

If Time decay is unhelpful to you long option positions, then it stands to reason that it will be helpful to your short option positions. You can see this by way of simple graphical representation **in** that now the Theta lines are positive, showing that Theta Decay is helpful to a short option position.

## Vega (also known as Kappa or Lambda)

Remember from Chapter 1 that there are seven factors that influence an option's price:

1. The type of option (Call or Put)
2. The price of the underlying asset
3. The Exercise Price (or Strike Price) of the option
4. The Expiration Date
- 5. Volatility – Implied and Historical**
6. Risk free interest rate
7. Dividends and stock splits

### memory tip

**V**ega starts with a **V** and stands for **V**olatility

Vega stands for an option's sensitivity to the **volatility**<sup>2</sup> of the underlying asset's price movement. This volatility is known as **Historical** or **Statistical** Volatility.

There are two categories of volatility: Historical and Implied.

<b>1 Historical (or Statistical) Volatility</b>	Derived from the standard deviation of the underlying asset price movement over a known period of time
<b>2 Implied Volatility</b>	Derived from the market price of the option itself

## Implied Volatility

The mechanical pricing of options involves complex mathematical formulae, which we don't need to explore here. There are also a number of different methodologies available for options pricing models, each with their associated merits. Typically I'll be tacitly referring to the Black-Scholes Options Pricing model (for stocks and

<sup>2</sup> On price charts, Bollinger Bands provide a good visual representation of volatility.