fixed rate interest amount, either during the course of the agreed fixed rate term or, if they elect to break the agreement early, as a break-fee. In a falling interest rate environment, break-fees can be considerable. Generally, the more interest rates fall, then the higher the break-fees that will apply. In addition, breaking an agreement with a longer length of time remaining on the fixed term will also result in a higher break-cost.

Given the above, it is important to explain to any borrower contemplating entering into a fixed rate agreement how fixed rate agreements operate and how break-fees will apply if they decide to terminate the agreement early. For any existing fixed rate borrower contemplating breaking their fixed rate agreement, it is important to explain why break-fees apply and how they are calculated.

Fixed rate break-costs charged to borrowers are referred to in the loan documents issued by Challenger Mortgage Management Pty. Ltd./ Perpetual Trustees (Victoria) Ltd. as a 'Lender's Early Payment Loss'.

* For illustrative purposes only. Break-costs can be complex. Please contact Challenger for an estimate of the break-costs payable on any particular loan, so that we can take into account the specific circumstances relating to that loan.

** Swap counterparty's administration fee is current as at the time of publication and is subject to change without notice.

† CMM administration fee is current as at the time of publication and is subject to change without notice.