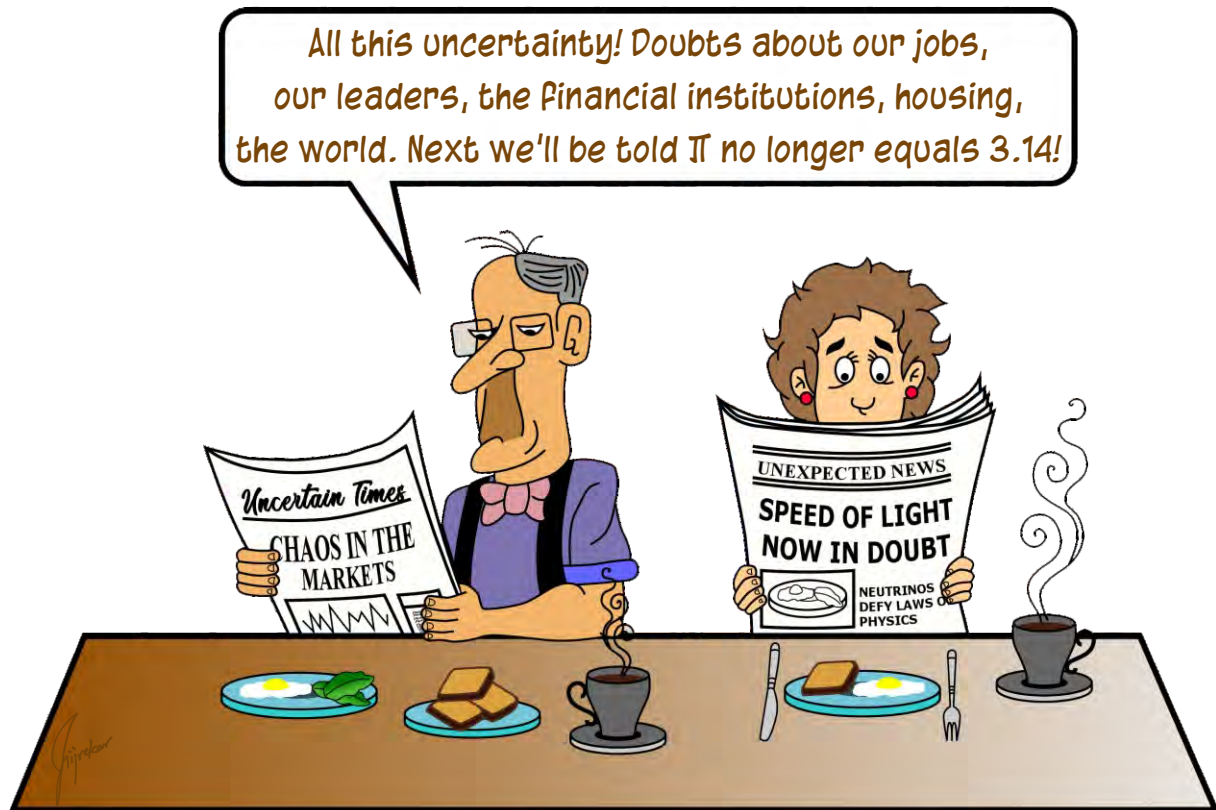


Predictive Analytics

Quantifying Fear & Greed

— Sandeep Tandon (Founder & CIO, quant Money Managers)



quant Mutual Fund's global outlook - Markets at an inflection



At quant, we have always believed that bubbles are great opportunities to create wealth as parabolic growth provides opportunities for asymmetric returns. The key is to not get gripped by the narrative that the 'investing crowd' has adopted as the truth. Bubbles are often based on some truth and a lot of delusions & illusions. These set of lies help investors cope with cognitive dissonance created by acknowledging that they are in a bubble, which will eventually burst. Inevitably, markets will crash but the financial journalists and experts will blame it on a freak incident or a black swan, instead of their own greed and irrational behavior. We are currently at such a critical juncture and are in danger of repeating the mistakes of the past. The base delusion is the end of 'low for long' inflation and therein lies a whole herd of black swans.

The recent sharp rebound in bitcoin prices is a representation of a sudden spike in market implied Global Risk Appetite. Consequently, we will see the impact cascading through other asset classes in the very near-term. Our predictive analytics indicators endorse that global financial markets are at the cusp of an inflection point. Further, our predictive analytical tools foresee a decent correction in global equity, crude oil (More in the near-term) and crypto currencies, along with a rise in global volatility indices, precious metals and US bond yields.

Crypto nears its medium-term top

At quant Global Research (qGR), the research wing of quant Mutual Fund, our focus is to draw inference from 'Market Implied' data as opposed to an assumptions based analysis. Crypto currencies are a perfect representation of market implied Risk Appetite. Thus, movements in this space have a substantial impact on Perceived Global Liquidity and Volatility.

The sharp spike in crypto currencies that we are witnessing is a vivid indicator of rising Global Risk Appetite. Crypto currencies have an impact on global sentiments, especially among the young and savvy investor base as evidenced by the recent launch of ETFs dedicated to cryptos. Despite this surge in demand, our predictive analytics indicators foresee a medium-term top. As an example, the quant Greed Indicator for bitcoin is now very close to its December 2017 peak and the retesting of this level is a manifestation of a top in Global Risk Appetite from a medium-term perspective.

Even though the significance, acceptance and percentage of crypto currencies in both global wealth and global liquidity have been rising exponentially, our predictive analytics tools foresee a medium-term top. This momentum in cryptos can last for at most another 21 trading days, before we see palpable corrections. Historically, a trading top in crypto occurs at least a few months ahead of a turn in the Global Liquidity cycle.

EMs to outperform DMs this decade

Coming to equities, despite the steep rise in global equities since the March lows, we see no clear signs of a climactic top in global equities. The quant Complacency Indicator for US equities is at a four-decade high; this vulnerability will lead to a rise in global volatility indices in the near-term. While other global behavioral indicators viz. Risk Appetite and Risk Aversion are showcasing signs of a near-term correction & consolidation, there are no classic signs of a long-term trend reversal.

Global Liquidity Indicators remain high & nearly all indices are trading around their life-time highs and trading Euphoria has been discerned in certain sectors and stocks. However, of late, we have observed a sharp decline in this momentum, particularly in EMs Liquidity. Additionally, Risk Appetite parameters have declined in EMs. It could, therefore, be said that after witnessing one of the steepest spikes in exposure to equity as an asset class, Smart Money has pruned its global equity exposure. From a medium to longer-term perspective, however, we believe that EMs have the potential to significantly outperform DMs. Money Flow analytics of EMs, in particular, of those to Asia reinforce this view. Asia within EMs and in particular, India within Asia is best placed to capitalize on the opportunities over the coming decade.

In summary, our Predictive Analytics coupled with our VLRT framework (Valuation, Liquidity, Risk Appetite & Timing analytics) envisions a risk-off environment for global equities in the near-term. This will, in-turn, have its own psychological impact on global financial markets. Within a fairly broad based rally, we have seen signs of euphoric moves in certain stocks and sectors. Therefore, a healthy correction and consolidation phase is on the cards. The quant Greed Indicator has touched its Jan 2008 top for the 30 most admired stocks, a significant portion of the Indian equity market. This indicator is getting

stronger, notwithstanding the upgrades the Indian market has received from eminent strategists and the fact that neglected large cap stocks' price targets have received steep upgrades. We, therefore, continue to tread a cautious line in the near-term. With this expected global risk-off backdrop, we have pruned our exposure towards high beta stocks and sectors and consequently increased our exposure towards defensive sectors such as IT, pharmaceuticals, healthcare & select infrastructure sectors.

The budget proposals have endorsed our view that this is the time to identify stocks and sectors that are currently under-owned, under-researched and under-valued. Our Risk Appetite & Liquidity indicators for India are showing minor weaknesses. Hence, a buy on dips strategy will remain effective from both a medium-term and long-term standpoint.

Silver set to outperform Gold

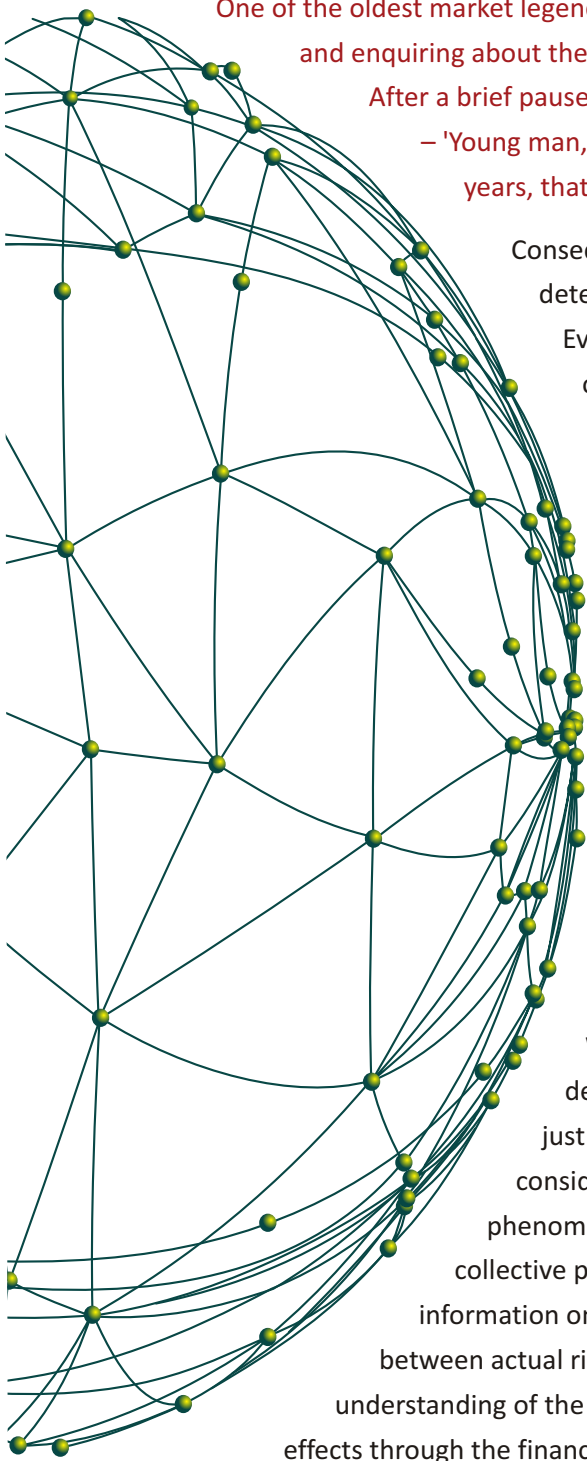
Gold has been in the consolidation phase for the past few months. However, precious metals are now on the verge of the next leg-up. We remain constructive both from a medium and long-term perspective, as we believe that both Gold and Silver will be the best asset class to own in the Volatility Expansion Phase (VEP), which is expected to last up to 2023. Additionally, our view is that Silver & Platinum will outperform Gold in CY2021 with Silver being the bigger outperformer.

De-dollarization gains steam

In the past few months, persistent weakness in the US dollar has become a consensus. Currently, the Dollar Index (DXY) is consolidating around the 90-91 levels. Any up-move beyond 92 will put pressure on EMs from a medium-term perspective. This will also have a negative impact on commodities. However, our long-term outlook for the DXY is bearish; this structure endorses our stance of a positive outlook on EMs. We maintain our de-dollarization thesis as part of the Global Reset Phase, which can last up to 2047. This will enable wider adoption of the Distributed Ledger Technology (DLT) framework and in the future one should not be surprised to see bitcoin trading above \$ 150,000 levels.

Rise in volatility & bond yields inevitable

To conclude, the VIX has started recovering from its psychological support level of 20% and our Predictive Analytical indicators further endorse a rise of VIX in the near-term. The unexpected return of inflation will create havoc in both "risk-off" and "risk-on" asset classes globally, leading to massive spikes in the US 10-year bond yields, thus endorsing our VEP thesis. Given the background, we believe that quant Mutual Fund's Dynamic Money Management is essential to sail through the tides of volatility.



One of the oldest market legends is of a young man approaching John D. Rockefeller and enquiring about the future direction of the Standard Oil Company's stock. After a brief pause and deliberation, the founder of Standard Oil replied – 'Young man, I believe they will fluctuate'. After more than a 100 years, that tip still holds.

Consequently, asset price volatility is often the key determinant of global portfolio managers' performance. Even though a gradual rise or fall in volatility will most often not have an adverse impact on portfolio performance, sharp swings can often ruin portfolio returns. From a behavioral perspective, sudden spikes give rise to anxiety and fear of the known/unknown, and rising apprehensions often lead to wrong decisions. It's difficult to hide from global volatility. Given the increased correlation among asset classes, even diversification is not an effective protection against spike in global volatility, as prices across asset classes get impacted with a lag effect.

qGR believes that the ability to accurately forecast global volatility is the key to protecting portfolio returns and capital.

We have studied market volatility for more than a decade. For us, the concept of volatility is more than just statistical measure or Fear index. Instead, we consider volatility to be a more significant and broader phenomenon - it is the deviation of market participants' collective perception from reality. Volatility provides predictive information on market trajectory by quantifying the difference between actual risk premium and what the market is pricing in. Proper understanding of the various states of market volatility, and their dynamic effects through the financial economy on the real economy, facilitates the recognition of inflection points.

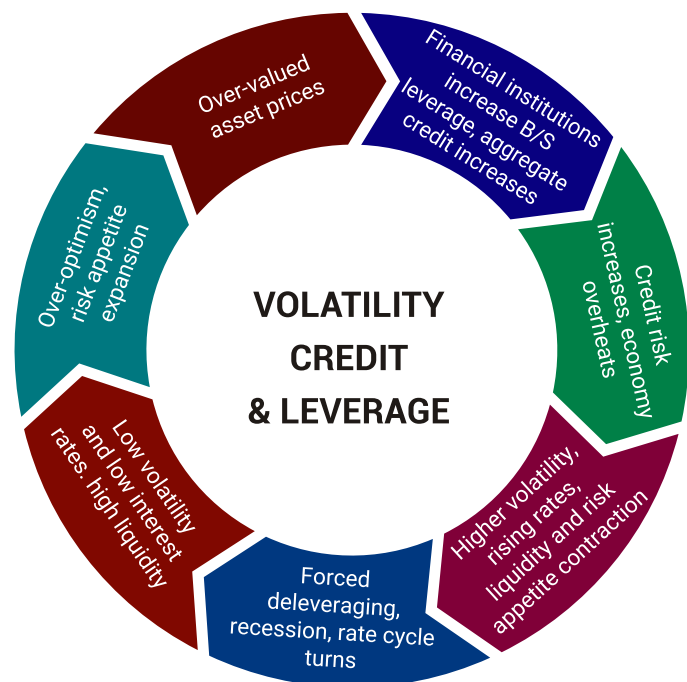
Our idea of volatility goes deeper than just VIX indices to include climatic, geopolitical and sociological volatility, providing a more precise prediction of longer-term outlook.

We seek to capitalize on these deviations through our VLRT framework and Adaptive Asset Allocation methodology. As we have explained, the variations of systematic risk can be transformed into alpha through fundamental valuation principles and game theory analysis, along with our proprietary set of Liquidity and Risk Appetite analytical tools. These tools serve to quantify the difference between price and value - not just for a single company, but for the entire market.

Volatility, credit and leverage

The trinity that moves the market's Invisible Hand

"Learn how to see. Realise that everything connects to everything else." – Leonardo Da Vinci



qGR's research on historical patterns, systemic analysis of the modern financial system and the influence of collective investor behavior on market structure reveals that the most interesting periods are of low volatility. By increasing complacency, economic agents display increasingly risk-seeking behavior that inflates asset values and consequently, expand credit and leverage as they are a function of collateral values.

This feedback loop pushes markets higher until they don't go higher and the Minsky Moment arrives – the last sand particle that creates a mini avalanche in the dune.

Understanding the volatility rollercoaster

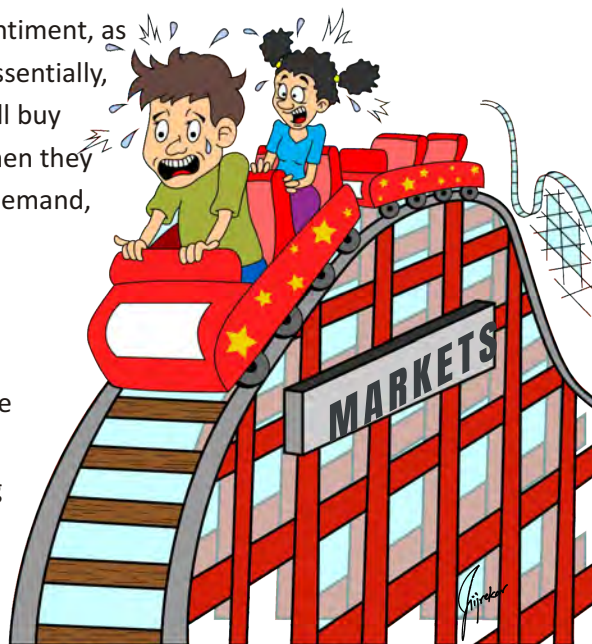
How do volatility indices claim to gauge fear?

Volatility indices are the clearest indicators of market sentiment, as evident in their relationship with participants' activity. Essentially, when investors are scared that a market will fall, they will buy options to protect themselves against downside risk. When they buy options, the implied volatility rises as a function of demand, and that in turn raises the value of the Volatility indices.

How should volatility indices be interpreted?

One of the most important things to be understood is the fact that there is a great difference between stock investment and options trading. While stocks are a going concern, options come with expiry dates. One has to either sell the option or exercise the contract against the position. This implies that the mean-reverting tendency of supply-demand of options is much more than stocks. Therefore, change in secular risk perception would shift the range of an otherwise range-bound VIX.

One can chart VIX but cannot expect it to move like any other market. That means classic technical patterns and trend following setups are not useful for predicting near-term trends. However, fairly large movements on the chart can lead to regime changes in volatility.

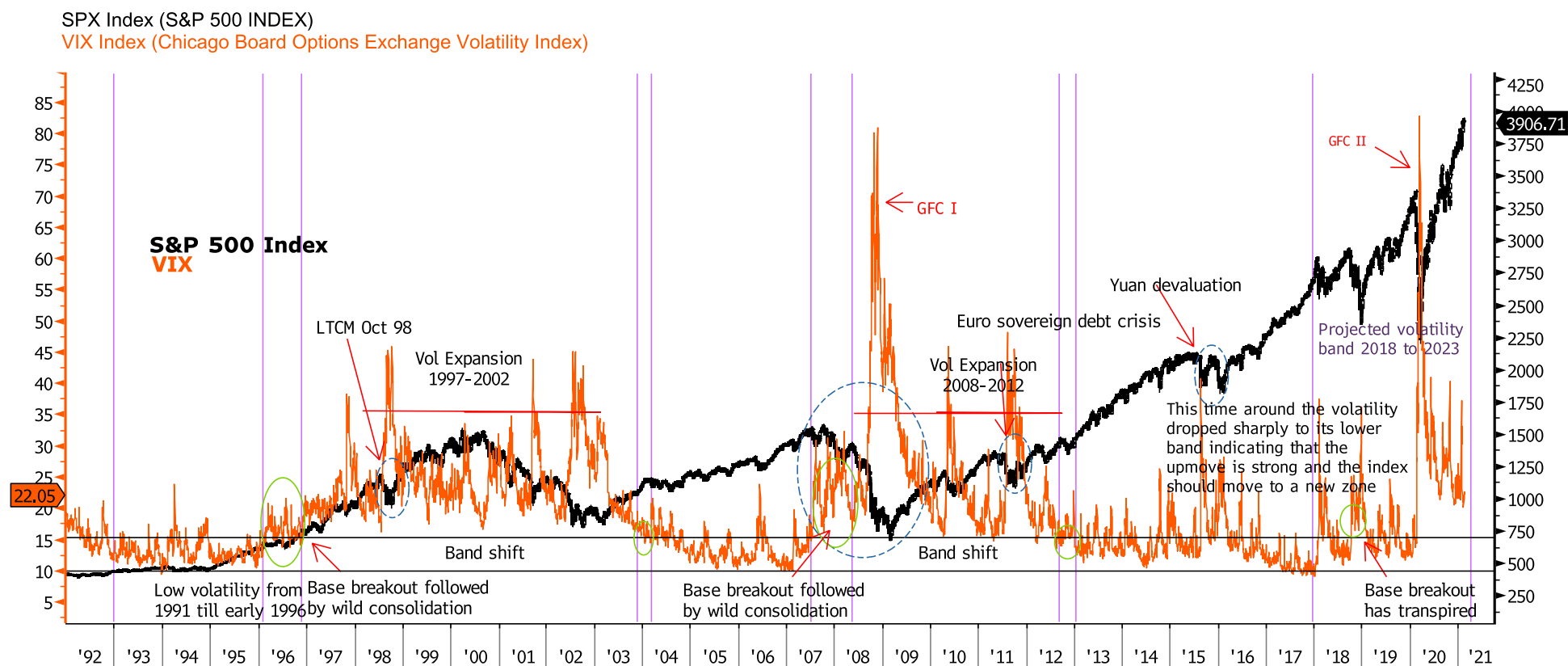


Volatility bands | Fundamental shifts in market structure

At qGR, we have studied volatility as a distinct asset class for more than a decade, having extensively utilized its signals to safeguard capital during GFC I & GFC II financial crises. The extraordinary monetary policies that followed have provided artificial support to investor confidence and as a result, every dip was bought to a new high. However, as Warren Buffet put it, market participants are like Cinderella dancing in the ballroom with all of them planning to leave just before midnight. There's a small problem: the clocks in the room have no hands.

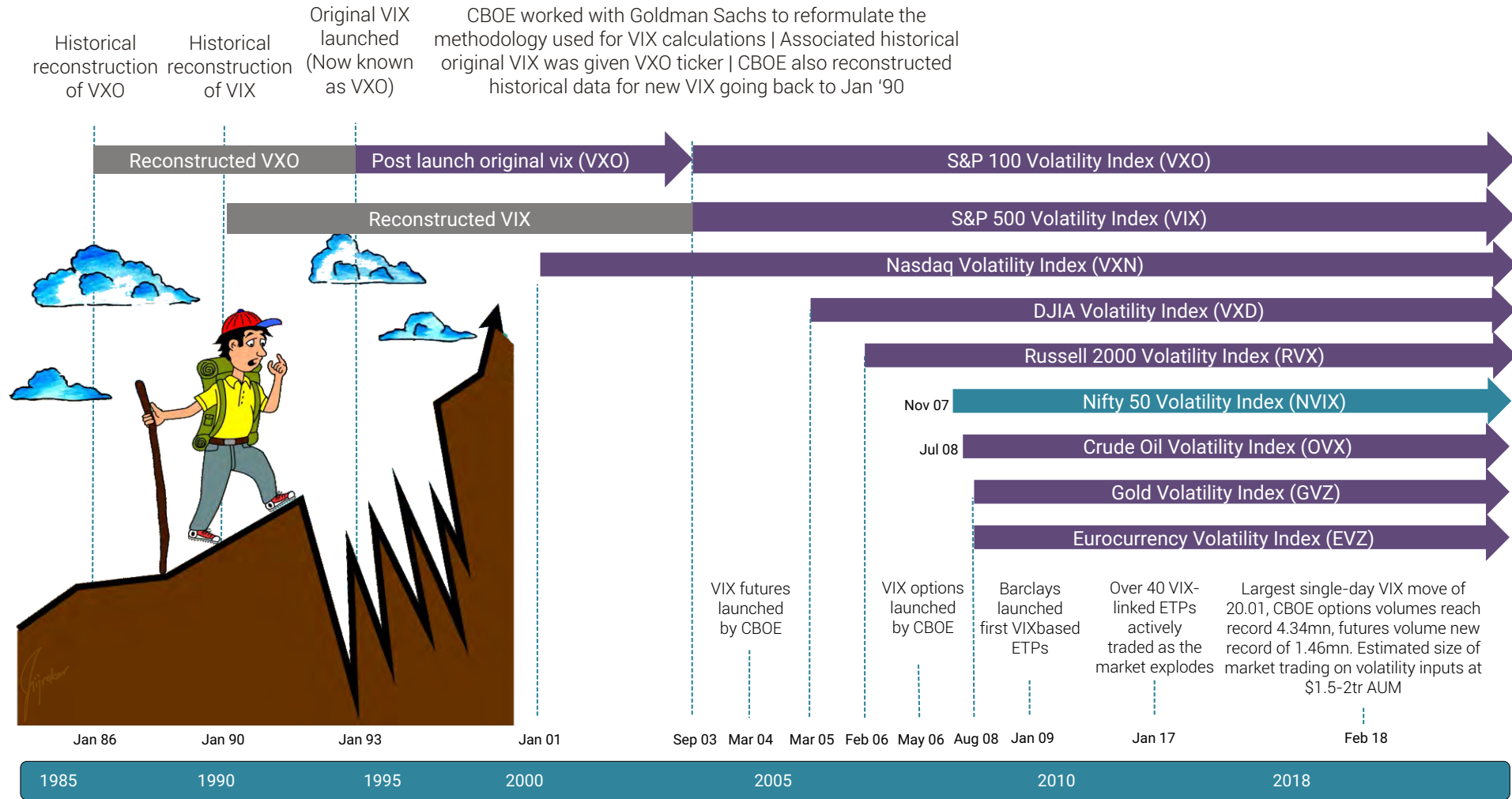
As seen in the February 2020 'Vixtermination' event, when the VIX jumped nearly 6 times to 85.47 in 20 trading sessions, global markets have woken up from their QE-induced lull into a Volatility Expansion Phase (VEP) which started in 2018 and should last till 2023. The combined, multi-lateral effects of quantitative tightening, rising populism, growth slowdown due to trade wars, rising geopolitical uncertainty, and the ballooning global pile of credit and leverage, has pushed markets away from the shore into choppy waters. qGR's research suggests a prolonged period of volatility, which based on cycles analytics, could last up to 2047 as global markets search for a new equilibrium. qGR expects VIX to rally in the near-term and overall, volatility indices to trade in a higher band.

Paraphrasing from chaos theory: the butterfly has flapped its wings, and the resultant tornado is gaining strength.



*Data up to Feb 21, Source: quant Global Research (qGR), Bloomberg

History of volatility indices





Being Relevant with 'predictive analytics'

The core engine that drives us and sets us apart is a robust and differentiated investment framework that enables us to see beyond the horizon and stay relevant. Our unique analytical framework for enabling 'Predictive Analytics' encompasses all available asset classes and sectors, formulating a multi-dimensional research perspective.

Why multi-dimensional?

The markets are a complex, dynamic system. There is no one formula or strategy or perspective that can consistently outperform. A diverse set of variables and participants are continuously interacting with each other in myriad ways.

In the face of this uncertainty and complexity, instead of limiting ourselves to any one school of thought, we have found consistent success by studying markets along four dimensions:

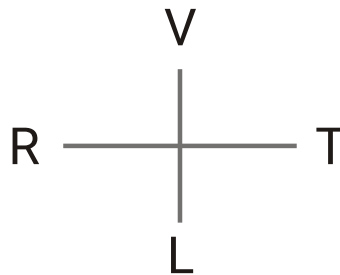
Valuation, Liquidity, Risk Appetite and Timing (VLRT)

VALUATION

Knowing the difference between price and value

RISK APPETITE

Perceiving what drives market participants to certain actions and reactions



TIMING

Being in sync with the waves of value and behaviour

LIQUIDITY

Understanding the flow of money across asset classes

quant Mutual Fund

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