INTEREST RATE DIFFERENTIAL EXPLAINED

BACKGROUND:

Prepayment penalties are typically incurred when a borrower pays more towards principal than what is allowed under the prepayment privileges of their mortgage contract.

If a borrower pays down their mortgage beyond the prepayment privilege, the lender is owed compensation (penalty) by the borrower. In some circumstances that compensation is an Interest Rate Differential (IRD).

The purpose of this document is to explain in a simplified manner, what IRD is, the rationale for an IRD and why IRD can vary from day- to-day. Please note this document is for illustrative purposes only and meant to provide general information. The actual penalty applicable to your mortgage (and how it is calculated) is contained in your mortgage documentation.

HOW DO LENDERS FUND *FIXED INTEREST RATE* LOANS?

Lenders act as intermediaries between Savers and Borrowers. For example, a Lender might **pay a Saver a certain interest rate for a period of time**, perhaps by issuing a Guaranteed Investment Certificate (GIC), in return for the Saver's funds for that period of time (term).

Then the Lender would then **lend the funds to a borrower for the same term**, while incurring additional costs of approving, funding and administering the mortgage.

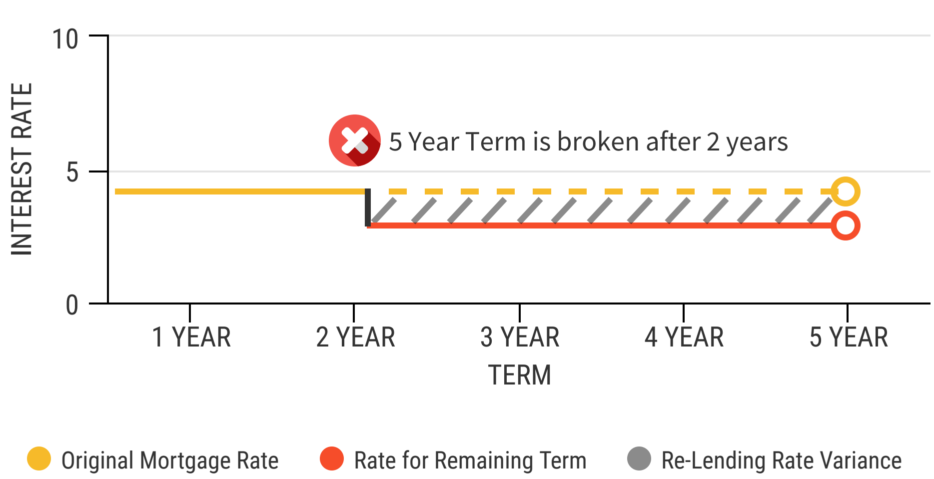
The cost that the Lender incurs (including the interest rate paid to the saver) can be expressed as an interest rate over the term of the mortgage. The Mortgage Interest Rate charged to the Borrower will be set to factor in the Lender's Cost and will be higher than the Lender's Cost.

Mortgage Interest Rate	**4.00%**
Cost of Funds	**- 3.25%**
Margin	**0.75%**

WHAT HAPPENS WHEN A MORTGAGE IS PAID OUT EARLY?

When a Borrower pays out their mortgage during the term, the Lender no longer receives interest on the mortgage, however the expenses related to the mortgage (the "Lender's Cost") still exist. If the interest rate available to re-lend funds for the remaining term of the mortgage is less than the Mortgage Interest Rate, there may be an IRD penalty due.

HOW IRD WORKS



In the example illustrated on the left, the original mortgage term was for 5 years and the interest rate was 4%.

After 2 years, the borrower decides to payout the mortgage. The interest rate available at that time for the remaining 3 years of the term is 3%.

The difference between the 4% Mortgage Interest Rate and the 3% available on a 3-year mortgage term represents a Re-Lending Rate Variance. The shaded area represents the interest shortfall.

WHAT CAN IMPACT IRD FROM ONE DAY TO THE NEXT?

IRD is a formula typically* composed of three components:

1. The difference between two interest rates (“Re-Lending Rate Variance”); typically, the Mortgage Interest Rate and the interest rate that is available for the remaining term, **and:**
2. The balance that is subject to the penalty, **and:**
3. The time to maturity

A simplified expression of the IRD is:

IRD = Principal Amount (A) x Re-Lending Rate Variance (B) x Time to maturity (C)

Since the principal amount **(A)** is paid down over time and the time to maturity **(C)** is also reducing as time passes during the term, these two elements have a reducing impact on the IRD.

When the IRD increases from one day to the next it is because the “Re-Lending Rate Variance” has increased. Increases in the Re-Lending Rate Variance are caused by the rate available to re-lend the funds for the remaining term having been reduced. This is a result of either:

1. A reduction in the current interest rate for the remaining term, **or**
2. The ‘remaining term’ used in the calculation having changed to a term with a lower interest rate because of the passage of time (was using the 3-year rate and now using the 2-year rate with a lower rate).

A small change in the current interest rate can have a large impact on the Re-Lending Rate Variance, and thus a large impact on the IRD penalty.

EXAMPLES

Let’s look at an example of the same mortgage in two different interest rate scenarios where the mortgage particulars are:

- Balance at payout: $300,000
- Mortgage Interest Rate 4%
- Term/Payout = 5 Year Term with payout occurring at the end of 2 years (with 3 years remaining).

In both scenarios, the interest rate for the remaining term decreases by 0.1%, and the impact on the IRD will be an increase of $900.00. However, because the change the “Re-Lending Rate Variance” is greater in scenario B, the relative impact on the change in IRD is greater.

Using the simple formula:

IRD = Principal Amount (A) x Re-Lending Rate Variance (B) x Time to maturity (C)

SCENARIO 1: Interest Rate for the remaining term reduces 0.1%, from 2.5% to 2.4%

$300,000 x (4.0 – 2.5) x 3 years = $ 13,500
$300,000 x (4.0 – 2.4) x 3 years = $14,400

Penalty went up $900 or 6.7% ($600/$13,500) as the Re-Lending Rate Variance increased 6.7% (0.1%/2.5%)

SCENARIO 2: Interest Rate for the remaining term reduces 0.1%, from 3.6% to 3.5%

$300,000 x (4.0 – 3.6) x 3 years = $3,600
$300,000 x (4.0 – 3.5) x 3 years = $4,500

Penalty went up $900 or 25% ($900/$3,600) as the Re-Lending Rate Variance increased 25% (0.1%/0.4%)

*Some IRD calculation can have more than three components, see your mortgage documents for details.

WHY IS THERE A PENALTY?

The penalty is meant to compensate the lender for the borrower prepaying the mortgage before the maturity date. The penalty details are contained in the mortgage documents.

HOW CAN I REDUCE THE PENALTY?

If you are purchasing a new property, consider requesting a Port of the mortgage terms (if available and subject to approval) to the new property.

If you are just looking to transfer your mortgage to another lender, consider if the reduced interest available with the other lender offsets the cost associated with breaking the term. **Generally, when interest rates are dropping and refinancing looks attractive, the penalties associated with paying out/transferring the mortgage go up as well.**

CAN IRD BE REDUCED?

The penalty is a contractual term meant to compensate the lender. Reducing the penalty will mean the lender is giving up on being compensated for the cost of paying the mortgage off before the term is ended.

WHY CAN'T WE PREDICT PENALTIES FOR IRD?

As mentioned on page 2 (What Can Impact the IRD From One Day to the Next), the Interest Differential is impacted by the interest rates available to re-lend funds for the remaining term. This can change at any time based on the interest rate environment and is not predictable.