# We Prefer Not To Call Out Autocallables

## Why Read This?

The Canadian preferred share market has been under pressure, and some participants are pointing to structured notes linked to preferred share ETFs as the source of the problem. We debunk the myths.

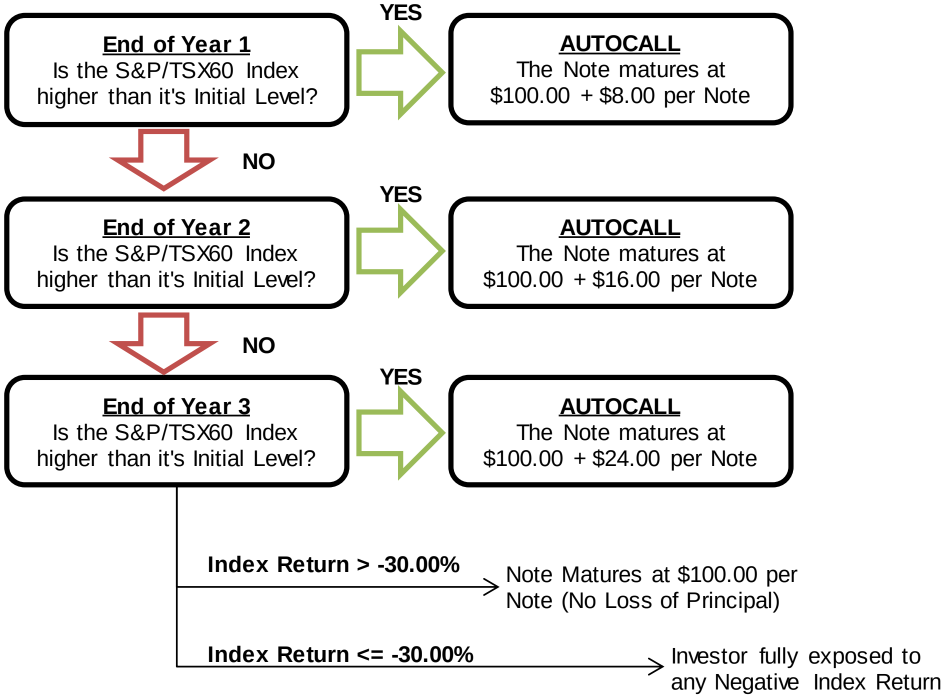
## What is an Autocallable Note?

Structured notes in general are a category of investment vehicles that provide the investor with a customized return profile to a reference asset. In English, this means that an investor can choose a payoff profile other than “long” and “short” to match their particular objectives. Examples of structured notes include principal-protected participation notes (receive some part of the upside but none of the downside), delta-one principal-at-risk notes to otherwise-unobtainable assets, and of course autocallables. These investments are issued by financial institutions and are sold under a prospectus or an offering memorandum.

The autocallable structure has become increasingly popular in Canada in recent years, as investors with a mildly bullish market stance seek elevated yields. These notes combine some elements of principal protection with yield enhancement and a degree of downside risk. The notes centre on an initial reference price level, and a series of observation dates. If the reference asset is up (relative to a pre-defined market price) at the observation date, the investor receives a fixed coupon (typically larger than the dividend yield of the asset), and the note is called. If the reference asset price is below the observation price, the investor keeps the note and has a crack at a larger coupon in the future. At maturity, if the reference price is down, but above a pre-defined barrier level (typically 20%-40% below issue price), the investor receives their principal back with no coupon. If the underlying asset is down below the barrier, the investor is fully exposed to the negative return.

Example (hypothetical autocallable note):

- Reference Asset: S&P/TSX 60™ Index
- Term: 3 Years
- Call Frequency: Annual
- Fixed Return: 8.00% per Annum
- Barrier: -30%
- Description: Notes are autocallable annually if the closing level of the S&P/TSX60 Index on an observation date is at or above its initial level. If called, an investor will receive a coupon equal to 8.00% per annum. If the Notes are not called, the Notes provide principal protection at maturity if the index return is greater than -30%. If the index return is equal to, or less than, -30% an investor will be fully exposed to any negative performance.




Source: Scotiabank

The net result is that in a gradually rising price environment in the underlying assets, many notes are called at the end of the first year. In that case investors may choose to purchase a replacement note to express their continued bullishness and (potentially) receive the coupon in a subsequent year.

Structured notes are generally decomposed into a series of options (vanilla calls and puts as well as exotics such as barrier options) and hedged as a portfolio of options by equity derivative desks. As a result, the principles that apply to options hedging translate into the notes market; price movements in the underlying assets result in hedging activities from the desks issuing the note.

## Hedging the Price Movement

Options desks typically end up on the other side of trades with investors, and cannot exit their options positions before maturity. Instead, they dynamically hedge the return profile of the option by adjusting their hedge positions in response to price movements. The P&L from the hedging will offset any money paid or received for the options position – and the difference is the overall P&L.

The auto-callable structure is typically “long gamma” from the perspective of the hedging desk. This means that the desk will be buying more of the underlying assets when prices drop, and conversely selling the rallies. The more prices fluctuate, the more opportunity there is to buy-low, sell-high. If the price fluctuation is more than the volatility assumption baked into the original options price, the desk will profit. If volatility is lower, the opportunity to buy-low and sell-high will be limited and the hedging desk will ultimately lose money. Clear as mud? We think so.

The bottom line: **We believe the growth of autocallable notes in any given asset class will increase the degree to which there is price support on dips, and selling on rallies.**

## What Does This Have To Do with Preferred Shares?

The preferred share market has attracted its fair share of autocallable notes, with the reference asset typically being an ETF with preferred share exposure, such as BMO’s Laddered Preferred Share Index ETF (ZPR). In the past year, we estimate (based on public filings over the past two years) that upwards of $250mm of notes may have been issued on ZPR alone, and more on other preferred ETFs. The autocallable note structure is fundamentally a long investment vehicle, and the hedges are long as well. As a result, ZPR note issuance would have led to buying of the underlying preferred exposure in the market.

Recently, the Canadian preferred share market has been under heavy pressure, with the overall preferred market down roughly 12% from the highs prevailing in early October. Conventional wisdom among those who know that autocallable notes exist, but who aren’t versed in their hedging, is that the price movement is exacerbated by note hedging programmes. In fact, the opposite is true: as the preferred market sells off, the note hedging programmes will need to buy more preferred share exposure (through ZPR, other ETFs, or preferred shares directly) to maintain their market neutrality. In fact, the return profile of the note requires some volatility to exist to facilitate the above-market yield offered by typical preferred share autocallables (on the order of 10%, significantly higher than the dividend yield of the preferred market).

Observant readers of the detailed description above will note that investors are exposed to all downside below a particular barrier. Yes, this is true – at maturity only. If a note is recently issued (i.e. in the last year or two), and has three years or more of expected life, the barrier is largely irrelevant. Moreover, with a 20% downside barrier, ZPR notes will have a typical barrier to the downside of 20%; that means that the structure does not result in selling at the barrier unless ZPR is in the vicinity of $9.15 at maturity (based on our estimate of ZPR note issue prices since November 2017). We are still far from that point today.

The bottom line: **Preferred share investors shell-shocked by the relentless downward spiral of their investments in the past six weeks should understand that dynamic hedging of the note structure isn't adding to their problems, but instead acts as a price stabilizer.**

## But Wait, Is There More?

Yes, there is more.

The one wrinkle to the utopian thesis of "notes are good for the market" is that ultimately investors in notes are not bound to stay invested forever. When a note is purchased by investors, the hedging desk establishes their long position and begins to dynamically hedge it. The banks selling autocalalble notes to investors stand ready to buy back those notes when the investor wants to pull the plug. By selling back the note, investors forfeit the coupon, and may lose some of their principal due to time value decay. However, the investor would free up cash that is otherwise tied up for the balance of the term of the note.

When investors buy preferred-linked autocallable notes, the hedging desk buys preferred exposure in the market. When investors choose to exit their note by selling it back to the bank, the hedging desk turns around and flattens their hedge by selling preferred shares in the market.

Cynical investors will turn around and say that "the note is selling the market" and exacerbating the sell-off. We take the other side: the "note" is doing absolutely nothing. If an investor chooses to exit their position, it is the investor's sale that is being reflected into the market by way of a bank managing their long hedges. We think that ascribing market weakness to the note structure rather than to the end investors is inappropriate. After all, one would not suggest that mutual funds are responsible for a selloff when investors redeem their mutual fund shares, or would they?

The bottom line: **Investors expressing a bearish view by selling their exposure using a derivative will impact the underlying market. This is true in all markets.**

## Word of the Day

Shell-shocked (adj.): mentally confused, upset, or exhausted as a result of a highly stressful or disturbing and often unexpected event or experience

Please do not hesitate to contact us if you have further questions.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