

Why Combining Volatile Assets Smooths Returns

Discover how pairing two volatile investments can create smoother portfolio returns through diversification and correlation.



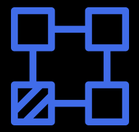
Alpesh Patel OBE
Founding Principal of Rootbridge Capital

Diversification: Reducing Portfolio Volatility

How imperfect correlations smooth returns and lower overall risk



Volatility causes anxiety but doesn’t equal portfolio risk



Combining two volatile assets can produce **smoother returns**



Smoothing occurs when price moves **partially offset** each other



Diversification: imperfect correlations reduce portfolio risk



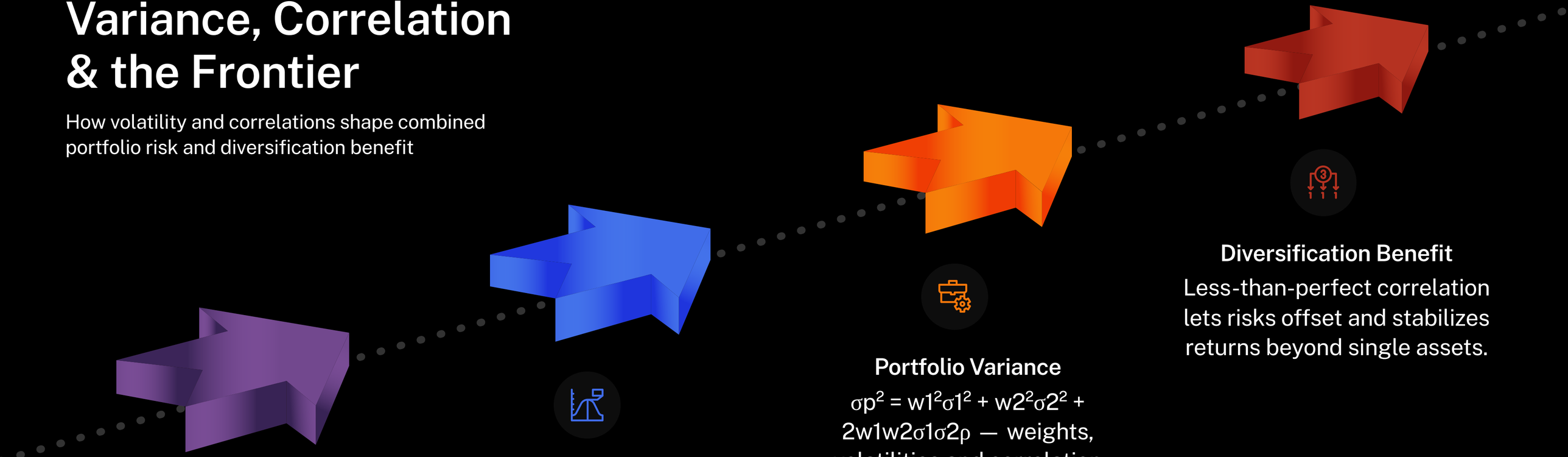
Correlation, not volatility alone, measures portfolio stability



Foundational insight for modern strategies balancing **risk and return**

Portfolio Risk: Variance, Correlation & the Frontier

How volatility and correlations shape combined portfolio risk and diversification benefit



Individual Volatility

Each asset's variance (σ^2) sets its standalone risk.

Correlation (ρ)

How assets move together; $\rho < 1$ reduces combined variance; $\rho = -1$ can eliminate volatility.

Portfolio Variance

$\sigma p^2 = w1^2\sigma1^2 + w2^2\sigma2^2 + 2w1w2\sigma1\sigma2\rho$ — weights, volatilities and correlation determine risk.

Diversification Benefit

Less-than-perfect correlation lets risks offset and stabilizes returns beyond single assets.

Offsetting Movements Smooth Portfolio Risk

Two turbulent rivers merge into one steady flow — diversification reduces drawdowns

Two rivers merging

Visualize two turbulent flows joining into a single stable stream representing offsetting returns.

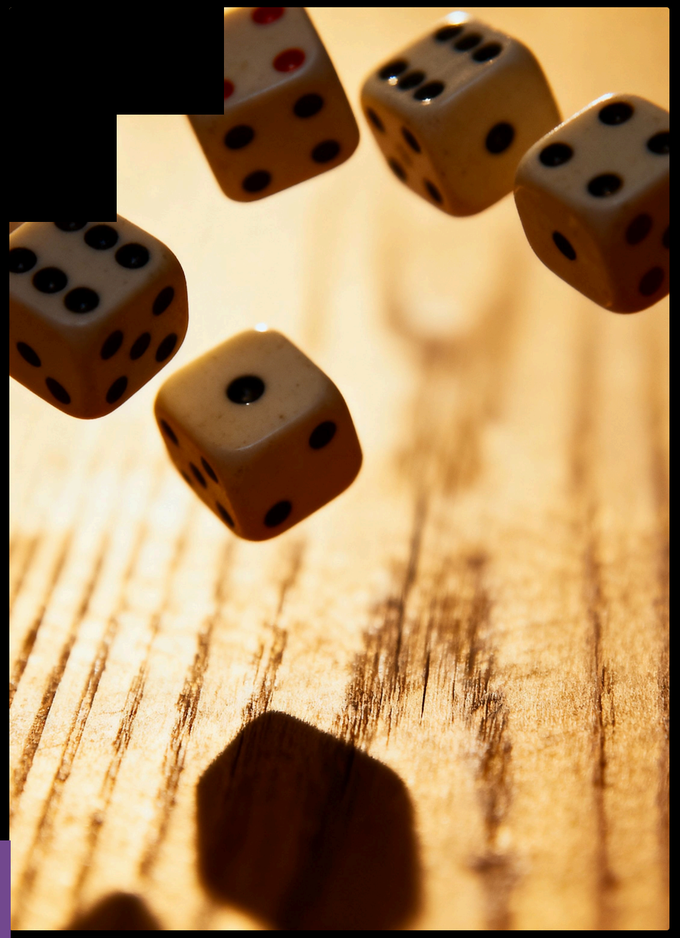


Diversification as protection

Combining assets with opposite moves reduces overall turbulence and drawdowns.

Statistical Reality: Correlation, Not Coincidence

Diversification reduces risk only when asset correlations remain low or negative — but correlations can spike in crises



Diversification hinges on **correlation**: low/negative correlation lowers portfolio risk

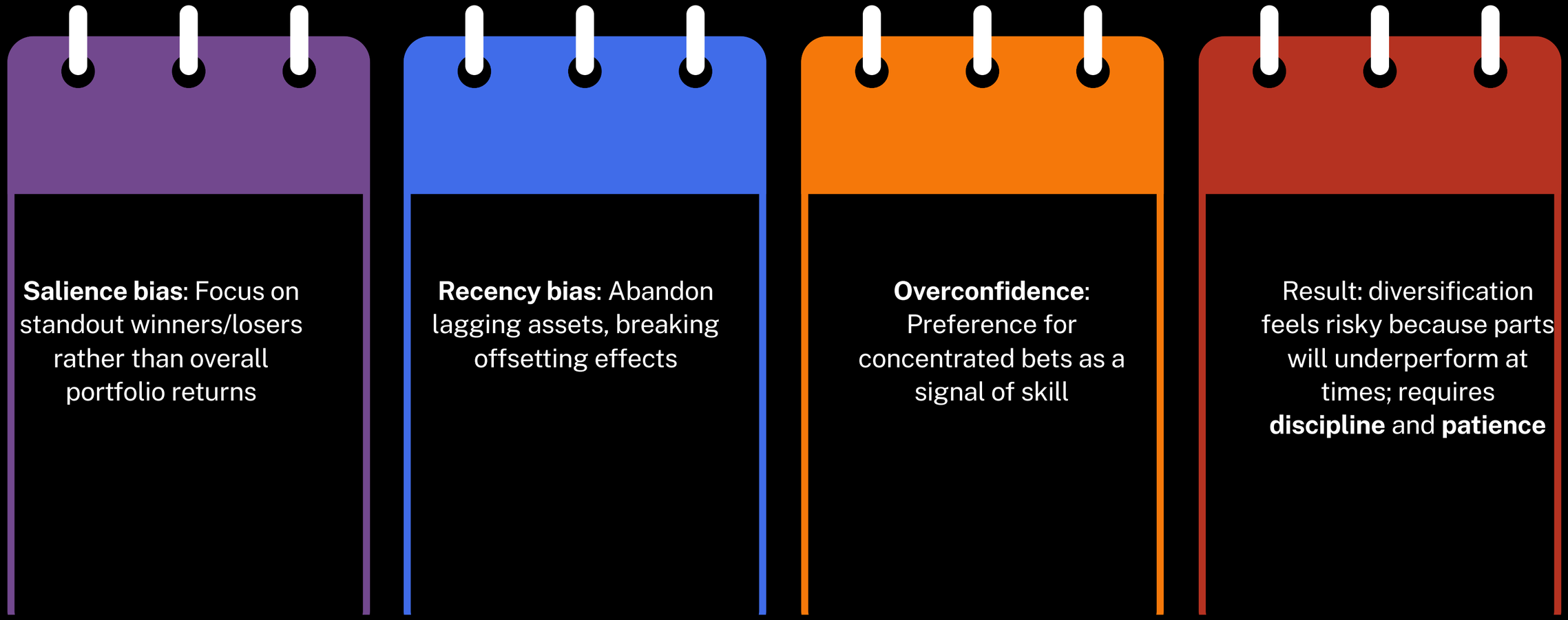
Correlations often **rise during crises**, reducing diversification benefits

Example: equities and bonds were **negatively correlated in the 2000s** but turned **positive in 2022** amid inflation

Implication: diversification works when assets' **volatility drivers differ** and across economic **regimes**, not just in panic moments

Behavioral Biases That Sabotage Diversification

Why diversified portfolios feel risky and how discipline counteracts emotion



Optimizing Risk vs. Return: Imperfect Correlation

Design portfolios that cut volatility without unduly sacrificing long-term returns



Covariance Management

03

Combine assets with low or negative covariance to reduce portfolio variance and enhance stability.

Efficient Frontier

02

Identify portfolios that deliver the best **risk-return** combinations on the frontier curve.

Diversification Trade-offs

01

Balance lower volatility from bonds against reduced long-term growth from higher-return assets.

Intelligent Diversification: Offset Risk, Stabilise Returns

Three asset pairings that reduce portfolio volatility by combining opposing economic behaviors

Oil vs Airlines

When oil prices rise, airline profits often fall

Rising oil leads to declining airline margins, balancing portfolio swings

Technology vs Value

Technology thrives in low-rate growth environments

Value stocks perform better in inflationary phases, smoothing returns

Equities vs Gold

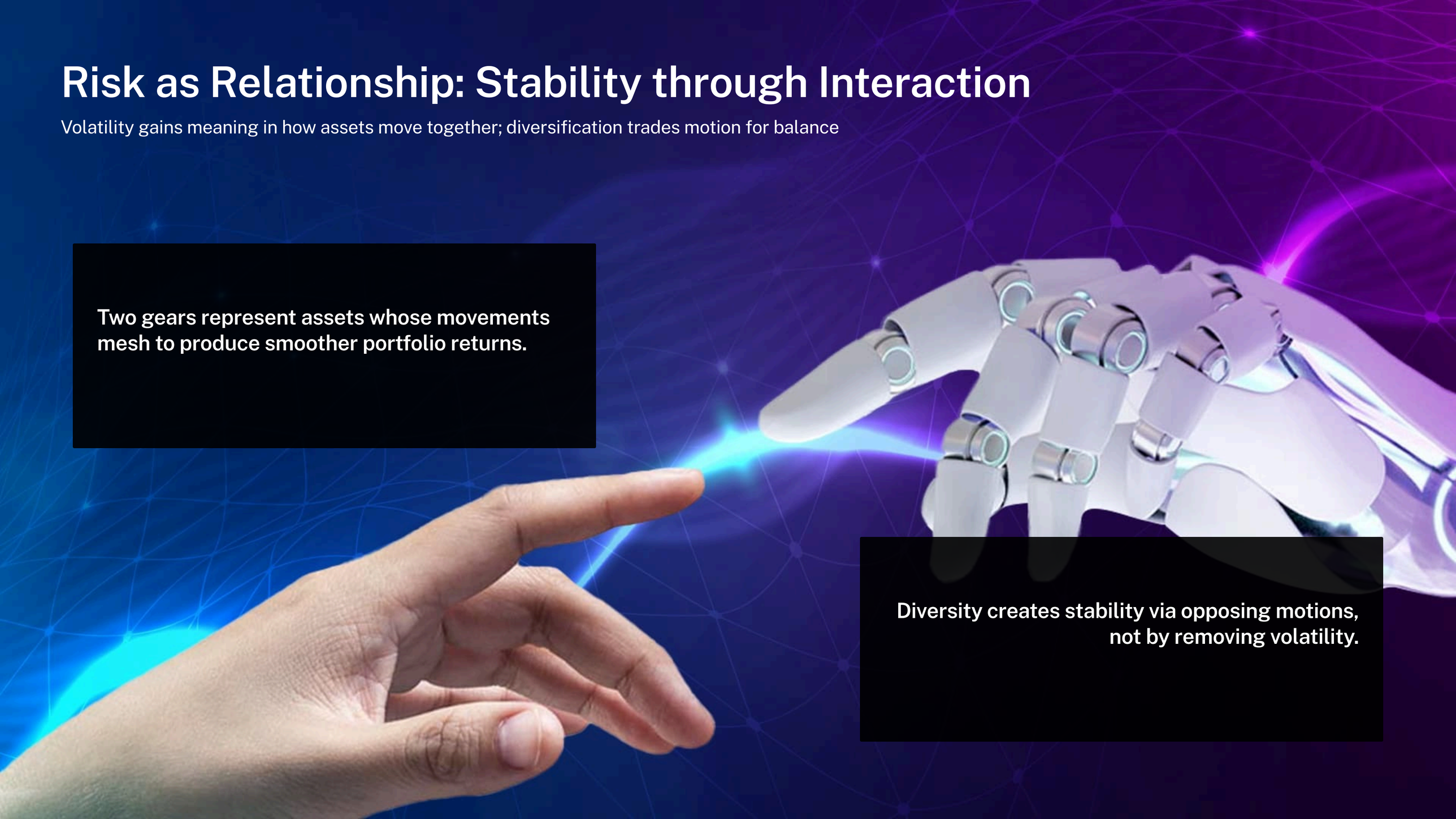
Gold rallies during crises

Gold can offset equity losses during market stress

Risk as Relationship: Stability through Interaction

Volatility gains meaning in how assets move together; diversification trades motion for balance

Two gears represent assets whose movements mesh to produce smoother portfolio returns.



Diversity creates stability via opposing motions, not by removing volatility.

Designing Useful Volatility

Use imperfect correlation to turn fluctuation into steady growth



01 Combine two volatile assets with **imperfect correlation** to smooth returns

02 Use **covariance mathematics** to convert volatility into portfolio resilience

03 Recognize diversification **rearranges risk** rather than eliminates it

04 Investor **patience** transforms resilience into long-term wealth

05 Aim to **balance opposing forces** to achieve consistent growth, not eliminate fluctuation