## **Accelerated Return Note Valuation**

An Accelerated Return Note (ARN) is a structured instrument that offers a potentially higher return linked to the performance of a reference entity that could be an equity, an index, or a basket of assets. The payoff depends on the performance of the underlying assets. Usually, it is capped but not floored, that means it does not offer any downside protection.

The note normally pays the holder an increased participation rate on its underlying asset were its returns at maturity to be positive, while exposing the note holder to a lower participation rate should the underlying asset's return at maturity be negative.

If an investor believes that the reference asset will increase in value, an accelerated return note is preferred. The higher returns are generated by the leverage through the use of derivatives. This product is risky as it is unsecured.

ARNs do not guarantee the return of principal at maturity and do not pay interest. Instead, they will pay the return based on the performance of underlying assets. The products offer an opportunity to earn a multiple, such as 3 times, of the positive performance of the underlying assets, up to a specific cap. On the other hand, they are also exposing you to any negative performance of the underlyings.

If the value of the underlying assets increases during the contract period, the payoff at maturity is the principal amount plus a multiple of that increase, up to the capped value. If the value of the underlying assets decreases during the period, the payoff is the principal amount minus the downside loss.

The product is subject to the credit risk of the issuer. Also, unique to this product is a fee structure that accrues based on the level of the underlying asset over the life of the option.

Due to the complexity of the structured note, Monte Carlo simulation is a popular choice for this product.

Reference:

https://finpricing.com/lib/EqLookback.html