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## Equity-Linked Notes — An Introduction

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Equity-linked notes offer exposure to equity markets while guaranteeing principal protection at maturity. The equity-linked note (“note”) market has grown significantly in recent years and many different types of notes are available today. This wide range of product offers investment opportunities for a variety of investor profiles. For example, an investor who seeks equity exposure without risk to their capital is drawn to the principal-protection feature. An investor looking for enhanced return potential may prefer a note that employs leverage. Finally, an investor who is looking for alternatives to low-yielding fixed income investments should find the total return potential of an equity-linked note attractive.

As with all investments, an understanding of a note’s specific features, its risk-reward characteristics and the guarantee provider is essential to the investment process. In this publication, we discuss how equity-linked notes are created, the factors that impact market prices, liquidity and taxation, and provide a brief overview of the different types of notes in the marketplace. The best source of information on a specific issue is the *Information Statement*, which accompanies a new equity-linked note issue.

### **Variable-Rate Interest**

An equity-linked note does not offer a specified coupon rate or yield-to-maturity\*. The return on a note is a function of the performance of the underlying security and the note’s specific features. The increase in value of a note, if any, is called *variable interest*. Variable interest is paid to investors at maturity along with the original principal.

The underlying security may include common equities, stock indices, mutual funds or hedge funds. Features vary widely among notes. A brief explanation of the different types of notes available today is provided on Page 4.

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\*A small number of notes offer a nominal return that is payable at maturity regardless of the performance of the underlying security.

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## Creating an Equity-Linked Note

A simple way of visualizing how a note is created is to consider the combination of a strip bond and a call option (*Figure 1*). In a typical 5-year note, approximately 80% of available funds are used to purchase the strip bond, and approximately 20% to purchase a call option.

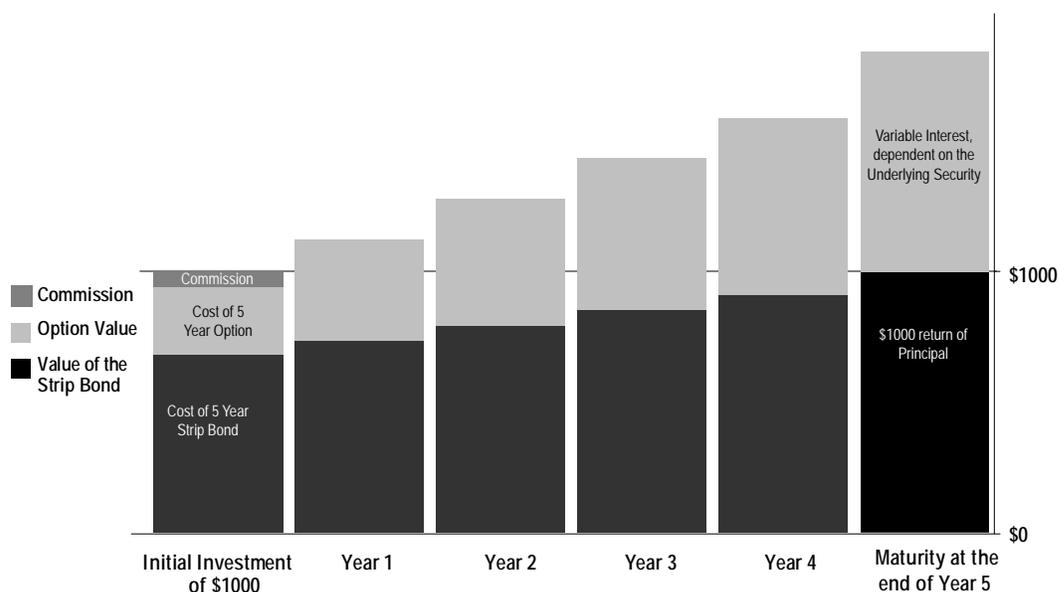
### Strip Bond

A strip bond is a debt security that is priced at a discount to par value. For example, a \$1,000 par value 5-year strip bond with a 4.5% yield-to-maturity would be worth approximately \$800 today. As a result of compounding interest, the strip bond will appreciate to its par value by maturity. The strip bond component ensures that the note will be worth *at least* \$1,000 at maturity. Strip bonds used in structuring equity-linked notes carry among the highest credit ratings of ‘A’ to ‘AAA’.

### Call Option

When an equity-linked note is created, a call option is used to gain exposure to the performance of the underlying security in a low cost manner. For example, a \$200 call option will provide the equivalent exposure to a security’s appreciation potential as a \$1,000 investment in the underlying security. At maturity, if the underlying security has appreciated above its initial value, the call option will have appreciated as well, and the note will generate variable interest. If, at maturity, the underlying security is below its initial level, the call option will expire valueless and no variable interest will be paid.

**Figure 1**  
Theoretical Illustration Of The Economic Components Of A Note



### Putting It All Together...

Let's assume that an investor wants to place \$10,000 in a newly created 5-year S&P 500 Index-Linked Note. The initial level of the S&P 500 Index is 1,120. If the Index is *down* 50% at maturity, the call option will expire valueless but the strip bond will be worth \$10,000. In this case, the investor will get their original \$10,000 principal amount back with no interest.

If the Index is *up* 50% at maturity, the call option will be worth \$5,000 and the strip bond will be worth \$10,000. Therefore, the investor will get their original \$10,000 principal amount back plus \$5,000 of interest — a return of 50% on the note.

### Participation Rate

In the above example, we assume that the performance of the note at maturity matches the appreciation in the Index exactly. However, in practice, the return on a note will not perfectly reflect that of the underlying security. The reason for this is that a note's *participation rate* will depend on the initial cost to create the note, as described below.

The more costly it is to buy the strip bond and call option components, the lower the participation rate will be. The cost of the strip bond component rises as interest rates decline. When *more* funds are required to purchase the strip bond, *fewer* funds will be available to buy the call option. The cost of a call option will be impacted primarily by the volatility of the underlying security and the term of the option. Generally speaking, the higher the volatility and the longer the term, the more costly the call option will be. The goal when creating an equity-linked note is to minimize the cost of the components in order to maximize the participation rate.

### Total Return vs. Price Return

Typically, the return on a mutual fund-linked note is made up of its total return, meaning a combination of price changes and dividend payments. Conversely, common equity and stock index-linked notes generally do not include reinvested dividends. As such, the return on these notes is generated solely from any price changes.

### Liquidity

It is possible to dispose of an equity-linked note prior to maturity, but there is no certainty of an active secondary market. Moreover, the value of a note in the secondary market may be higher or lower than par value. Pricing in the secondary market will depend on the value of the strip bond and the value of the call option. The strip bond will be impacted by interest rates and time remaining to maturity; the value of the call option will be influenced primarily by volatility, interest rates and time remaining to maturity. *The only certainty is that at maturity, even if the underlying security has not performed well, and there is no variable interest, the note will be worth at least the original principal amount.*

## Early Redemption Charge

Notes that are linked to mutual funds may be subject to an early redemption charge. This charge usually declines over time from over 5.5% of par value if redemption occurs within 90 days of inception to zero after two years.

## Tax Considerations

Generally speaking, Canadian equity-linked notes are eligible investments for registered accounts including Registered Retirement Savings Plans (RRSPs), Registered Retirement Income Funds (RRIFs), Registered Education Savings Plans (RESPs) and Deferred Profit Sharing Plans (DPSPs). When held in a non-registered account, the variable interest paid at maturity will be included in the investor's income as interest in the taxation year in which it is received. As well, an investor may realize a capital gain or loss on the sale of a note prior to maturity.

## Note Structures

A basic knowledge of the notes in the marketplace should help an investor choose one that suits their individual needs and objectives. The best source of this information is the *Information Statement*, which accompanies a new note issue. Below we provide a brief description of the different types of notes in the marketplace today.

## Option-Based Structures

### *Averaging Formula*

Variable interest is calculated using the average of a series of periodic returns on the underlying security. For example, values may be measured from inception to each of a series of quarterly *averaging dates*. Averaging dates may occur throughout the life of the note or during a specified period such as the final three years. At maturity, the sum of these returns is used to calculate variable interest. Averaging tends to 'smooth out' the overall return on a note. That said, the averaging formula is considered to be more prudent than having all of the note's performance based on a *single* maturity value.

### *Fixed Participation*

Among the most straightforward type of note is one that offers a fixed participation in the return of the underlying security at maturity. As discussed previously, a note's participation rate will depend on the initial cost to structure the note. Participation rates range from 60% to 100%. A fixed participation note will generate interest as long as the final value of the underlying security is higher than its initial value. The key risk to this structure is that variable interest is calculated based on a single maturity value.

### *Optimizing Structure*

A note that uses an optimizing structure is made up of a basket of equities, indices or mutual funds. At the end of each year, the return on the best-performing market (whether positive or negative) is locked in, and that equity is subsequently removed from the basket. Once removed from the basket, the note is no longer impacted, positively or negatively, by that particular market's performance. At maturity of the note, interest is calculated as the average of each year's best performance.

### *Periodic Cap*

This structure places a limit (or *cap*) on a note's upside potential. For example, the note's upside in each quarterly period may be capped at 10%. It is important to note that *upward* moves are capped but *downward* moves are not capped. As such, if the underlying security were to drop sharply, the cap mechanism could hinder a recovery in the note's value from the depressed level. The success of this type of note is dependent on the underlying security being relatively stable from quarter to quarter.

### *Yield Generation*

A yield generation note provides exposure to a basket of equities and employs certain features described in *Averaging Formula* and *Periodic Cap* above. The key difference is that a yield generation note offers a guaranteed coupon rate, such as 5%, in the first year. In subsequent years through to maturity, variable interest is linked to the performance of the underlying security subject to a periodic cap such as 10%. It is important to note that *upward* moves are capped but *downward* moves are not capped. In order to earn the maximum 10% coupon rate in any year through to maturity, every stock in the portfolio must appreciate by at least that amount. Except for the guaranteed coupon amount payable on the first anniversary date, it is possible that no additional interest will be payable.

## **Non Option-Based Structure:**

### *Dynamic Hedging*

A dynamic hedging structure has the same objectives as the option-based structures — to provide exposure to the targeted underlying security and guarantee the repayment of principal at maturity. However, there are several key differences to the way a dynamic hedging note achieves these goals. Specifically, it does not use options to gain exposure to the underlying security, and a strip bond is not purchased at inception to provide the principal protection.

Generally speaking, 100% of available funds are allocated to the underlying security at inception. The underlying security is usually an equity index or hedge fund. Throughout the life of the note, this exposure is actively monitored and managed by the guarantee provider. Subject to specific guidelines outlined in the terms of the issue, the guarantee provider will allocate available funds between the underlying security and a fixed-income portfolio, depending on how the underlying security is performing. During periods of

strong performance, the allocation to the underlying security will generally be increased. Conversely, during weaker periods, funds will be re-allocated to the fixed-income portfolio in order to reduce the exposure to the underlying security. Certain dynamic hedging structures use leverage to enhance the return potential from the exposure to the underlying security. A structure that uses *leverage* may be permitted to allocate as much as 150% of available funds to the underlying security. Typically, funds are borrowed from a Canadian chartered bank with borrowing rates varying widely from note to note.

The objective of the dynamic allocation process is to maximize the note's return potential while ensuring that, at a minimum, sufficient funds are available to repay the principal amount at maturity. If the underlying security performs well enough to ensure repayment of principal at maturity, no funds need to be allocated to the fixed income portfolio. However, if the underlying security significantly underperforms, it is conceivable that *all* available funds would have to be allocated to the fixed-income portfolio. In such a case, the note would take on the characteristics of a strip bond, and no further exposure to the underlying security would be undertaken. In order to avoid this situation, some structures impose a minimum exposure to the underlying security (such as 15%) under all market conditions in order to be able to participate in a recovery, if it were to occur.

Generally, the most favourable environment for a dynamic hedging strategy is one where equity market performance is strong and interest rates are flat or rising. All else being equal, rising interest rates are generally beneficial for this type of structure because, the higher rates are, the less costly it is to purchase a strip bond if that is deemed necessary. Dynamic hedging structures are generally more appealing to equity investors or investors seeking enhanced return potential.

### Summary

Equity-linked notes offer exposure to equity markets with the certainty of principal protection at maturity. The investment's unique features appeal to investors who are attracted to the equity markets but averse to losing any capital. They also appeal to equity investors who are seeking enhanced equity market return potential and those who seek higher return potential than what is offered on a GIC.

As with all investments, an understanding of the equity-linked note market, a note's specific features and the guarantee provider is essential to the investment decision. For further information on equity-linked note investments, and for guidance as to your personal investment objectives, contact your BMO Nesbitt Burns Investment Advisor.

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