

## Autocallable Note Pricing

FinPricing provides valuation models for

Autocallable Note

Callable Yield Note

Callable Warrant

Callable Equity Range Accrual Note

Libor Range Accrual

Callable Libor Range Accrual Note

Callable Floating Coupon Note

Callable Quanto Option

Autocallable Notes are hybrid instruments that offer a higher coupon if they are automatically called. The automatic call condition is based on a reference asset. The auto call happens if the reference asset is at or above its initial level on predefined observation dates. If called, the investor receives the principal plus a coupon. The reference entity could be an equity, an index, or a basket of stocks.

If the reference asset level is below the initial price at one observation date, the investor keeps the note and has an increased coupon in the future. At maturity, if the reference price is down but still above a pre-determined barrier level, the investor receives the principal without coupon. If the reference asset is down below the barrier, the investor is fully exposed to the negative return.

Autocallable notes offer a coupon that is higher than regular fixed rate bond. It is suitable for investors who are seeking enhanced yield opportunities. Auto-call investments provide a contingent downside protection that protects the principal as long as the reference asset has not traded below the downside barrier.

Autocallable notes have become increasingly popular given investors can seek elevated yields at a bullish market. The notes combine the elements of some principal protection with yield enhancement and a downside risk. Essentially, an autocallable is a yield enhancing investment. The investor receives a higher-than-market coupon but takes risks not receiving any coupon if the reference asset is below the coupon barrier on the observation dates. If the reference asset price is higher than the initial price on an observation date, the investor is happy to get his investment back.

The most investments linked with an autocallable note are preferred shares, capital guaranteed notes, and barrier reverse convertibles. In fact, an autocallable note belongs to capital guaranteed products as its main feature is the potential for enhanced yield.

Autocallable notes have quite a few variations. For some simpler cases, one can use PDE to price. But in some complex situation, one may have to use Monte Carlo for valuation.

Reference:

<https://finpricing.com/lib/EqBarrier.html>