PARA BELLUM ADVISORS

EXECUTIVE BRIEF

Quantitative Investment Strategies

What the Signal Doesn't Show You

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Executive Summary

Most institutional allocators believe they are buying factor exposure when they invest in QIS. They are also buying a set of structural dependencies that are absent from the marketing presentation and invisible in backtests.

QIS is not just a strategy. It is a structure: a bilateral OTC contract with a dealer, priced by that dealer, and exitable only on terms that dealer sets. The factor exposure is real. The structural dependency is equally real, and far less examined.

Three forces are making this more pressing. More capital is running more similar signals than at any prior point in the product category's history. Dealer capacity to intermediate that risk is more constrained and more cyclical than in the pre-GFC environment. And strategy differentiation between providers has narrowed, increasing the likelihood of synchronised behaviour under stress. These forces do not show up in backtests. They define outcomes in live markets.

Seven Things Every Allocator Should Know

1. QIS is bilateral OTC exposure to a dealer, not market exposure to a strategy.
2. Liquidity is conditional on dealer balance sheet availability, not market depth.
3. Pricing is set by dealer model and is not independently observable.
4. Path dependency creates outcome dispersion between investors in identical strategies.
5. Non-replicable strategies cannot be fully risk-managed.
6. All-in costs are materially higher than fee schedules suggest.
7. Structural differences explain why identical strategies produce different outcomes.

The Structural Problem

Every QIS product is a combination of three things, whether or not they are presented that way: factor exposure (beta), leverage, and engineering. Most investor attention focuses on the first. Most of the risk sits in the other two.

QIS is delivered via bilateral OTC contracts with a single dealer counterparty who prices, executes, and provides liquidity. This delivery mechanism, more than the underlying factor logic, determines how QIS actually behaves under pressure.

> *Most QIS products are sold at the signal level. They should be evaluated at the exit layer.*

The QIS Risk Stack

Every QIS strategy sits on top of a layered risk structure. Most allocator analysis stops at layer one. Most realised losses occur in layers three to six.

Layer	Risk	What it means in practice
1	Signal risk	Does the factor work? Is the signal real and persistent? Almost all pre-investment analysis is concentrated here.
2	Construction risk	How the signal is translated into a portfolio. Vol targeting, rebalancing rules, position sizing. Construction choices drive outcomes as much as the signal.
3	Execution risk	How trades are actually implemented. The gap between backtest and live performance is almost entirely here.
4	Funding risk	The cost of leverage, collateral, and financing embedded in the derivative structure. Frequently omitted from cost analysis. Compounds materially on levered strategies.
5	Counterparty risk	Dependency on the dealer for pricing, liquidity, and marks. The dealer controls entry, ongoing valuation, and exit. This is not market risk. It is relationship risk.
6	Exit risk	The cost and feasibility of unwinding under stress. Unknown until the moment it matters most. In crowded strategies, exit cost is a structural cost, not a market cost.

Four Structural Risks You Are Not Being Shown

1. Counterparty dependency

When you invest via an OTC swap or index-linked note, you are exposed to one dealer. That dealer prices your position, provides your liquidity, and controls your exit. Most institutional portfolios would not tolerate a single entity controlling pricing, liquidity, and exit for a material allocation. QIS routinely creates exactly that structure.

Concentration compounds silently. The QIS market is dominated by a small number of major dealers. Most institutional QIS books have exposure to two or three of the same counterparties, so diversification at the strategy level frequently coexists with concentration at the counterparty level that never appears on a risk report.

2. Pricing captivity

The dealer who sold you the position is the only entity who can price it. Most governance reviews accept dealer marks as the basis for investment committee reporting. This means performance is reviewed using numbers provided by the entity that profits from the position continuing. This is not fraud. It is a structural misalignment of interests that governance frameworks rarely acknowledge.

> *If you cannot independently replicate or proxy the strategy, you cannot fully risk-manage it. Where that capability does not exist, governance is incomplete.*

3. Conditional liquidity

Daily liquidity in QIS is conditional, not absolute. It is reliably available when you do not need it. Under the conditions that cause you to want to exit, the same conditions that caused the drawdown, dealer balance sheets contract, bid-offers widen, and the exit price reflects the dealer's stress, not just the strategy's performance.

> *You are paying for the dealer's stress, not just the strategy's performance.*

4. Hidden cost

The visible fee in a QIS product typically represents 30 to 40 percent of the total all-in cost. The remainder, including execution drag, funding spread, and structuring margin, is embedded in the structure and rarely disclosed explicitly. In many institutional QIS allocations, 40 to 60 percent of gross return is consumed by these implicit costs. Comparing fee schedules is meaningless without total cost analysis.

How Crowding Becomes Loss

Factor crowding is widely acknowledged. The transmission mechanism through which crowding becomes loss is less well understood. Similar signals produce similar positioning across many strategies. Similar positioning leads to synchronised rebalancing when signals shift. Synchronised rebalancing creates concentrated demand for liquidity in the same instruments at the same time. Dealers absorb that demand against their balance sheets. Balance sheet strain increases the cost of liquidity. The strategies that need to exit most urgently face the worst exit economics.

This mechanism does not appear in backtests because backtests do not model the behaviour of other market participants. It is not a tail risk. It is the operating reality of a product category where more capital is running more similar signals than at any prior point in its history.

> *When exiting a QIS position under stress, the total cost includes dealer model mark at exit, bid-offer spread on the unwind, breakage costs, the dealer's cost of unwinding their hedge, and market impact. None of these are visible before you commit to exiting. In stress, all of them move adversely at the same time.*

Use Cases and Where They Fail

QIS strategies serve coherent portfolio purposes. Each also has a characteristic failure mode that follows directly from the structural properties above. The failure almost never occurs at the signal level.

Use case	The logic	The failure mode
Portable alpha	Uncorrelated return added to passive exposure	*Correlation rises precisely when alpha is needed most. Net alpha after financing is often negative.*
Yield enhancement	Higher income without credit or duration risk	*Embedded short optionality disguises tail risk as steady income. A vol spike offsets years of accumulation.*
Overlay management	Systematic factor exposure alongside core holdings	*Margin calls during stress force liquidation of core holdings to fund overlay collateral.*
Liquidity sleeve	Daily-liquidity capital accessible at short notice	*Conditional liquidity means exit is unavailable at the speed and size required when it is needed.*
Tail hedging	Convex payoff during drawdowns	*Premium bleed causes the strategy to be abandoned before the event it was designed to protect against.*

> *The portable alpha point deserves emphasis. Most marketed portable alpha strategies are not portable alpha in the meaningful sense. They are liquidity-dependent factor premia that exhibit low correlation in calm markets. Genuine uncorrelated alpha requires convexity. Most QIS strategies do not clear that bar.*

Five Questions for Your Investment Committee

1. Who prices this position, and can we verify it independently?

If the answer is the dealer, and verification is not possible, governance is relying on the counterparty's representation of performance. Closing this gap requires either independent valuation capability or a managed account structure.

2. What does a stressed exit cost, and can the portfolio absorb it?

Most investment committee approvals model strategy volatility. Few model stressed exit cost. Exit cost in a crowded strategy under stress is a structural cost that sits on top of the mark-to-market loss and is unknown until the moment it matters.

3. What is the all-in cost as a percentage of expected gross return?

If the answer is based on the explicit fee alone, the analysis is incomplete. Execution drag, funding costs, and structuring margin typically double or triple the true cost. Above 40 percent of expected gross return warrants hard scrutiny of whether the strategy justifies its economics.

4. What market conditions cause this strategy to lose significantly?

The answer should be specific: not a risk-off environment, but rapid synchronised yield rises across multiple developed markets, or sharp growth-to-value factor rotation. If the answer is vague, the strategy has not been stress-tested at the scenario level.

5. Does our governance cycle operate at the speed the market requires?

A monthly investment committee cycle and a position that needs to be reduced in hours or days are structurally incompatible. Pre-defined drawdown tolerances and delegated exit authority are not optional add-ons. They are the difference between a managed exit and a forced one.

When QIS Works and When It Doesn't

Condition	Works	Fails
Portfolio role	Specific objective with defined failure conditions	"Add alpha" or "diversify" without specifics
Cost assessment	All-in cost known and proportionated to gross return	Headline fee only; implicit costs unquantified
Position sizing	Sized for stressed exit, not backtest volatility	Sized on historical Sharpe; exit cost not modelled
Governance	Pre-defined triggers, delegated authority, independent monitoring	Monthly committee cycle; dealer marks accepted unchallenged
Structure	Managed account or equivalent transparency	OTC swap with no independent pricing capability

> *In QIS, implementation is the strategy. Structure determines the outcome. The signal is where the story starts, not where it ends.*

About This Brief

This Executive Brief is a companion to the Para Bellum Advisors practitioner paper: Quantitative Investment Strategies, From Systematic Exposure to Structural Reality. The full paper covers the complete governance framework, the QIS Risk Stack in detail, four case studies, the Five Ps framework, and the allocator decision tree.

Available at **www.parabellumadvisors.com/insights/**

About Para Bellum Advisors

Para Bellum Advisors is an independent advisory firm specialising in derivatives structuring, structured finance, and capital optimisation for institutional investors and corporate treasury teams.

We work with private credit managers, project finance and infrastructure investors, asset managers, family offices, and corporate treasury teams managing complex exposures where structural precision makes a material difference to outcomes.

Our work sits at the intersection of derivatives structuring, capital efficiency, and execution. Practitioner-led, with three decades of APAC experience. No products to sell. No transaction conflicts. We act as an extension of the investment team, providing senior-level structuring capability without adding permanent headcount.

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