Bad Investment Advice
and ways to avoid it

# Understanding Implied Volatility

## Historical volatility

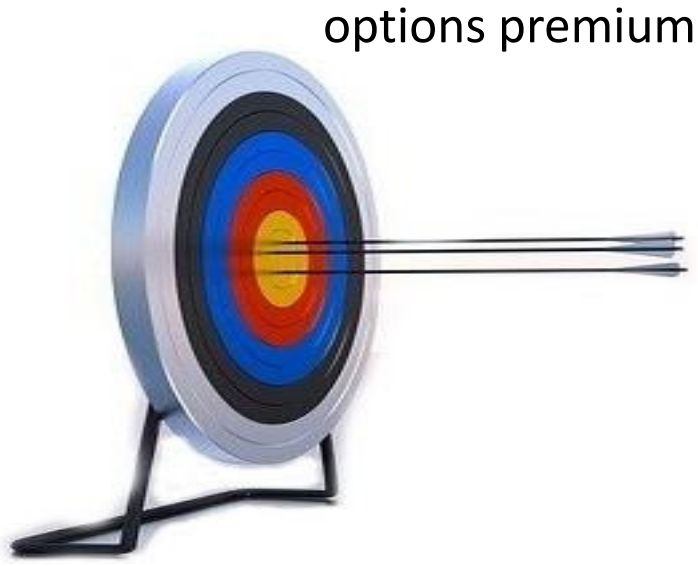
- actual past volatility

## Future volatility

- actual volatility in the future

## Implied volatility –

- the market expectation of future volatility baked into at-the-money options premiums.

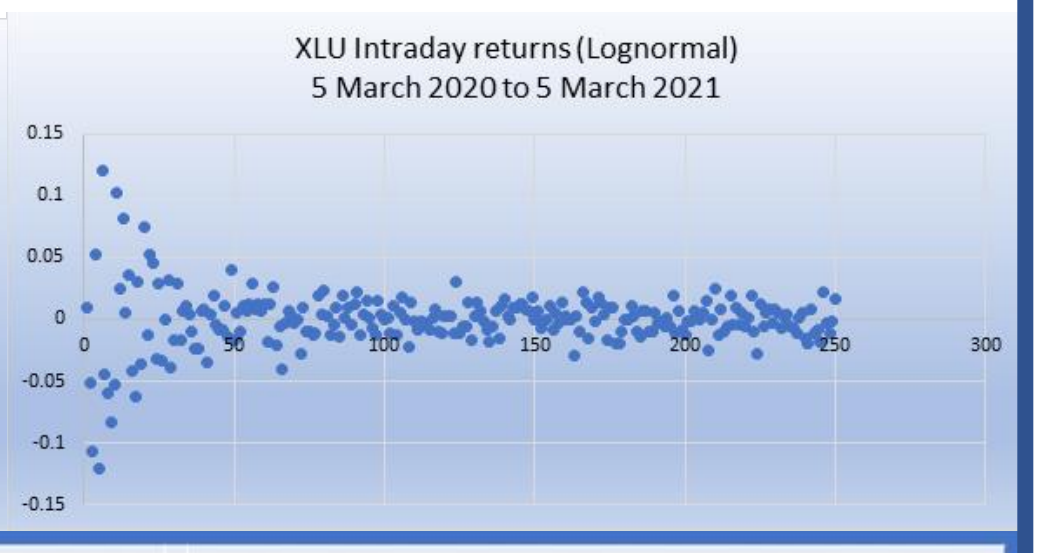


## Implied Volatility is calculated from

- the strike price
- the current price
- the time to expiry
- the risk-free cost of capital which is the current base interest rates
- any dividends that the underlying stock or ETF will pay
- the premium of at-the-money options

**Converting Annual Implied Volatility**

$$\text{Implied Volatility for N days} = \text{Annual Implied Volatility} \times \sqrt{\frac{\text{N days}}{365}}$$


| | ETF/Stock Price | | | | | | Volatility | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | ETF | Open | High | Low | Close | 52-week high | 52-week low | Implied Volatility (IV) | IV change | 52-week IV high | 52-week IV low | 52-week Historical Volatility high | 52-week Historical Volatility low |
| 5-Mar-21 | SPY | $380.46 | $384.76 | $372.64 | $376.70 | $394.17 | $218.26 | 32.13% | -2.25% | 86.00% | 16.00% | 93.00% | 7.00% |
| 5-Mar-21 | QQQ | $306.80 | $309.61 | $297.45 | $304.10 | $338.19 | $164.93 | 39.93% | -0.73% | 74.00% | 10.00% | 92.00% | 11.00% |
| 5-Mar-21 | XLU | $58.97 | $59.96 | $58.45 | $58.72 | $67.93 | $43.44 | 29.70% | -0.97% | 76.00% | 16.00% | 110.00% | 11.00% |
| 5-Mar-21 | GME | $128.17 | $151.53 | $127.50 | $132.35 | $483.00 | $2.57 | 98.00% | 74.15% | 386.00% | 48.00% | 678.00% | 43.00% |
| 5-Mar-21 | VIX | $29.48 | $30.03 | $24.33 | $28.57 | $85.47 | $19.51 | 155.08% | 57.99% | 202.00% | 9.00% | 308.00% | 53.00% |