



BLACKWELL  
GLOBAL

# GETTING TO GRIPS WITH VOLATILITY

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# THE BLACKWELL ADVANTAGE

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Founded in 2010, we now have global presence in over 90 countries, with main offices in the separately regulated markets of Australia, Cyprus, New Zealand and the United Kingdom.

We believe that sound investment and trading decisions begin with a strong grounding in financial education. Our goal is to make this available to everyone - and this free eBook is part of that commitment.

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# 2017: GET SET FOR THE UNEXPECTED

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## FOREWORD

Volatility is a phrase that you will often hear in the financial media or read in articles or research about the financial markets.

But like much of the jargon you hear in conversations about finance, whilst we may be familiar with its usage, we may not be that confident in our understanding of what the term really means.

In this eBook we will set out exactly what volatility is and how it can affect the markets and traders.

**Patrick Latchford**  
**CEO, Blackwell Global Investments (UK) Limited**

# WHAT DO WE MEAN BY 'VOLATILE'?

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If we look up the word volatile in a dictionary we find it is defined as something 'likely to change suddenly or unexpectedly'. We also find synonyms such as 'variable' and 'turbulent'.

However in financial markets, the study and calculation of volatility is aimed at removing or at least quantifying this unpredictability through the observation of an instrument's price change over time.

More specifically, the aim is achieved by measuring just how much and how quickly the price of that instrument is likely to move, versus its historical averages. The level of volatility in an instrument is therefore a statistical calculation.

But it's important to note that this calculation tells us nothing about the direction of a price change in the instrument - though higher levels of volatility have historically been associated with sharp downward moves in price.

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As with much financial data, volatility levels for a given instrument, or group of instruments are expressed as a percentage or ratio. They range between 0 to 100. In practical terms however, we would not expect to ever see readings at either of these extremes.

# COMMON MEASURES OF VOLATILITY

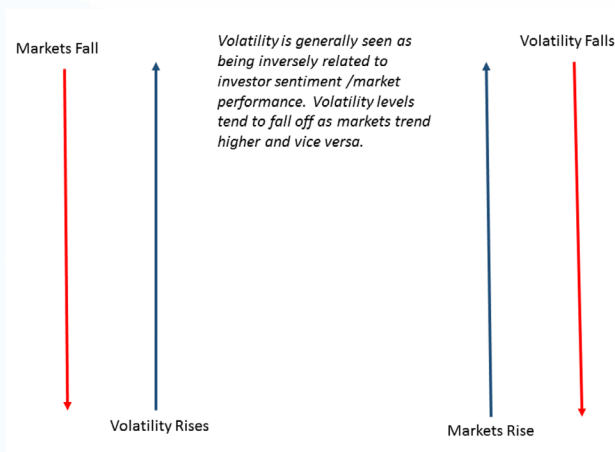
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Perhaps the most well known and often quoted measure of volatility in the financial markets is the CBOE VIX Index. This aims to quantify the level of volatility within the constituents of the US 500 index.

More specifically, it quantifies the level of volatility within options on the top 500 US equities (for our purposes here, that distinction is largely irrelevant). The VIX has been calculated since 1993 and given that longevity it is seen by many as the primary measure of investor sentiment, or as some commentators would say 'fear and greed' within the financial markets. The relationship between the VIX and the US 500 index is largely one of opposites. That is to say that by and large as the US 500 index rises, the VIX will tend to fall and vice versa. This does not always hold true, but research suggests that this been the case as much as 80% of the time ([see here](#)).

## The subtext to this relationship is as follows:

As markets rise (particularly during a longer term trend), investors become more confident and therefore the levels of fear or concern that they feel about potential losses diminish. At the same time their expectations about future levels of volatility also fall. Conversely if markets fall or trend lower over time, Investors feel less confident about future returns and become more concerned about possible losses. Their level of 'fear' rises, as does their expectation about future levels of volatility. When we talk about investors in this context we are referring to them collectively rather than as individuals.



## Other volatility measures

Measures of volatility are not just confined to stocks and stock indices. The statistical calculations that are used to generate volatility values can be applied to the data for just about any financial instrument or asset. This includes FX pairs and major commodities such as Gold and Oil. Indeed some studies endeavour to track the relationships between the levels of volatility in these different instruments, in order to provide an overall view of market sentiment and positioning.





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# EXPLORING FEAR & GREED

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As we have already noted, measures of volatility do not tell us anything specifically about the direction of price changes. Rather they speak to their frequency and range. Nonetheless the markets have chosen to view volatility measures as barometers of sentiment, which in the crudest terms are associated with two of the most basic of human instincts. Namely fear and greed. Crowd behaviour has been a function of market places since their formation. Indeed the body of traders within a trading pit or on an exchange floor was often referred to as the 'crowd' for this very reason.

Despite the fact that most trades are now placed electronically from participants who are remotely located from each other, the crowd still exists, albeit in a virtual fashion. In fact this crowd now has many more members than its real world counterparts ever did, thanks to the internet, high-speed connectivity and the growth of online trading.

The seminal work on crowd behaviour and its psychology was written some 175 years ago, by Scottish journalist Charles Mackay

who published under the somewhat lengthy title of 'Extraordinary Popular Delusions and the Madness of Crowds'. It's fascinating to note that many of the traits in crowd behaviour that Mackay identified, all those years ago, are still just as relevant today.

### **Trending markets/complacency**

It's often said that markets hate uncertainty (change and the unknown) and by extension they embrace continuity and predictable trends. Markets are happiest when they feel confident about the likely value of returns on future investments and the prospects for stability, as far as economic policy is concerned. In fact you might describe this as the 'Goldilocks scenario', as indeed some market commentators have.

### **Psychology**

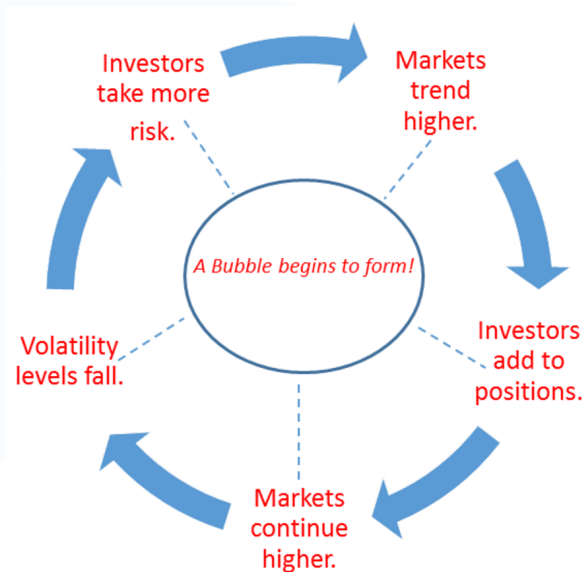
When investors find themselves in this situation 'greed' becomes the dominant sentiment. The 'fear' of loss is likely to be 'out-muscled' by the fear of missing out, or 'greed' if you prefer.

However, to use an old adage 'familiarity breeds contempt' - and under these circumstances (particularly when they form part of longer-term trend) investors will often take larger and less well thought out risks. This is because they believe the benign situation they find themselves in is unlikely to change - and that the strategies that they used previously which worked for instruments A, B & C in the past, will continue to work for instruments L, M, N, O, & P in the future.

## Reinforcing behaviour

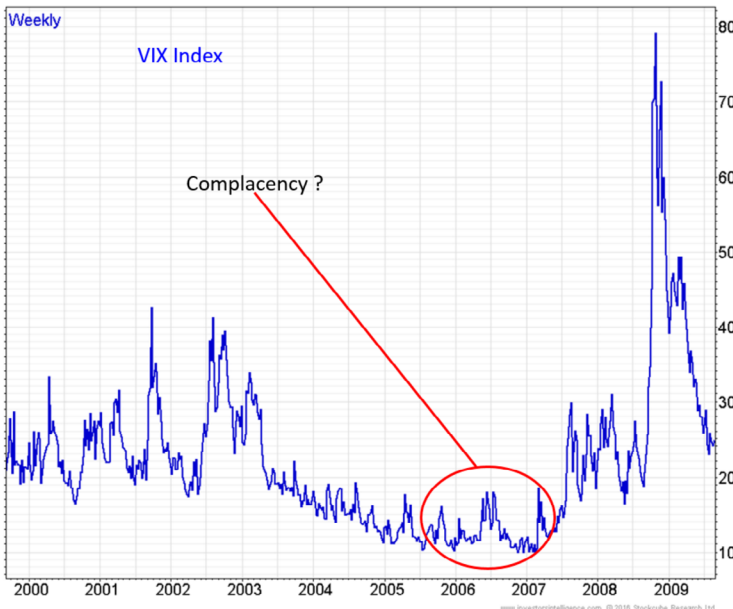
As the market continues to disregard the possibility of loss, so the value of volatility measures are likely to fall. An action which can in turn reinforce the bullish sentiment among investors (see the graphic below).

In the worst case scenario a bubble mentality can form amongst the crowd. This mentality dismisses any contra opinions or opposing views, believes its own publicity and seeks only to suck in new capital and participants to further inflate prices. Participants in a bubble have lost sight of the bigger picture and have forgotten about volatility completely. This has often been a fatal mistake.



## The storm after the calm

The chart below plots the VIX index during the period between 2000 and 2010. During the course of 2006 and 2007, the index dipped below the 20.00 level and frequently traded down to readings of as low as 10.00.



With the benefit of hindsight we could say that this behaviour exactly matches the characteristics that define complacency on the part of investors. If not the out-right 'bubble mentality' described above, it's at least complacency that was corrected by the ensuing credit crunch and the Global Financial Crisis or GFC.

## Sharp rises/catching fright

Markets and the behaviour of their participants tend to be cyclical in nature and as we have noted already, they are prone to crowd psychology, within which individuals act as part of a collective rather than thinking for themselves. This all too human trait is nothing new, in fact many of us will have learnt about it when we were infants, through the parable of the Emperor's new clothes.

If we stay with this theme, then the area to the immediate right of the red ellipse, in the chart above, is the dawning of the realisation by a few, that the 'Emperor is not really wearing any clothes at all'!

The extreme spike in volatility during the Autumn of 2008 is the point when the 'whole crowd' has finally realised its own folly and that he, the Emperor, is in fact 'totally naked'. But unlike in the fairy tale, no one in the market was really laughing then.

This was an extreme but not a totally isolated incident. After all we had seen similar, though admittedly smaller, sharp spikes in volatility in the 'dot com' bust of the early noughties and we would see them again in 2010 and 2012, as the crises in Greece and the wider eurozone unfolded.

# IS VOLATILITY NOW MASKED?

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Following on from the GFC and the recession it created, central banks were proactive in their efforts to support and stimulate the global economy.

During this period the world's central banks cut rates more than 660 times. The BOJ, ECB, Bank of England and the Federal Reserve all implemented Quantitative Easing or QE programmes (all but the Fed's programme are still active), under which the central banks 'printed' billions in underlying currency to buy assets such as their own government bonds.

This flood of money has supported not only bonds, but the price of many other assets as well. Most notably in the USA, where equities are in the midst of an unprecedented seven-year bull run.

Markets have got used to a near endless supply of cheap money and the prospect, with the introduction of negative interest rates in Europe and Japan, of 'free money'. In turn this has led to a prolonged downturn in volatility levels for most asset classes.

These downturns have been punctuated with occasional spikes higher. But they have not been robust enough to derail prevailing investor attitudes, which could be summarised as follows: downsides are thought limited whilst central banks keep printing and buying assets.

### **Shocks to the system**

When spikes in volatility have occurred over the last few years they have been a cause for concern. Though the lasting effects have been mixed. However, two occasions in recent times do stand out from the crowd. These are the 'Swiss Franc incident' that occurred in mid-January 2015, when the Swiss National Bank decided to abandon its attempts to weaken the Franc and to let the Swiss currency find its own level.

We have also seen two sharp spikes in volatility resulting from a drop in the pound sterling. Firstly after the shock Brexit referendum result, at end of June 2016 and again on the morning of the 7th of October 2016, when the pound fell by as much as 6% in thin Asian trade. The circumstances behind these events were not typical, it's true. But they highlight just how sharply the prices of even the most liquid of assets, can move in adverse circumstances.





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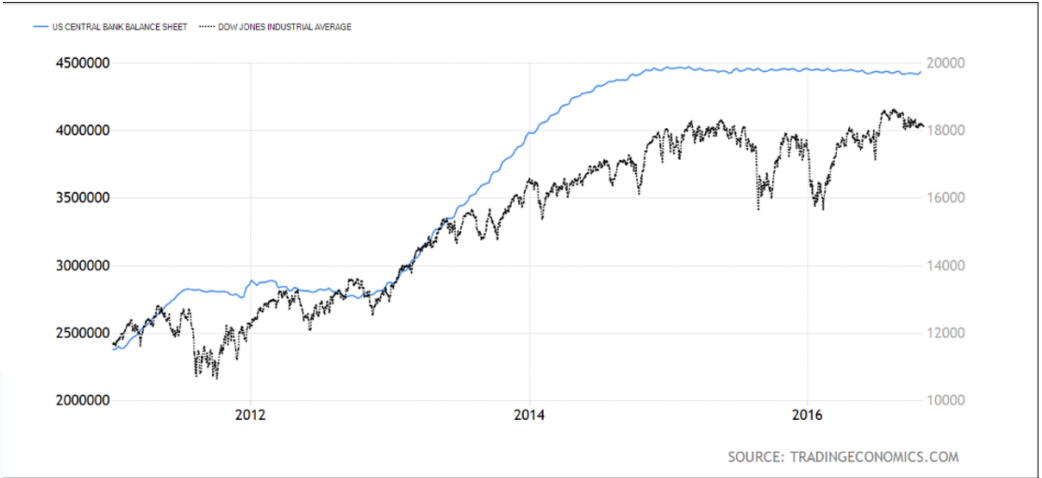
# LOOKING AT HISTORICAL PERSPECTIVES

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As we have suggested in previous sections, the combination of low rates and easy money, alongside the print and spend QE programmes deployed by central banks, have masked volatility for the best part of a decade through the creation and support of an extended bull market.

The endurance of the bull market is not surprising when you consider the vast sums that have been and are being spent. Indeed research by CNBC and Merrill Lynch in the summer of 2016 suggested that as much as US\$12.3 trillion has been pumped into the global financial system, since Lehman Brothers imploded back in 2008.

The chart on the next page, which plots the expansion of the US central bank's balance sheet, versus the performance of 30 leading US equities, bares testimony to this fact.



If we look at the performance of the VIX index over a similar period then we can see that since the Global Financial Crisis or GFC (when the index peaked above 89) it has trended consistently lower. Indeed the 200 period moving average for the index has spent much of the last 5 years below a reading of 16.00. To put this 'masking effect' into context, following the Brexit referendum, the VIX moved up to just 26.72 and only 23.43 in the wake of the infamous Swiss Franc incident. Both of these events were significant and had an impact on a global scale. Yet neither of these was able to derail the market's prevailing and benign view of risk and volatility, which has been stoked by QE and easy monetary policy.

# TRADING WITH VOLATILITY

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In a climate where investors have largely put their concerns about volatility to one side, volatility likely plays little or no part in the majority of trading decisions. However even against this background markets can and do have the occasional wobble or change in sentiment and directional drivers.

For instance 2016 started with a sharp downturn for equities as concerns over the emerging markets and the banking sector in Europe reared their head. The US 500 index fell by 240 points between the start of January 2016 and the 10th of February. In doing so the markets moved into what is termed a 'Risk Off' mode. This is where investors sell out of riskier assets such as equities and emerging market currencies and buy into perceived safe havens, such as Government bonds and currencies like the Yen, the US Dollar and Gold.

By mid-February 2016 the markets 'Risk Off' stance was fading. Thanks in part to the introduction of negative interest rates in Japan and the Eurozone. Money moved back into equities and

other risk assets. By the start of April 2016 the US 500 index had made new highs for the year.

All well and good you say, but how does that help me? Well there is a theory that says that the VIX index can tell us when the markets are entering or indeed are in a 'Risk Off' mode and therefore inform our trading decisions. The key, according to this theory, is to watch the VIX relative to its 60 day SMA or Simple Moving Average.

When the VIX index is 10% or more above this average, then the markets could be thought of as being in a 'Risk Off' mode. The chart below (via [Yahoo Finance](#)) shows the VIX index versus its 60 day SMA line.





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# LIQUIDITY & VOLATILITY

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As we have already noted the excess liquidity (ie. money) provided by central banks has largely masked volatility for much of the last decade, creating a bull market in many asset classes across developed economies. At the same time however, regulatory reform aimed at preventing another crisis has altered the structure of the financial markets over this period. Largely by reducing gearing in and limiting the risk taking functions of large banks.

The market making (price making) function - once but no longer the preserve of these large institutions - has been taken on by so called HFTs or High Frequency Traders. However these HFTs are largely driven by algorithms rather than individuals. The HFTs operate in time scales that are imperceptible to human beings and are often highly directional in nature, rather than being contrarian as their human counterparts often are.

This combination has created an (unintended) asymmetry in liquidity provision. Or in plain English: in the current climate, markets will tend to function smoothly whilst they run with the prevailing currents. However, if for any reason, there is sudden and unexpected 'about face' (such as the incidents noted above) then there is likely to be only limited liquidity available to support prices. Subsequent price action will leave gaps in the chart and order flow and be extremely volatile. The directional trading nature of HFTs may exacerbate this.



# A QUICK SUMMARY

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Volatility is a measure of the range, frequency and aggressiveness of price changes in given assets and instruments. At a broad top down level measures of volatility, such as the VIX index, can be seen as barometers of investor attitudes to risk or greed and fear.

Rising levels of volatility are associated with rising levels of 'fear', whilst falling volatility values are associated with investor confidence or 'greed'. Too much confidence can lead to the formation of a 'bubble'. These bubbles are usually burst (rather than slowly deflated) by sharp spikes in volatility, as everyone at the party tries to leave at the same time.

Volatility has been largely overlooked by traders in recent years as QE and low interest rates have created mostly upwardly trending markets. Spikes in volatility have occurred during this period, however, they have often been short lived and limited in duration and are soon forgotten.

Volatility levels can be used to try and quantify the market's

attitude towards risk and risk assets and conversely towards safe havens. Capital flows between these two groupings, as markets ebb between 'Risk On' and 'Risk Off' modes.

There is also something of a paradox in the trading of instruments that track volatility. Which is that even as many measures of volatility are trending towards historic lows. The volumes traded in these instruments have jumped dramatically with turnover doubling from the previous turnover highs seen in 2015, according to research from Factset and the Wall Street Journal ([see here](#)). Whether this is because investors are anticipating a correction or just loading up on what they see as cheap downside protection it's hard to say but it's a trait that's worth being aware of.

Unexpected and sudden changes in sentiment, among investors (particularly around political or other major events) towards even the most liquid of instruments, can challenge the efficiency of modern financial markets, creating price gaps and spikes in levels of volatility. This behaviour can and does present opportunities for traders. But it should also serve to focus their attention on the levels of risk and leverage they carry within their own portfolio around these type of events.



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**TAKE ME THERE**

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