

# Structured Ladder Forwards

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Designed to allow participation in the volatility of an underlying asset, the structured ladder forward allows risk-averse investors to capitalise on large price movements in varying market conditions.

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## Financial Engineering

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### Product Profile:

- Long-Term Investment
- Flexible Payoff Lock-In Feature
- Suitable for Various Market Conditions

### Investor Profile:

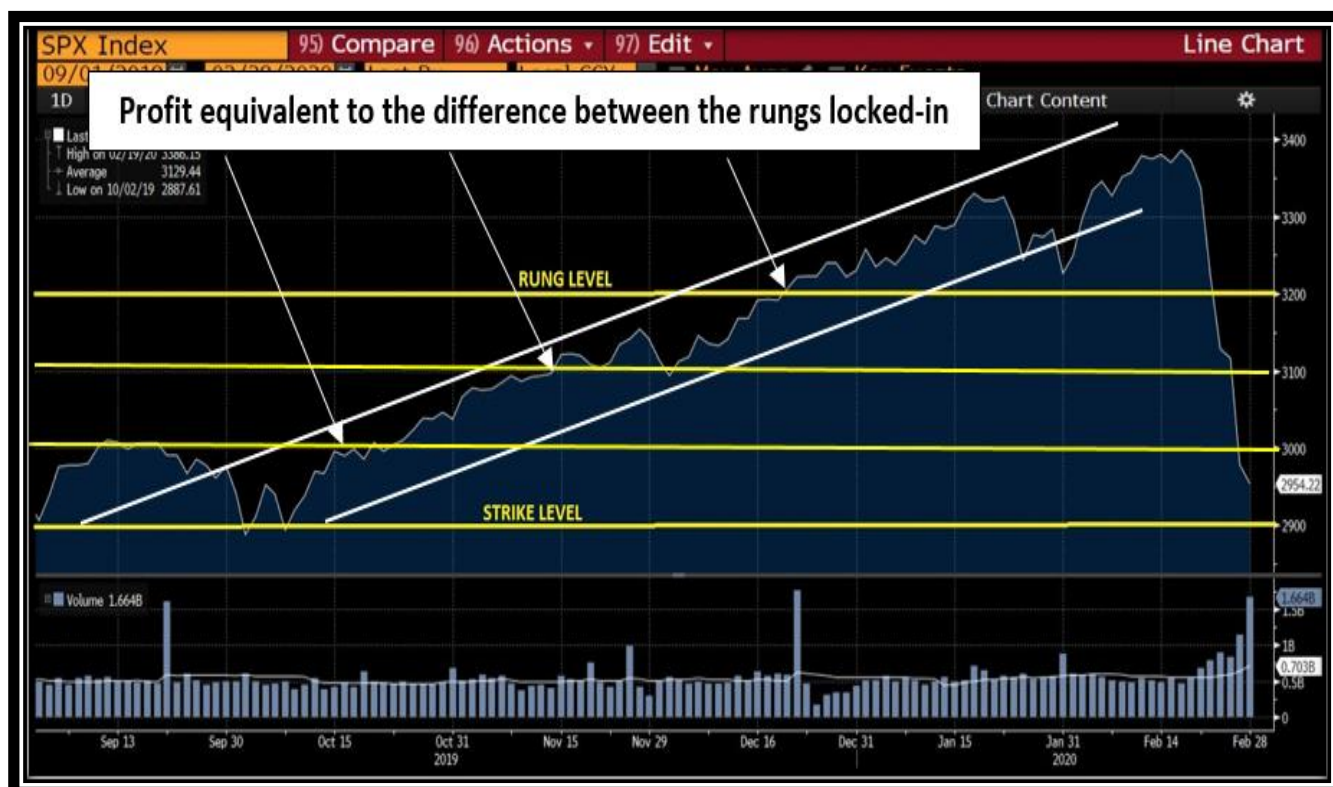
- High Net Worth Individual
- Forecasting Large Market Movements
- Seeking Exposure to Volatile Markets

## Product Description:

The Ladder Forward provides investors with complete exposure to an underlying asset, without the necessity of taking a physical position. This entails participation in both the upside and downside, with the important addition of conditional capital protection. Ultimately the structured investment product provides investors with a minimised risk exposure relative to a direct physical position.

Investors gain the benefit of owning both a call and a put option in addition to specific trigger levels called 'rungs' which reset every time a rung is breached, thus locking in a profit equal to the difference between the new rung and the old rung. Based on an underlying asset, the product will pay-off a pre-defined amount if a specific price level or **rung** is triggered before maturity of the contract. The pay-off is thus locked-in and paid out at expiry. The investors can take an exposure on the upside and the downside using a combination of ladder calls and ladder puts wherein the former facilitates participation in a bull market and the later facilitates participation in a bear market.

The presence of multiple rungs offers additional lock-in features to enable investors to lock-in profits throughout the life of the option. The product has the potential of being designed as a **zero-premium** product due to the offsetting call and put positions at initiation. If all the rungs fail to trigger prior to maturity, the investor risks losing the entire initial investment. Additionally, transaction costs, taxes, and broker commissions will still be applied on execution.



## Product Risks:

### Market:

- Since the product is based on European options, the investor risks being offered less than the initial cost of investment upon maturity.
- The non-linear nature of the product requires crucial delta hedging which will have to be carried out at market prices.

### Inflation:

- The conditional principle protection of the Ladder Forward might provide an attractive investment opportunity. However, in the absence of volatile movements, the returns might be subject to inflation risk which will subsequently reduce the real returns of the structured product over longer time horizons.

### Transaction:

- Although Ladder Forwards may be designed as a zero-premium product, transaction costs (sales commission, operational costs, and tax liabilities) still exist, and are borne by the investor.
- The ladder option is a leveraged market-linked product and hence may be subject to mark-to-market conditions which may accrue additional costs during the life of the contract.

### Liquidity:

- The OTC market for ladder options unlike the vanilla options operates in a thinly traded market with lower liquidity in the secondary markets. To offset the holding position the investor will have to sell it back to the issuer at a discount or accept a lower market value.

### Credit:

- The underlying derivatives might offer substantial return on investment, but the returns are subject to the issuers credit-worthiness.
- The issuers creditworthiness adds a layer of risk over the market risk and the downgrade of the issuers credit ratings might dampen the value the Ladder option.

## Payoff Distribution | Varying Market Conditions:

To assess an investor's return in various market conditions, the structured ladder forward has been backtested in three simulated scenario environments for the S&P 500. By assuming Bear (-10% Growth), Flat (0% Growth) and Bull (+10% Growth) market conditions, price paths have been simulated using a Monte Carlo Simulation.

It can be observed that during a bull market, the product would make a profit of 20% or above, roughly 90.8% of the time, indicating a highly profitable investment product for bullish investors. Conversely, in a bear market, the investor would generate profits approximately 5.4% of the time. There is a stark difference in the payoff distributions between market conditions, a risk a potential investor must bear as they commit to this investment product.

