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PRACTITIONER PAPER

Collateral Drag

Capital Economics of Modern Derivatives

By Mike Duncan, Para Bellum Advisors

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www.parabellumadvisors.com

Executive Summary

Collateral is no longer a post-trade operational detail. It is a structural use of capital with direct consequences for portfolio performance, liquidity resilience, and strategic flexibility.

Post-crisis market structure has transformed derivatives into capital-intensive instruments. Initial margin, cash variation margin, segregation, and conservative margin models now immobilise material balance-sheet capacity. Yet in many institutions, collateral continues to be governed as if it were still plumbing – measured imperfectly, owned ambiguously, and optimised reactively.

> *The result is persistent, largely invisible performance drag. Most portfolios do not underperform solely because markets move against them. They underperform because capital is quietly trapped in margin, buffers, and frictional processes that sit outside the investment decision loop.*

Collateral must be treated explicitly as balance-sheet capital. Doing so changes the questions institutions ask, the instruments they choose, and the way they prepare for stress. Many optimisation efforts fail not because they are technically wrong, but because they ignore sequencing, incentives, and second-order effects. Without that shift, improvements remain cosmetic – enhancing reporting rather than outcomes.

This paper covers why collateral drag is fundamentally a governance and capital-allocation problem rather than an operational one; how post-crisis market structure has permanently altered the economics of derivatives; why most institutions systematically underestimate lifecycle collateral costs; and how optimisation efforts break down under stress, based on recurring real-world failure modes.

> *In an environment where incremental alpha is scarce, this alignment is no longer optional.*

1. Collateral Drag Is a Governance Problem, Not an Operational One

Collateral has traditionally been treated as a post-trade operational necessity. It sits with operations, treasury, or middle office, governed through process rather than intent. That framing is now obsolete.

Modern derivatives regimes have turned collateral into a structural use of capital. Initial margin, variation margin, segregation requirements, and conservative margin models immobilise assets that could otherwise be deployed elsewhere in the portfolio. Yet decision-making authority has not shifted accordingly.

This creates a persistent mismatch. Investment teams decide what risk to take. Operational teams manage how that risk is supported. No single function owns the total economic outcome.

The result is not poor execution, but structural drift. Buffers accumulate. Counterparties proliferate. Collateral eligibility tightens by default rather than design. Each decision appears locally sensible. Collectively, they embed performance drag.

Critically, this is not a capability problem. Many institutions have sophisticated risk systems, experienced staff, and strong controls. What they lack is a governance framework that treats collateral as capital competing with other uses on the balance sheet.

> *Until that shift is made, optimisation efforts remain cosmetic. They improve reporting, not outcomes.*

2. The Post-UMR World – How Derivatives Quietly Became Capital-Intensive

The global financial crisis fundamentally altered how derivatives consume capital. Regulatory reforms were designed to reduce counterparty risk and systemic fragility. They succeeded – but with lasting economic consequences.

Initial margin is now required across most cleared and uncleared derivatives. Variation margin is predominantly cash-based and settles daily, often intraday. Segregation rules prevent rehypothecation. Margin models are deliberately conservative and procyclical.

> *Together, these changes have shifted derivatives from being primarily risk-transfer instruments to being capital-intensive structures.*

This shift is often underappreciated because its effects are diffuse. Costs do not appear as a single fee. They show up as idle cash balances, reduced liquidity flexibility, higher funding costs, and missed opportunities during stress. These effects are rarely attributed back to derivatives usage.

Importantly, this is not a temporary regime. Margin requirements have become embedded features of market structure. Institutions waiting for a return to pre-crisis economics are planning against a world that no longer exists.

The implication is clear: derivatives must now be evaluated not just on risk reduction or execution cost, but on total lifecycle capital consumption. The consequence is not higher cost in isolation, but competition for balance-sheet capacity that was previously available to the portfolio.

3. Lifecycle Costing – Why Most Institutions Underestimate Collateral Drag

Most institutions believe they understand the cost of their derivatives. In reality, they understand only a fraction of it.

Execution costs are visible, negotiated, and tracked. Margin costs are less so. Opportunity cost of posted collateral is rarely measured explicitly. Funding costs are often averaged or absorbed into treasury. Operational and governance costs are treated as overhead. Because these costs sit in different silos, they are seldom aggregated. No one sees the full picture.

> *This creates a systematic bias. Decisions are made using partial economics. Structures that appear efficient on paper generate persistent drag in practice. The gap widens during periods of stress, when margin volatility and funding asymmetry dominate outcomes.*

The problem is compounded by path dependency. Variation margin creates immediate liquidity demands when positions move against the institution, while gains accumulate more gradually through reduced margin requirements. Initial margin requirements rise when volatility increases. Collateral that looked ample in calm markets becomes constraining under pressure.

Without a lifecycle view, institutions optimise what they can see and ignore what they cannot. The result is not catastrophic failure, but chronic underperformance that is difficult to explain.

4. Operational Alpha – Real, Persistent, and Widely Misunderstood

Collateral optimisation is often framed as an efficiency exercise – something to be pursued once larger strategic questions have been addressed. This understates its impact.

Reducing collateral drag does not generate alpha in the traditional sense. It does not depend on forecasting skill or market timing. Instead, it removes structural headwinds that depress returns regardless of market direction.

These improvements compound. Capital freed from margin can be redeployed. Liquidity preserved under stress enables better rebalancing decisions. Reduced forced behaviour improves realised outcomes even when strategy is unchanged. Crucially, these benefits persist across cycles. They do not decay as markets become more competitive. They scale with portfolio size rather than being arbitraged away.

> *For institutions operating in a low-return environment, this distinction matters. When incremental alpha is scarce, eliminating avoidable drag becomes one of the few reliable ways to improve outcomes without increasing risk. Collateral efficiency is a structural return lever.*

5. The Three Levers That Actually Matter

5.1 Toolkit Breadth

Access to repo, securities lending, triparty custody, and collateral transformation creates optionality. Without these tools, optimisation is largely theoretical. Institutions constrained to posting cash or a narrow set of securities inevitably carry higher drag, particularly during stress.

However, toolkit breadth is not free. Each additional tool introduces legal, operational, and governance complexity. Optionality that cannot be exercised quickly and predictably becomes latent optionality – paid for but rarely used.

5.2 Structural Simplification

Complexity multiplies drag. Counterparty sprawl reduces netting efficiency. Bespoke CSAs increase operational friction and dispute risk. Inconsistent eligibility schedules force conservative collateral choices. Simplification does not mean rigidity – it means removing complexity that no longer earns its keep.

Institutions that rationalise counterparties, standardise CSAs, and clearly separate investment assets from collateral assets consistently improve capital efficiency.

5.3 Cash vs Derivatives Discipline

Many portfolios default to physical instruments or derivatives without explicitly assessing which structure delivers the desired exposure with the lowest total lifecycle cost. The relevant question is not whether cash or derivatives are better, but how each behaves under realistic stress when margin, funding, and governance constraints bind.

> **How the three levers interact**
>
> Expanding the toolkit without simplification increases drag.
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> Simplification without flexibility reduces optionality.
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> Aggressive derivative usage without governance amplifies liquidity risk.
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> Effective optimisation lies in balance, not maximisation.

6. Why Most Collateral Optimisation Programmes Fail

Collateral optimisation is widely discussed, frequently attempted, and rarely executed well. Failure is seldom due to lack of technical capability. More often, institutions start in the wrong place.

- **Tool-first optimisation:** Systems are procured and dashboards are built before ownership and objectives are clarified. Visibility improves; outcomes do not. Without accountability for total collateral cost, insights fail to translate into decisions.
- **Over-engineering:** Institutions attempt to optimise every margin dollar simultaneously, introducing complex rules and escalation processes. Complexity increases operational risk and slows response. Under stress, systems revert to conservative defaults, undoing years of effort.
- **Buffer substitution:** Excess buffers are often justified as prudence. In reality, they frequently substitute for weak forecasting and limited visibility. Buffers grow over time and drag becomes permanent.
- **Vendor-led optimisation:** External tools can support discipline, but they cannot impose it. When optimisation is framed as a technology problem rather than a governance problem, results rarely endure.
- **Project mindset:** Optimisation is treated as a one-off initiative rather than an ongoing discipline. Inefficiencies creep back in as soon as attention shifts elsewhere.

Successful programmes follow a different path. They clarify ownership first, define what efficiency means for the institution, and embed collateral considerations into decision-making. Technology follows governance, not the other way around.

7. Failure Modes in Practice – Four Case Studies

The following case studies are anonymised and representative. They are not edge cases. Each reflects a failure mode observed repeatedly across institutional portfolios with otherwise sophisticated investment and risk functions.

Case Study 1: "We Optimised for Safety and Ran Out of Liquidity"

Profile

Large institutional investor with a diversified derivatives overlay across rates, FX, and equity risk. Strong risk culture. Conservative governance.

What they thought they were doing

The institution maintained substantial collateral buffers to ensure margin calls could always be met under stress. Cash was posted by default. Excess collateral was viewed as prudent insurance against operational failure and market shocks.

What happened

During a period of market volatility, margin requirements rose sharply across multiple CCPs and bilateral counterparties simultaneously. Variation margin calls clustered within a short window. Funding markets tightened. Internal liquidity buffers were consumed far faster than anticipated.

The buffers that were meant to protect the institution became the problem. Cash posted as margin could not be redeployed. Securities that might have been used as collateral had already been encumbered or were ineligible under existing CSAs. Repo lines existed on paper but could not be mobilised quickly enough to matter.

The institution met its margin calls, but only by liquidating assets at unfavourable prices and suspending other investment activity.

Why it broke

The institution substituted buffers for forecasting. Safety was defined as "having more collateral" rather than understanding how collateral demands would evolve under stress. Liquidity planning focused on static coverage ratios, not dynamic margin behaviour.

What changed

Collateral was reframed as a liquidity risk amplifier, not a mitigant. Margin forecasting under stress became a governance requirement. Buffers were reduced and replaced by clearer mobilisation pathways and toolkits that could be used when needed.

Case Study 2: "The Toolkit Was There – We Just Couldn't Use It"

Profile

Mid-sized asset owner with access to repo, securities lending, and triparty custody. Investment-grade infrastructure. Multiple counterparties.

What they thought they were doing

The institution had invested in a broad collateral toolkit to improve flexibility and reduce drag. Repo and securities lending facilities were in place. Triparty custody had been implemented. On paper, the institution appeared well-positioned.

What happened

In practice, the toolkit was rarely used. Governance required multiple approvals to mobilise assets. Legal documentation differed across counterparties. Eligibility schedules were inconsistent. Operational teams lacked clear authority to act under time pressure.

When margin requirements increased, the institution defaulted to posting cash – not because it was optimal, but because it was familiar and frictionless. The toolkit existed, but optionality could not be exercised at speed.

Why it broke

Optionality without execution discipline is latent optionality. The institution optimised for access rather than usability. Governance complexity neutralised the very flexibility the toolkit was meant to provide.

What changed

Counterparties were rationalised. CSAs were standardised. Decision rights were clarified. The toolkit was simplified rather than expanded, and operational teams were given clear authority to execute within defined parameters. Usage increased significantly as friction decreased.

Case Study 3: "Optimisation Increased Risk Instead of Reducing It"

Profile

Sophisticated investment team with a strong quantitative culture and a mandate to improve capital efficiency.

What they thought they were doing

The institution pursued aggressive collateral optimisation, minimising initial margin usage and reducing buffers across the portfolio. Optimisation targets were embedded into performance metrics. Efficiency improved rapidly in benign conditions.

What happened

When markets became volatile, margin requirements increased non-linearly. Optimisation thresholds were breached simultaneously across multiple exposures. Automated rules attempted to reduce margin by substituting securities while repo facilities simultaneously tried to preserve cash positions, creating operational deadlock. Human intervention came too late.

The institution was forced to unwind positions at precisely the wrong time, crystallising losses that far exceeded the incremental gains achieved during calm periods.

Why it broke

Optimisation was designed for steady-state conditions, not stress. Efficiency targets were pursued without explicit stress guardrails. The system was optimised to look good on average, not to survive extremes.

What changed

Optimisation objectives were redefined to include stress resilience. Capital efficiency was measured conditionally, not unconditionally. Human judgement was reintroduced into escalation paths.

Case Study 4: "We Didn't Know Where the Drag Was Coming From"

Profile

Multi-asset institutional investor with long-dated liabilities and extensive derivative usage.

What they thought they were doing

The institution believed its derivative programme was cost-effective. Execution costs were low. Funding lines were stable. Performance attribution showed no obvious issues.

What happened

A detailed review revealed that collateral drag was spread across multiple areas: conservative CSAs, counterparty fragmentation, persistent disputes, and systematic over-collateralisation driven by uncertainty. No single item appeared material. Together, they represented a meaningful and recurring performance headwind.

Because the drag was diffuse, it had never been escalated. No one function saw the whole picture.

Why it broke

Cost visibility stopped at execution. Lifecycle cost was never aggregated or owned. The institution optimised what it could see and ignored what it could not.

What changed

Lifecycle cost reporting was introduced at the portfolio level. Ownership was reassigned. Small structural changes delivered disproportionate improvements once the full cost stack became visible.

What these failures have in common

Across all four cases, the failure was not technical. It was structural.

- Buffers substituted for understanding
- Tools substituted for governance
- Optimisation substituted for judgement
- Visibility stopped at execution

In each case, improvement began not with better models or systems, but with a change in how collateral was conceptualised: from operational necessity to balance-sheet capital.

8. Collateral Optimisation and Total Portfolio Thinking

Treating collateral as capital has a simple but far-reaching implication: it must be managed within a total portfolio framework. Capital posted as margin competes directly with other uses on the balance sheet. It affects liquidity, leverage, and flexibility. Yet in many organisations, it is excluded from portfolio-level capital allocation discussions.

This exclusion distorts decision-making. Derivatives are assessed through a market-risk lens, while collateral is treated as an operational by-product. The portfolio appears efficient on paper while capital is quietly immobilised elsewhere.

A total portfolio perspective forces different questions. What return hurdle should collateral-consuming strategies meet? How does margin behaviour change the portfolio's ability to respond to stress? What optionality is being surrendered by posting assets under conservative margin regimes?

Importantly, this framework does not imply maximising efficiency at all times. There will be periods when institutions accept higher collateral usage in exchange for simplicity or certainty. The difference is that these choices are made deliberately, rather than inherited through legacy structures.

> *Institutions that integrate collateral into portfolio thinking tend to experience fewer forced decisions during stress. They preserve flexibility when markets dislocate and align implementation more closely with intent.*

Collateral is no longer peripheral. It is a determinant of how portfolios behave when conditions are least forgiving. Treating it as such is not aggressive. It is accurate.

Conclusion

Collateral is not neutral. It is not free. It is no longer small enough to ignore.

Post-crisis market structure has turned derivatives into capital-intensive instruments. Margin, segregation, and conservative risk models now immobilise balance-sheet capacity in ways that materially affect portfolio behaviour. Treating collateral as plumbing in this environment is not conservative. It is imprecise.

Institutions that continue to manage collateral as an operational afterthought are making implicit capital allocation decisions without acknowledging them. Those that surface collateral explicitly, measure its lifecycle cost, and challenge inherited structures are not taking more risk. They are reducing blind spots.

> *In markets where returns are increasingly shaped by structure rather than insight, clarity matters. Collateral has become a determinant of liquidity resilience, strategic flexibility, and realised performance. Managing it as capital is no longer optional. It is a requirement for accuracy.*

Further Reading

Para Bellum Advisors publishes practitioner papers and CIO Briefs focused on real-world portfolio construction, risk and capital efficiency:

www.parabellumadvisors.com/insights/

About Para Bellum Advisors

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

The firm works with lean investment and treasury teams managing complex, multi-asset exposures – long-dated assets, illiquid portfolios, and non-standard risk profiles – where structural precision makes a material difference to outcomes.

Its engagements typically involve designing and re-engineering hedges across FX, rates, credit, equity, and volatility; identifying and releasing trapped capital; and providing embedded structuring capability where permanent headcount is neither practical nor warranted.

Para Bellum does not distribute products or earn transaction volume. Its value is in structure: how exposures are designed, how capital is consumed, and how portfolios behave when conditions deteriorate.

The firm is practitioner-led, drawing on three decades of experience across trading, structuring, and portfolio management in banks, asset managers, and institutional balance sheets in Asia-Pacific and global markets.

For more information: www.parabellumadvisors.com

For discussion or enquiries: mike.duncan@parabellumadvisors.com

Connect on LinkedIn: www.linkedin.com/in/mikeduncan-structuring/