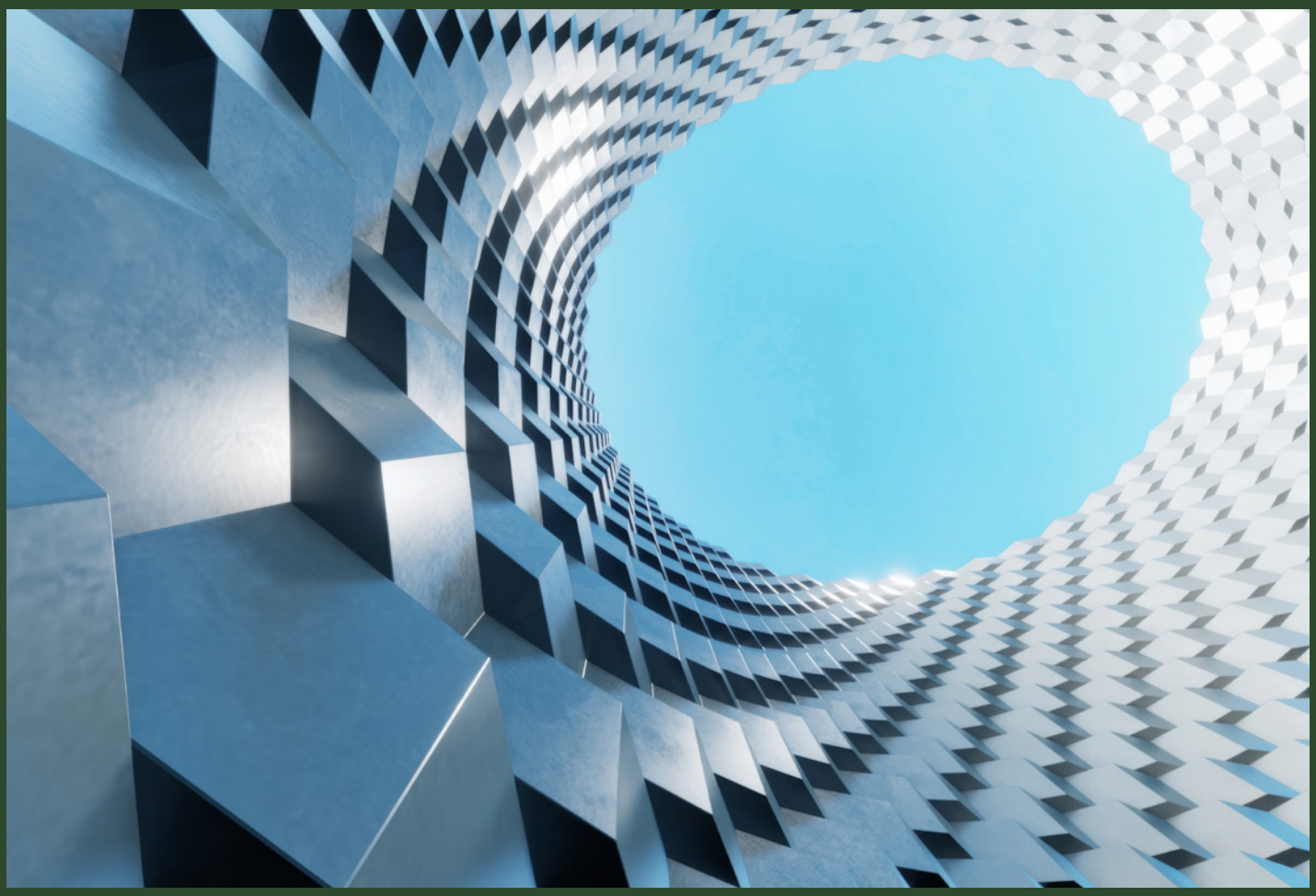
The Law of Gravity: Why Overly Complex Models Fail the Reality Test

By Gunjan Verma



FLEXTION It's about *time.*

Every few weeks, someone asks a version of the same question: "Why doesn't Flextion use a massive model that incorporates the full universe of modern indicators, financial ratios, and continually emerging data sets?"

It's a fair question. The investment industry is captivated by scale and intricacy. But the reason we don't default to sprawling models isn't that they're difficult to build. It's that they often violate the most fundamental rule of nature, statistics, and markets: **Regression to the Mean**.

Oversized models are engineered to chase the anomaly. Instead, we channel our modeling sophistication using a probabilistic approach into a focused set of core factors which respect the inevitable pull back to earth.

Nature Hates Extremes

In the late 19th century, Sir Francis Galton discovered a universal truth while studying genetics: extremely tall parents tend to have children closer to average height, and extremely short parents tend to have taller children.

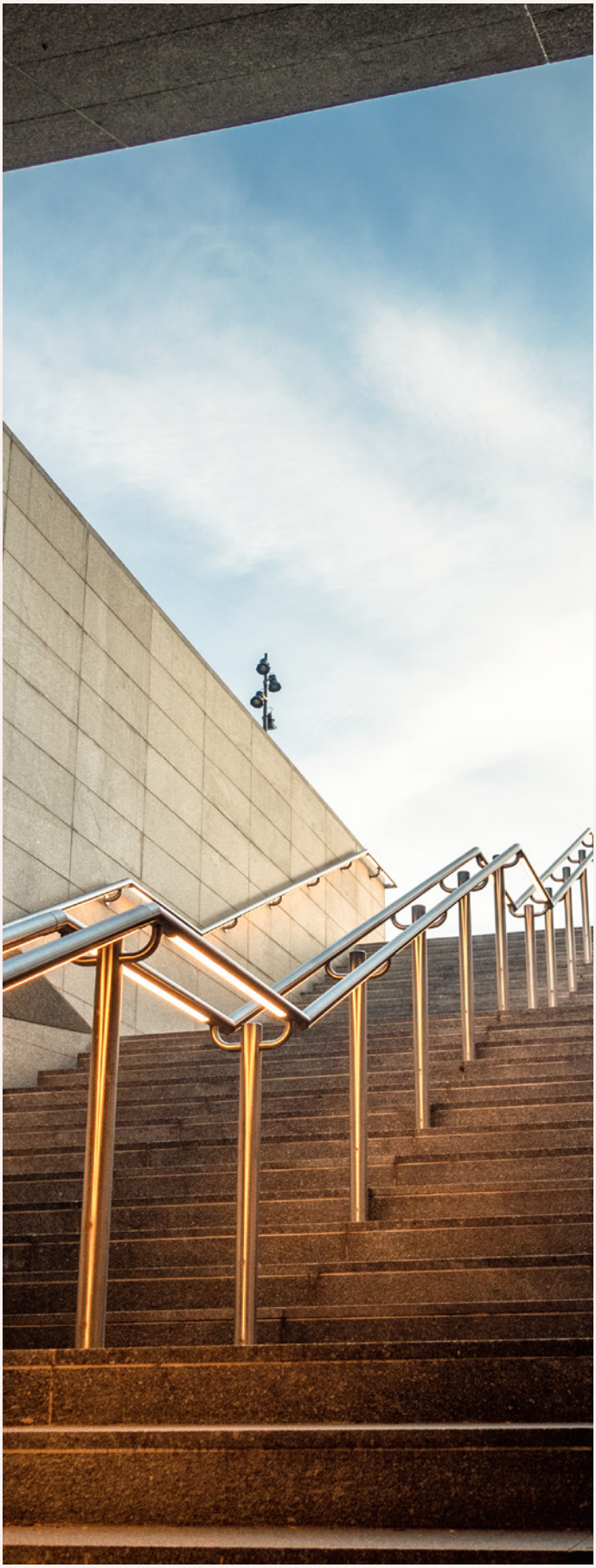
He called it "Regression to the Mean." If nature didn't enforce this, the world would be filled with giants and dwarves. Instead, nature draws everything back toward the center.

We see this everywhere:

In Sports: The "Sophomore Slump" isn't a curse; it's math. An athlete who performs three standard deviations above average one season is statistically very likely to perform closer to normal the next.

In Medicine: High blood pressure readings are often followed by lower ones—even without treatment—because extreme measurements rarely persist.

Extreme performance isn't a baseline. It's a warning sign of an impending reversal.



The “Hot Hand” Fallacy in Finance

This is where oversized multivariate models stumble. They are, in effect, “hot hand" detectors.

When a quant team feeds a model hundreds of variables, the model often elevates the ones that have performed exceptionally well in the recent past—the variables having their “MVP Season." The model then assumes this elevated performance is the new norm.

But in markets, as in genetics, peak performance is often a precursor to disappointment.

The Trap of the “Permanent” Trend

The most dangerous variable isn't the random one; it's the one that has worked for so long that investors start mistaking a cycle for a law.

Consider the “Nifty Fifty" era of the 1970s. Institutional models highlighted 50 “blue-chip" companies with such impeccable earnings histories that they became “one-decision" stocks: buy and never sell. The data suggested their growth was unstoppable, supporting extraordinarily high valuations.

But business, like biology, adheres to the Law of Large Numbers.

As these companies expanded, their growth rates inevitably drifted back toward the mean of the broader economy. The companies didn't collapse, but the trend did. When the valuation bubble burst, these “safe" stocks lost up to 80% of their value. The models had mistaken a temporary growth surge for a permanent condition.

Linear projections imagined trees growing to the sky. Mean reversion ensured they didn't.

Modeling for Reversion, Not Linear Extension

Markets don't move in straight lines; they oscillate.

Real markets are chaotic, uneven, and emotional. This is why Flextion avoids the trap of "explaining" the past with linear regressions and instead centers on a focused, probabilistic framework that respects market gravity:

We Expect Reversion: We recognize that "alpha" is unstable. The tighter a strategy's correlation to a factor today, the more likely it is to shift tomorrow.

We Look for Turning Points: Traditional forecasting assumes the trend continues. We look at the probability that the trend is exhausted.

We Ask the Right Question: We don't ask, "What worked yesterday?" We ask, "Given today's extremes, what is the probability of reversal tomorrow?"

Robust Probabilities Over False Precision

Advisors don't need models that assume trees grow forever. They need a framework that signals when the tree is nearing its limit.

Flextion intelligently estimates future performance probabilities by analyzing how similar strategies behaved across thousands of historical environments. We don't bet on the streak. We bet on the math.

In a world full of elaborate models chasing yesterday's winners, we choose a different approach: one that respects the inevitable turn.

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About the Author

An award-winning computer scientist and research portfolio director, Gunjan Verma specializes in advancing next-generation wireless communications, autonomous systems, and machine learning. At the U.S. Army Research Laboratory, he served in dual roles as ML Research Engineer and R&D Portfolio Lead, managing a multimillion-dollar research portfolio across more than 30 of the nation's top universities. With over 75 publications and 1,500+ citations, his research has been featured in leading journals and conferences spanning AI, networking, and robotics.

Flextion is a breakthrough platform for evaluating fund strategy returns, helping investors identify managers at a pivotal turning point—those poised to outperform after a period of underperformance. Designed by seasoned portfolio managers, Flextion bridges the gap between "clock time" and "market time," empowering investors to unlock long-term value and uncover hidden performance potential.

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