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DOLAT CAPITAL

Demystifying
Quantitative Investing
in Modern Portfolio
Construction >>>>

In the world of investing, few terms are as widely used and as widely misunderstood as quantitative investing. For many, it relates to black box models, high frequency trading, or at best, systematic factor investing strategies. While these elements are certainly part of the quantitative universe, they only scratch the surface of what modern quant investing truly represents.

Quantitative investing is not a single strategy. It is a way of thinking. It is a framework that uses data, mathematics, and computing power to make investment decisions in a structured, repeatable, and scalable manner. Reducing it to factor investing is like saying medicine is just about taking vitamins. Useful, but far from complete.

Over the past decade, factor investing such as value, factor investing, quality and low volatility have become the most visible face of quant. These factors are well researched, academically validated, and relatively easy to implement. As a result, many portfolios that call themselves quantitative are essentially structured exposures to a handful of these factors.



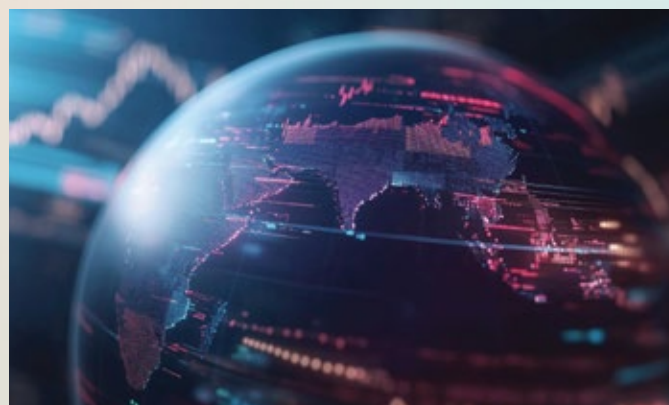
Factor investing strategies rely on the persistence and cyclicity of certain characteristics. It relies on historical relationships between these characteristics and returns. This approach has merit, but it is also inherently a static way of looking at a market that is constantly evolving. It assumes that the past structure of returns will continue, often without questioning

why those relationships exist or whether they are changing beneath the surface.

True quantitative investing goes a step further. It continuously questions, adapts, and redefines these relationships as new data emerges.

At its core, quantitative investing is about identifying patterns across time, across assets, and across market environments.

A robust quant framework does not look at data in a single dimension. It evaluates short term signals such as daily or weekly patterns, medium term dynamics such as monthly trends, and long-term structural behavior that can span years. Sometimes, it even draws learning from decades of global market data.



Each of these layers may tell a different story. A stock that appears attractive from a long-term perspective may show weakness in the near term. A sector that has performed well recently may be approaching a point of exhaustion when viewed through a broader historical lens.

The strength of a quant framework lies in its ability to process these seemingly conflicting signals together and arrive at a balanced decision. It does so without the emotional biases that often influence human judgment.



This is where quant moves beyond traditional factor investing. Instead of relying on predefined categories, it builds adaptive models that evolve with data.

This also leads to a fundamental shift in how portfolios are constructed.

Traditional portfolio construction often follows a top-down approach. Investors decide on asset allocation, select strategies, and then rebalance at fixed intervals. Even factor based portfolios tend to operate within relatively fixed structures.

Quantitative investing challenges this idea. It treats allocation not as a one time decision, but as a continuous process.

Capital is dynamically allocated based on changing market conditions, evolving signal strengths, and shifting risk return expectations. If certain patterns begin to weaken and others gain strength, the portfolio can gradually adjust. If volatility changes, position sizes can be recalibrated in response.

The result is a portfolio that is not just diversified, but also aware of the environment it operates in.



At the heart of this approach lies an often overlooked advantage of quantitative investing, which is discipline. Markets constantly test investor behavior through fear, greed, and noise. A rules based framework ensures that decisions are not driven by impulse or short-term narratives, but by a consistent process. This ability to stay disciplined across cycles is often the difference between

average and superior long-term outcomes.



One of the most meaningful contributions of quantitative investing is how it redefines the idea of diversification itself.

By focusing on behavior rather than labels, quant strategies can achieve a deeper and more resilient form of diversification.

In many traditional portfolios, diversification often appears effective during stable periods but breaks down during market stress. This happens because different investments may still be driven by similar underlying forces.

Quantitative investing addresses this by diversifying at the level of signals. By combining strategies that respond differently to changing conditions, it reduces the likelihood that all parts of the portfolio struggle at the same time.



Risk management also takes on a different meaning in a quantitative framework. Instead of relying on static measures, risk is treated as something that evolves. Drawdowns, changes in volatility, shifts in correlation, and liquidity conditions are continuously monitored.

This allows for more proactive adjustments rather than reactive decisions taken after the fact.

Another important aspect is position sizing. In traditional investing, a lot of emphasis is placed on selecting the right securities. In quantitative investing, how much capital is allocated to each idea is equally important.



Position sizes are determined not just by conviction, but by probability and expected risk adjusted outcomes. This ensures that no single position can disproportionately impact the portfolio.

There is also a common perception that quantitative investing operates as a black box. While this may be true for certain high frequency strategies, most modern quant frameworks, especially in the context of long only portfolios and PMS structures, are far more transparent than they are often perceived to be.

Every decision is based on defined rules. Every rule can be tested. Every outcome can be measured and evaluated. The

complexity lies not in secrecy, but in the scale and depth of information being processed.

In the Indian context, quantitative investing is still at a relatively early stage compared to global markets. This creates an interesting opportunity.

Markets are becoming deeper, data availability is improving, and investor awareness is steadily increasing. For PMS investors, this becomes particularly relevant. As portfolios grow in size and complexity, the need for discipline, consistency, and scalability becomes far more important. Quantitative frameworks are well suited to address these needs.

Ultimately, quantitative investing is not about replacing human judgment. It is about strengthening it. It brings structure to decision making, removes emotional biases, and allows investors to navigate complexity with greater clarity.

More importantly, it shifts the focus from what to buy to how decisions are made, and ultimately towards building a more holistic and resilient portfolio.

Factor investing will always have a role to play, but it is only one piece of a much larger framework. The real evolution lies in moving beyond static exposures towards an approach that is adaptive, data driven, and thoughtfully constructed around changing market conditions.

That is where the true potential of quantitative investing begins.

