BMO Insurance

Guaranteed Market Indexed Accounts

A Behind the Scenes Look

BMO Insurance

We're here to help.™

GIC returns not impressing you these days?

The ups and downs in the equity market making your stomach churn?

When it comes to making additional deposits to a universal life policy, how can you get exposure to equity market performance and net rates of return that are guaranteed never to be negative?

There is a way – **Guaranteed Market Indexed Accounts (GMIAs) from BMO® Insurance.**

GMIAs are 10 year term investment accounts which have been designed for individuals looking for a fixed income solution with the upside potential of returns linked to equity market performance – this combination ensures that returns are guaranteed never to be negative!

Simply put, a GMIA uses a combination of 10 year bonds and call options to support a minimum guaranteed rate of return while participating in equity linked returns.

Ten Year Bond + Call Option = **GMIA**

Guaranteed Market Indexed Accounts

The only universal life investment account of its kind in Canada.

This powerful combination has been created by BMO Insurance through its partnership with BMO Capital Markets.

BMO Capital Markets is a leading North American financial services provider offering investment and corporate banking, advisory services, treasury and market risk management, institutional investing, and research.

BMO Financial Group is one of North America's 10 largest financial institutions, as measured by market capitalization (Bloomberg, as at August 26, 2014).

How is the interest rate calculated on a GMIA?

At the start of each year, BMO Insurance establishes the following **Interest Crediting Factors** that it uses to calculate the interest rate that will be payable on each GMIA Series at the end of the year:

- **Hurdle Rate:** The minimum rate of return that the selected market index must meet before BMO Insurance will pay any interest
- **Participation Rate:** The proportion of the positive return of the selected market index that BMO Insurance will pass on to the client
- **Cap Rate:** The maximum interest rate that BMO Insurance will use to calculate the actual amount of interest payable
- **Minimum Rate of Return:** the least amount of interest that a client will receive

The actual one year return of a selected market index (eg. S&P 500 or S&P/TSX 60) which BMO Insurance will not know until the end of the year.

This rate setting process is used to calculate the rate of return for each year in the 10 year investment term.

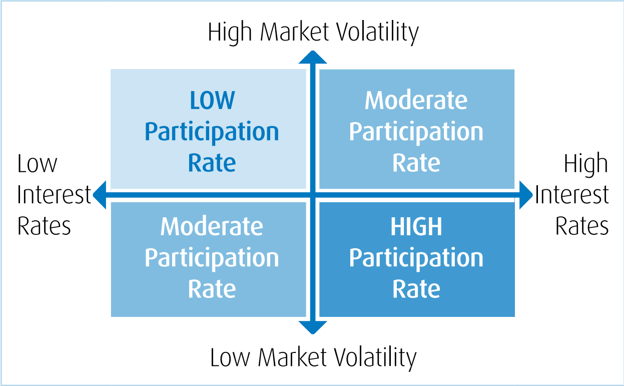
Key Considerations for setting the Participation Rate

The two most important elements that affect the Participation Rate on the GMIA are **interest rates** and **implied volatility**.

Implied volatility is the primary driver for options pricing. The higher the expected volatility in the equity market, the higher the call options pricing (all else being equal). Therefore, as implied volatility increases, the cost of obtaining equity market exposure increases.

In high interest environments, the amount of interest BMO Insurance receives each year from the bond used to set-up the GMIA means it has more cash flow to purchase call options. This can have a positive (upward) impact on participation rates.

Equity Market Participation



What is a Call Option?

Generally speaking, a call option is a contract that gives the purchaser the right to buy a security from a seller at a certain price by a certain date (called the expiry date).

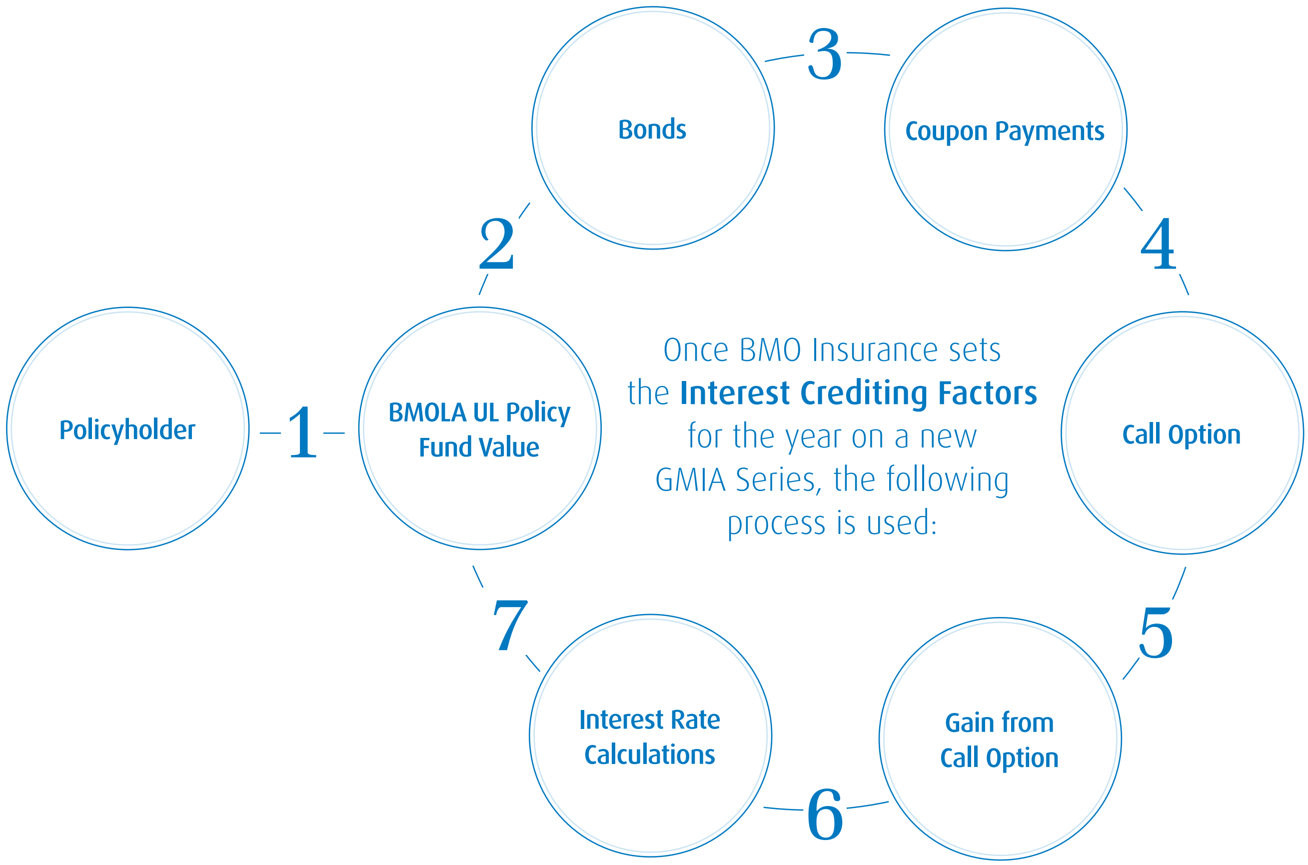
In the case of a GMIA on a universal life policy, BMO Insurance (the purchaser) enters into an agreement that gives it the right to purchase shares from a seller (such as BMO Capital Markets) in one year and at a pre-determined price.

For example, say BMO Insurance enters into an agreement with BMO Capital Markets for the right to buy 100 shares of a fund with performance linked to a specified market index at a price of $1,000 12 months from now. Let's say that the charge to BMO Insurance to enter into this option to purchase agreement with BMO Capital Markets is $50.

After a year, let's say that the market value of 100 shares in the fund increases in value from $1,000 to $1,200. BMO Insurance could then exercise the call option to buy the shares of the fund from Capital Markets for $1,000 and then sell the same shares on the market for $1,200, giving it a gain of $200. This gain contributes to the calculation of interest credited the fund value of the policy.

On the other hand, if the market value of the shares decreased from $1,000 to $800, BMO Insurance would not exercise the call option since there would be no increase in value to benefit from (but BMO Insurance would still have forfeited the $50 cost of purchasing the call option).

Here's a simplified step-by-step example of how the GMIA works



1. Clients make deposits to their BMO Insurance universal life policy and their net deposits[1] are allocated to the GMIA fund value.
2. BMO Insurance purchases a fixed income instrument, like a 10 year bond, to match the maturity date of the GMIA series.
3. The bond issuer pays coupon (or interest) payments to BMO Insurance.
4. BMO Insurance then uses its net income from the coupon to purchase call options which provides BMO Insurance the upside return of a given equity market index fund (ex. S&P 500 or S&P/TSX 60).
5. After 12 months, the pay-off from the call option (i.e. the increase in the value of the index) is credited to BMO Insurance.
6. At the end of each twelve month period during the 10 year term, BMO Insurance looks at the **Interest Crediting Factors** that it set at the start of the year in order to calculate the actual amount of interest to pay on that series.
7. The interest is then credited to the GMIA fund value of the policy.

This process of setting Interest Crediting Factors and then subsequently crediting interest is repeated every 12 months during the 10 year investment term until the maturity date of the GMIA.

This structure helps mitigate the risk associated with traditional bond fund strategies which are negatively impacted by increasing interest rate environments.

[1] Deposits made into a GMIA are after premium tax, the cost of insurance, administration fees and the cost of any other riders and benefits which are deducted from the Cash Value of the policy.

Let’s look at the GMIA in action!

Let’s assume a client deposits $10,000 into a GMIA Series on his universal life policy.

- At the beginning of the first year of the GMIA Series, let’s also assume that for this first year of the 10 year investment term, BMO Insurance establishes the following “Interest Crediting Factors”:
  - Cap Rate: No maximum
  - Hurdle Rate: 3%
  - Minimum Rate of Return: 0%
- BMO Insurance invests the deposit in a 10 year bond and receives a coupon payment. Assuming a net coupon payment of $210, this becomes "BMO's option budget".
- BMO Insurance then enters into an agreement (the call option) with BMO Capital Markets for the right to buy $10,000 worth of shares on a fund with performance linked to a given market index at a cost of $410

Using the above, the participation rate is calculated as follows:

Net coupon payment ("BMO's option budget")	**$210**
Assuming the cost of the Call Option for $10,000 is	**$410**
Index Participation Rate	**$210/$410 is approximately 50%**

The Participation Rate for the Series is therefore set at 50% (i.e. the “BMO’s option budget” divided by the full cost of the call option). In other words, at the end of the first year, the client will participate in 50% of the upside return of the market index.

Assume that, at the end of the year, the value of the shares increased by 20%. The following formula would then be used to calculate the credited interest rate which will be:

[The actual one year return of the market index **minus** the “Hurdle Rate”] multiplied by the “Participation Rate”

So, using this formula, BMO Insurance will pay:

(20% – 3%) x 50% = 8.5%

BMO Insurance will therefore credit a 8.5% rate of return to the GMIA fund value of the client’s policy.

Furthermore, if the index had a negative return (eg. -20%), the credited rate would be 0% since that was the minimum guaranteed rate of return set at the start of the year.

For complete information on Interest Crediting Factors, including the impact on the credited interest rate if there is a Cap Rate for a series, please refer to the GMIA Fact Sheets on bmoinvestpro.ca

To find out more about BMO Insurance products, please call your MGA, contact the BMO Insurance regional sales office in your area or call 1-877-742-5244.

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Ontario Region	**Quebec – Atlantic Region**	**Western Region**
1-800-608-7303	1-866-217-0514	1-877-877-1272

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GMIAs are not a short term investment. While funds can be withdrawn or transferred out of a GMIA at any time before the maturity date, any withdrawals are subject to certain restrictions and fees. On interest crediting dates, however, you have the added flexibility of switching to any other GMIA available at that time or to a fixed interest option with no penalty. Refer to the GMIA fact sheet on bmoinvestpro.ca for more details.

The information in this publication is intended as a summary of our products and/or services. Please consult the appropriate policy contract for details on the terms, conditions, benefits, guarantees, exclusions and limitations. The actual policy issued governs. Each policyholder's financial circumstances are unique and they must obtain and rely upon independent tax, accounting, legal and other advice concerning the structure of their insurance, as they deem appropriate for their particular circumstances. BMO Life Assurance Company does not provide any such advice to the policyholder or to the insurance advisor.

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