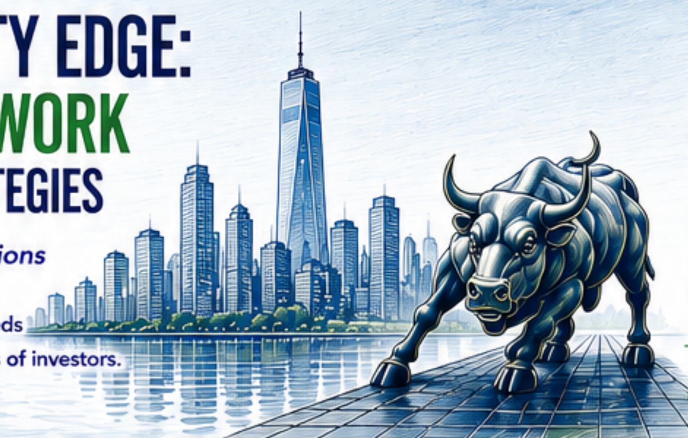
THE IMPLIED VOLATILITY EDGE: A SYSTEMATIC FRAMEWORK FOR CASH-SECURED PUT STRATEGIES

From Volatility Theory to Data-Driven Decisions

Markets are not perfectly efficient. Implied volatility embeds the collective expectations, fears and hedging behaviours of investors.

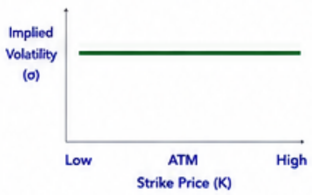


> “Volatility is not just a measure of risk, it is a price. And every price creates opportunities for those who understand it.”
>
> – Frédéric Valognes, CEFA®

1 THEORETICAL FOUNDATION

Black-Scholes-Merton Assumption

The Black-Scholes-Merton model assumes constant volatility. Under this assumption, implied volatility is flat across all strikes.

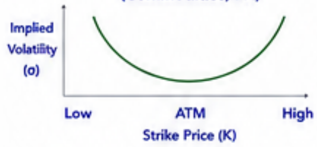


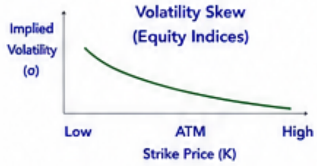
Key idea: In theory, all options should have the same implied volatility.

2 FROM SMILE TO SKEW

What We Observe in the Real World

Empirical evidence shows that implied volatility is not flat.





Equity markets display a negative skew: higher volatility for lower strikes (OTM puts).

3 WHY THE SKEW EXISTS

Market Microstructure & Behaviour

Investors buy out-of-the-money puts for protection. This structural demand pushes up put prices and, by inversion of Black-Scholes, leads to higher implied volatilities at lower strikes.

The skew is not a market anomaly. It is the price of insurance.

4 THE SHORT PUT ADVANTAGE

Get Paid for Others' Fear

The volatility skew means OTM puts are “rich”. By selling them, you collect a premium that compensates you for the risk you accept.

MARKET PERCEPTION (PESSIMISM)	YOUR OPPORTUNITY (DISCIPLINE)
	
Drives up put prices and implied volatility	Sell puts systematically when compensated

Turn market fear into a systematic income stream.

5 DECISION FRAMEWORK

When Do We Sell?

We combine volatility analysis with market context and technical filters.

- High implied volatility (absolute or relative to its history)
- Favourable skew / rich put premiums
- Neutral to bullish market regime
- Strong support levels
- Sound underlying fundamentals

Objective: Identify situations where the reward (premium) justifies the risk (assignment).

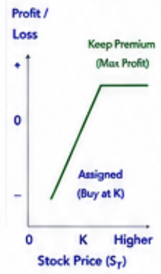
6 RISK MANAGEMENT IS KEY

Survive First, Thrive Later

Cash-Secured
Always have the cash to take assignment.

Diversification
Spread across underlyings and sectors.

Plan Your Exit
Define profit targets, loss limits and adjustments.

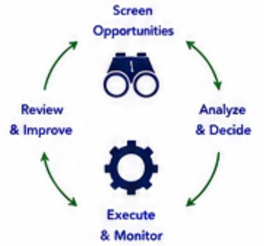


Defined risk. Defined plan. Consistent execution.

7 THE POWER OF SYSTEMATIC EXECUTION

Small Edges. Repeated. Consistently.

No guesswork. No emotions.
Just a repeatable process.



Consistency beats intensity. Discipline beats emotion.

8 VOLATILITY ANALYSIS TOOLS

IV Rank / Percentile
Compare current IV to its historical range.

Skew Analysis
Evaluate richness of OTM puts vs ATM.

IV Surface
Understand the full picture, not just one point.

IV Term Structure
Check front vs back month volatility levels.

Better data. Better context. Better decisions.

9 MARKET REGIME MATTERS

Context Drives Outcomes

Bull Market
Skew steepens on selloffs. Short puts can work well.

Sideways Market
Time decay works in your favour.

Bear Market
Be selective. Risk of assignment increases.

Align your strategy with the prevailing regime.

10 BACKTEST. VALIDATE. IMPROVE

Data Don't Lie.

Backtesting and forward testing are essential to validate your edge.

- Test across market cycles
- Evaluate risk-adjusted returns
- Refine rules and parameters
- Avoid overfitting

An edge only exists if it survives out-of-sample.

11 RISK CONTROL PRINCIPLES

Protect Your Capital

Defined Loss Limits
Know your max loss per trade and overall.

Position Sizing
Size positions based on risk, not conviction.

Adjust, Don't Predict
Manage positions proactively.

Emotional Discipline
Stick to the plan. Ignore the noise.

Capital preservation is Strategy #1.

12 THE BIG PICTURE

Volatility = Opportunity

A systematic approach transforms volatility from uncertainty into an edge.

ABOUT THE AUTHOR

Frédéric Valognes, CEFA®

Lecturer in corporate finance, financial markets and derivatives. Certified European Financial Analyst (CEFA®), awarded by EFFAS (European Federation of Financial Analysts Societies, Frankfurt). His research focuses on implied volatility, option market microstructure and systematic investment strategies.

BLACK-SCHOLES-MERTON FORMULA WITH CONTINUOUS DIVIDENDS

CALL OPTION (C)

$$C = S_0 e^{-qT} N(d_1) - K e^{-rT} N(d_2)$$

Where:

S_0	=	Current stock price
K	=	Strike price
r	=	Risk-free interest rate (continuous)
q	=	Continuous dividend yield
T	=	Time to maturity (in years)
σ	=	Volatility of the underlying (annualized)
$N(\cdot)$	=	Cumulative standard normal distribution

PUT OPTION (P)

$$P = K e^{-rT} N(-d_2) - S_0 e^{-qT} N(-d_1)$$

$$d_1 = \frac{\ln(S_0/K) + (r - q + \frac{1}{2}\sigma^2)T}{\sigma\sqrt{T}}$$

$$d_2 = d_1 - \sigma\sqrt{T}$$