



PARA BELLUM ADVISORS

PRACTITIONER PAPER

Portable Alpha

What Survives Once You Remove the Marketing

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Executive Summary

Portable alpha would be a compelling solution if markets behaved the way investment decks assume they do. In theory, separating beta from alpha allows an investor to maintain strategic market exposure while redeploying freed capital into uncorrelated return sources. The premise is elegant: the same beta, plus a layer of alpha on top, plus reduced drawdowns because the alpha does not correlate with equity. Higher returns in bull markets. Softer landing in bear markets. No need to change the strategic asset allocation.

In practice, most implementations fail to deliver on that promise. The concept is sound. The execution systematically ignores three factors that, once priced honestly, change the economics substantially.

PROBLEM 1

Synthetic beta is not free. Futures and swaps embed financing costs, roll drag, and foregone dividend income. For Australian superannuation funds, franking credit leakage adds another 80–150bps annually. Most marketed examples omit all of this.

PROBLEM 2

The "uncorrelated alpha" most portable alpha structures rely on is not uncorrelated in the conditions that matter. QIS strategies, managed futures, market-neutral equity, and FX carry all share a common exposure: liquidity. When liquidity disappears, they correlate with equity. That is the only time investors need the diversification.

PROBLEM 3

Even genuine convexity – the only structurally uncorrelated alpha source – is useless without a pre-committed monetisation framework. A put worth five times its premium in a panic generates zero return if the committee hesitates while volatility mean-reverts. Most portable alpha structures have no monetisation framework at all.

Once these three problems are properly accounted for, the real hurdle rate for the alpha leg rises to 250–400 basis points above cash before the structure breaks even with holding the physical benchmark.

Most marketed implementations set that hurdle at zero.

Each problem gets a full working-through here – numbers, examples, and the failure modes practitioners actually encounter. The back half covers what a structure that genuinely delivers looks like, and the questions worth asking before any capital goes in.

1. The Premise and What the Pitch Deck Shows

Portable alpha rests on a genuinely elegant theoretical foundation. Modern financial instruments allow an investor to replicate the return of any index using derivatives – exchange-traded index futures or OTC total return swaps – at a small fraction of the underlying notional. A futures position covering \$100 million of equity index exposure might require only \$5–7 million in initial margin. The remaining \$93–95 million of capital sits free.

That freed capital can be deployed into a second strategy: the alpha source. If this second strategy is genuinely uncorrelated with the equity market, the combined portfolio earns equity beta plus alpha, with the diversification benefit reducing drawdowns relative to holding equity alone.

The textbook example, which appears with minor variations in virtually every portable alpha pitch deck, looks like this:

Capital	Instrument	Notional Exposure	Return (bull +7.5%)	Return (bear -15%)
\$6M (margin)	S&P 500 / ASX 200 futures	\$100M notional	+\$7.50M	-\$15.00M
\$30M	Market-neutral alpha strategy	\$100M notional	+\$4.00M	+\$2.00M
\$64M	Cash / T-bills at 4%	\$64M	+\$2.56M	+\$2.56M
\$100M total	Combined	\$200M+ notional	+\$14.06M (14.1%)	-\$10.44M (-10.4%)
\$100M passive	Physical ETF (benchmark)	\$100M	+\$7.50M (7.5%)	-\$15.00M (-15.0%)

The numbers look compelling. The bull market adds 6.56 percentage points of return over passive. The bear market mitigates the drawdown by 4.56 percentage points.

Notice what is absent from this table: no financing cost for the futures position; no treatment of dividends foregone by holding futures rather than the physical index; no roll cost as contracts are periodically renewed; no acknowledgment that the alpha strategy returns are modelling assumptions, not market observations; and for an Australian context, no mention of franking credits.

These are not minor omissions. They are the entire difference between a structure that works and one that destroys value.

The honest question at the outset: "If this is so good, why is not every institutional portfolio running it?" The answer is that the ones who tried it found out what the pitch deck omitted.

2. The Hidden Cost of Synthetic Beta

The most fundamental error in most portable alpha presentations is treating beta replication as free. Understanding why requires understanding how futures are priced.

2.1 Futures Pricing and the No-Arbitrage Condition

A futures contract is priced so that holding futures and holding the physical asset produce equivalent returns for a risk-neutral investor. The no-arbitrage relationship is:

$$\text{Futures Price} = \text{Spot Price} \times \exp((r - d) \times t)$$

Where r is the risk-free rate, d is the dividend yield, and t is time to expiry. The buyer of the futures does not receive dividends separately – they are implicitly financing the position at $(r - d)$ per annum. For global equity indices in a 4–5% rate environment with dividend yields of 2–3%, this implicit financing cost is roughly 1.5–2.5% per year. For Australian equities, the situation is considerably worse.

2.2 The Australian Franking Problem

Australian equity dividends carry imputation credits that allow shareholders to offset corporate tax against their own tax liability. For a superannuation fund in the 15% accumulation phase, franking credits generate after-tax returns equivalent to an additional 80–150 basis points per year above the grossed-up dividend. Futures and total return swaps do not carry franking credits. The index pricing mechanism strips them out.

A super fund holding ASX 200 futures instead of physical ASX 200 stocks is not just giving up dividend income. It is forgoing a tax benefit that may be worth more than the alpha it is trying to add.

This is not a theoretical concern. It is the reason several large Australian super funds ran portable alpha programmes, modelled the after-tax return carefully, and discontinued them.

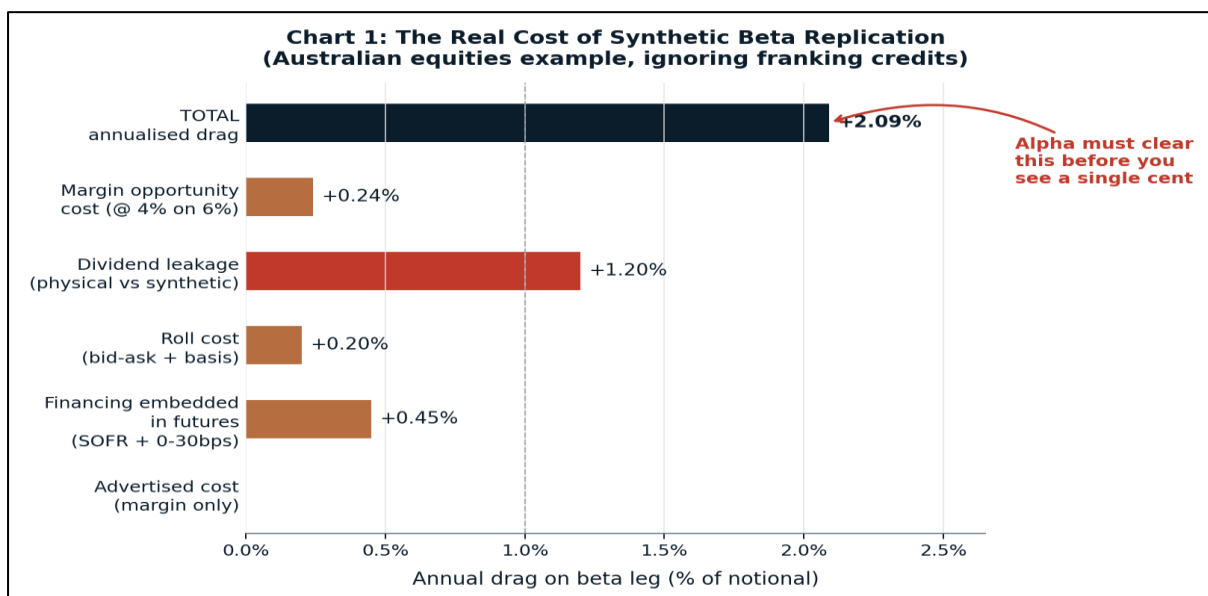


Chart 1: Annual drag components on the beta leg for an Australian equity portable alpha structure. The marketed cost is zero. The real after-tax cost for a super fund is over 200bps before the alpha strategy generates a single dollar.

2.3 Roll Costs and Basis Risk

Equity index futures expire quarterly. A portfolio maintaining continuous beta exposure must roll contracts forward at each expiry, closing the expiring contract and opening the next. In normal markets, roll cost is modest – perhaps 5–10 basis points per roll, or 20–40 basis points annually for quarterly contracts. In stressed markets, the basis can widen substantially. During March 2020, the roll cost for S&P 500 futures approximately doubled as bid–ask spreads widened. The beta replication strategy became more expensive to maintain precisely when it was most important.

2.4 The Honest Beta Replication Cost Table

Cost Component	Physical ASX 200 ETF	Futures (synthetic)	TRS (synthetic)
Dividend receipt	Yes (~4.0% gross)	No (embedded in pricing)	Yes (received explicitly)
Franking credits (super fund)	Yes (~1.0–1.5%)	No	No
Management fee	ETF fee 0.07–0.20%	Not applicable	Not applicable
Financing cost	Implicit in ETF fee	SOFR/BBSW + 0–30bps	Explicit: BBSW + 40–80bps
Roll cost (annual)	None	~20–40bps	Not applicable
Approx net annual drag vs physical	Obps (baseline)	180–250bps	120–180bps

The practical implication: a portable alpha structure using ASX 200 futures for an Australian super fund needs its alpha strategy to generate at least 200–250 basis points per year in net return just to break even with holding the physical ETF. That is the real hurdle rate. The pitched hurdle rate of zero does not exist in the real world.

3. Running the Numbers Honestly

With beta replication costs properly specified, the return comparison looks substantially different. The following analysis uses the same \$100 million portfolio and same return assumptions as the standard pitch deck – changing only the treatment of financing and dividend leakage.

Assumptions (explicit this time)

Parameter	Marketed Assumption	Realistic Assumption
Beta replication cost	Zero (not modelled)	Futures financing + roll + dividend/franking leakage: total ~210bps p.a.
Alpha strategy return (bull)	+4.0%	+4.0% (same initial assumption)
Alpha strategy return (bear)	+2.0%	+2.0% (same initial assumption)
Cash buffer yield	4.0%	4.0%
Franking credits	Not mentioned	Excluded by futures structure: -100bps super fund equivalent

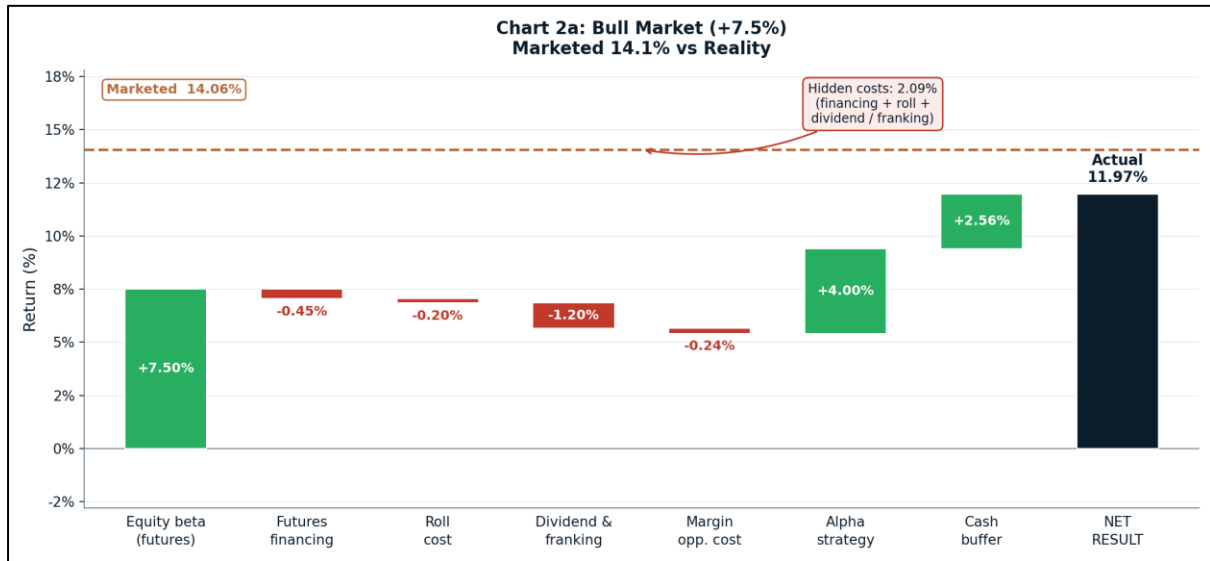


Chart 2a: Waterfall breakdown of bull market returns, marketed version versus realistic version. The copper dashed line shows the marketed return. Real financing costs and dividend leakage reduce the bull market from 14.1% to approximately 11.9%

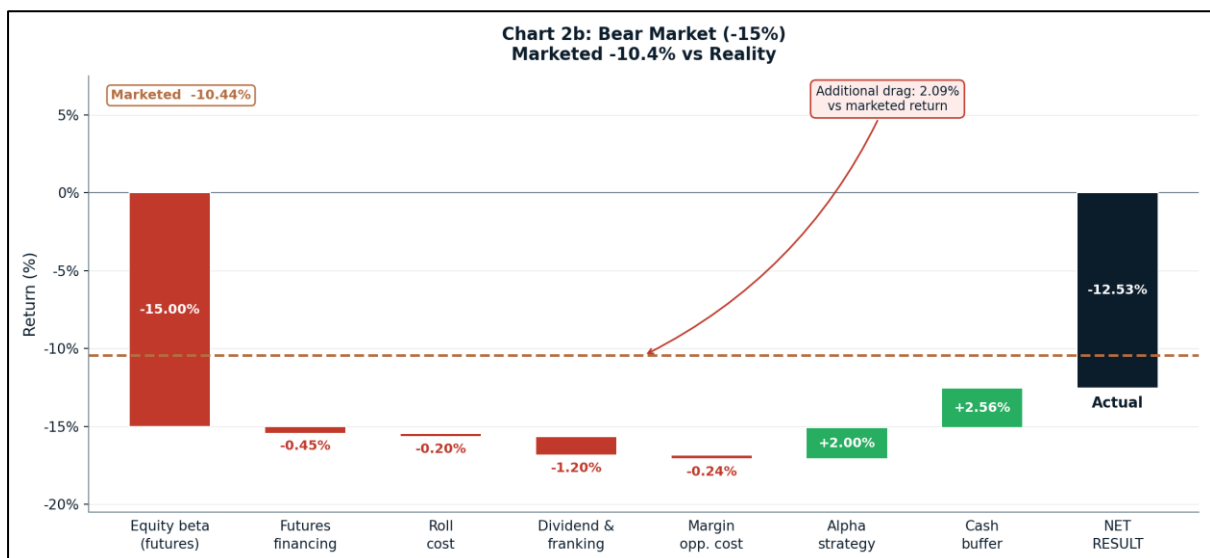


Chart 2b: Waterfall breakdown of bear market returns, marketed version versus realistic version. The copper dashed line shows the marketed return. Real financing costs and dividend leakage worsen the bear market from -10.4% to approximately -12.5%.

3.1 Bull Market: The Gap Between Promise and Reality

Component	Capital	Marketed Return	Realistic Return	Difference
Equity futures	\$6M margin / \$100M notional	+7.5% (+\$7.50M)	+7.5% on notional	–
Futures financing drag	–	Not shown	-1.50% (-\$1.50M)	-\$1.50M
Dividend/franking leakage	–	Not shown	-1.20% (-\$1.20M)	-\$1.20M
Roll cost	–	Not shown	-0.20% (-\$0.20M)	-\$0.20M
Alpha strategy	\$30M	+4.0% (+\$4.00M)	+4.0% (+\$4.00M)	–
Cash buffer	\$64M	+4.0% (+\$2.56M)	+4.0% (+\$2.56M)	–
TOTAL	\$100M	+14.06% (+\$14.06M)	+10.16% (+\$10.16M)	-3.90%
vs passive ETF	\$100M	+6.56% uplift	+2.66% uplift	Uplift halved

The marketed uplift of 6.56 percentage points over passive falls to approximately 2.66 percentage points once real costs are included. The structure still adds value in the bull case – but considerably less than advertised.

3.2 Bear Market: Mitigation Erodes Under Real Costs

The bear market comparison is more troubling. The marketed story is that portable alpha cushions the fall: passive loses 15.0%, portable alpha loses only 10.4%. Under realistic cost assumptions, the actual mitigation is approximately 2.5 percentage points, not 4.56. The beta replication drag compounds the downside rather than helping it.

More critically, this analysis still assumes the alpha strategy delivers +2.0% in a bear market. Whether that assumption is realistic is examined in the next section.

4. The Alpha Problem: Correlation is a Fair-Weather Statistic

The portable alpha thesis requires genuinely uncorrelated alpha. Most portable alpha structures use one of a small number of alpha sources: managed futures (CTAs), market-neutral equity, FX carry, volatility selling, or QIS strategies. These share a characteristic that is visible in historical back-tests but rarely emphasised in pitch presentations: their low correlation with equity markets is a calm-market phenomenon. In stress, correlations converge.

4.1 Why Most "Alpha" Is Really Packaged Beta

The strategies most commonly proposed as alpha sources are, at their core, risk premia: compensation for bearing specific, identifiable risks. They are not alpha in the academic sense of skill-based excess return. They are beta to factors other than the equity market – the liquidity risk premium, the carry premium, the momentum premium, and the low-volatility premium.

In calm markets, these factor exposures produce steady, modestly positive returns with low measured correlation to equity indices. In stressed markets, liquidity becomes the dominant risk factor across virtually all asset classes simultaneously. Correlations converge toward one as investors liquidate everything to raise cash.

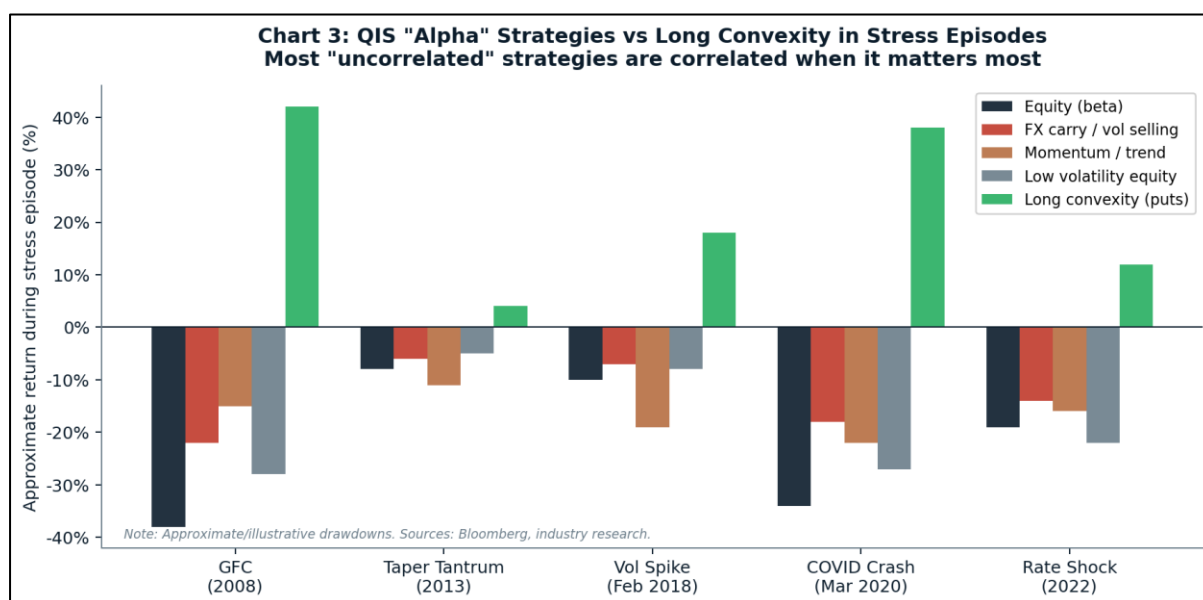


Chart 3: Approximate returns for common "alpha" strategy types versus long convexity during five stress episodes. In each case, QIS strategies drew down alongside equity. Managed futures helped in 2008 and 2022 but failed in 2018 and 2020. Only long convexity moved consistently counter-cyclically. Note: illustrative figures based on reported industry data.

4.2 A Closer Look at Each Common Alpha Source

Managed Futures and CTAs

Managed futures funds were the darlings of the 2008 crisis, generating substantial positive returns while equity markets fell 38–50%. This created a durable but misleading narrative. In 2020, many CTA portfolios were positioned pro-cyclically when the crash arrived in late February and March. Several large managed futures funds lost 10–15% during March 2020 – essentially identical to a small equity portfolio. Trend-following requires time to reposition. A crash over three to four weeks does not give the model sufficient data to change direction before significant loss occurs.

Market-Neutral Equity

Market-neutral strategies have hidden factor exposures. Many are long quality and low volatility, short momentum and high beta stocks. In a liquidity crisis, forced deleveraging affects both sides. Margin requirements rise, prime brokers reduce leverage limits, and the strategy is forced to unwind positions at the worst moment. The correlation with equity markets turns sharply positive exactly as the portfolio is being involuntarily reduced.

FX Carry

Currency carry strategies borrow low-yielding currencies (JPY, CHF) and invest in high-yielding currencies (AUD, NZD, EM). In 2008, AUD/JPY fell approximately 40% in six months. In March 2020 it fell approximately 11% in three weeks. In both cases, a carry strategy running as the alpha leg would have amplified rather than cushioned the equity drawdown. The correlation with equity in stress is close to one.

Volatility Selling

Short volatility strategies generate steady income in calm markets by collecting option premium. They are mathematically equivalent to selling insurance against market stress. February 2018 saw the implosion of several short-volatility ETPs – products that had been generating steady income for years lost 80–90% of their value in a single session. Any portable alpha structure using short volatility as the alpha source is not adding diversification. It is adding a second, more concentrated version of the equity tail risk.

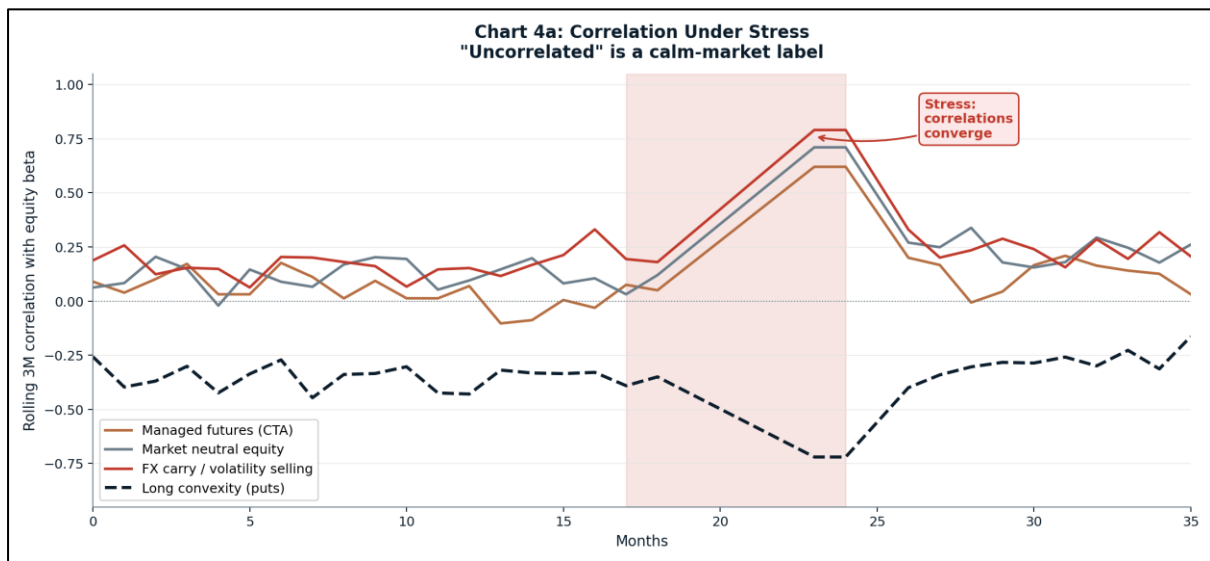


Chart 4a: shows illustrative rolling correlation of common alpha strategies with equity during a stress episode. Most strategies that appear uncorrelated in calm markets see correlations rise sharply as stress develops

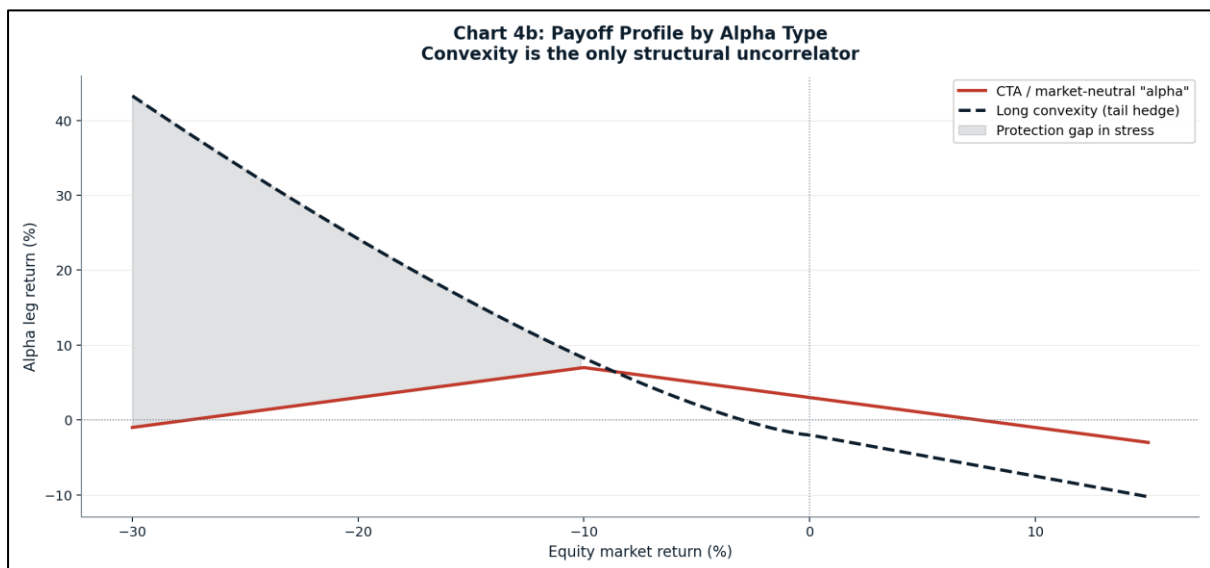


Chart 4b: shows the payoff profile: only long convexity has an accelerating positive payoff as markets fall.

4.3 The One Alpha Source That Actually Works: Convexity

There is a category of instrument whose payoff is structurally, not statistically, uncorrelated with equity markets in stress: long convexity. When equity markets fall, a put that was 20% out of the money moves towards the money and eventually into the money. At the same time, implied volatility rises, further inflating the option's premium. The two effects compound. A 25% equity drawdown accompanied by a volatility spike from 15 to 60 can generate a 400–800% return on the option premium.

This payoff profile does not depend on correlations remaining stable. It is a mathematical property of the instrument. This is what David Dredge and others mean when they argue that the only true alpha is convexity. It is the only source of return that is structurally, reliably uncorrelated with equity in the scenarios that matter. Everything else is correlation that merely has not been tested yet.

5. The Convexity Economics

If genuine convexity is the only reliably uncorrelated alpha source, then any portable alpha structure that actually delivers on its promise must use convexity as its alpha leg. The economics of doing so need to be stated honestly.

5.1 The Carry Cost of Convexity

A typical long convexity programme uses rolling out-of-the-money equity put options, sized at 2–5% of portfolio AUM as an annual premium budget. At current levels, buying and rolling 3-month 10–15% OTM equity index puts costs approximately 1.0–2.0% of the hedged notional per year in calm markets. This carry cost is persistent and compounding. Over a five-year period without a significant drawdown, the cumulative cost of the convexity programme is 5–10% of the notional hedged.

5.2 The Three-Way Cost Structure

Cost Component	Marketed Figure	Realistic Figure	Notes
Futures financing + roll	0 bps	120–180 bps p.a.	Embedded in futures pricing; often ignored
Dividend / franking leakage	0 bps	80–120 bps (super funds)	Zero for non-super / non-Aus structures
Convexity carry (puts etc.)	0 bps	100–200 bps p.a.	Premium cost of maintaining genuine convexity
Total annual drag to breakeven	0 bps	300–500 bps p.a.	The real alpha hurdle, not zero

A managed futures fund generating 3–4% per year in steady-state conditions would be running at or below the break-even point for an Australian super fund implementation. The alpha generated would be absorbed entirely by the cost of the structure.

A convexity-based alpha programme does not generate 3–4% steady-state returns. In calm years it generates negative carry. It only pays off in the years when markets break. This is a fundamentally different value proposition from the portable alpha pitch deck. It is not "add alpha and enhance your return." It is "pay a known, budgeted cost in normal markets to have genuine protection and redeployment capacity in crises."

5.3 Sizing the Convexity Budget

Research across multiple institutional programmes suggests a convexity budget of 2–3% of portfolio AUM per year provides meaningful crisis mitigation at reasonable cost. Below 1% the notional covered is insufficient to matter. Above 4–5% the steady-state drag becomes difficult to justify to governance bodies.

For a \$1 billion portfolio, a 2% annual convexity budget is \$20 million per year in option premium. At current market levels, this purchases put notional of approximately \$1–1.5 billion across rolling quarterly or semi-annual strikes. In a 2020-type event, this sleeve would have generated approximately \$400–600 million in option proceeds – substantial dry powder for redeployment at depressed prices.

That is the genuine value of a properly structured convexity programme. It creates the capacity to buy assets cheaply at the bottom of a crisis when everyone else is forced to sell. The return on that redeployment – not the put itself – is where the long-term performance advantage is generated.

6. The Monetisation Problem

Assume the structure is built correctly – physical equity for the beta leg, genuine long convexity as the alpha leg, honestly priced. A crisis arrives. The equity portfolio draws down 25%. The puts reprice sharply, generating perhaps 400% on the option premium invested. The hedge is working exactly as intended.

Now what?

This is the question that almost no portable alpha or tail hedge presentation addresses – and it is the question that determines whether the structure actually delivers value or merely generates impressive interim marks.

6.1 The Anatomy of a Crisis Monetisation

Options that have moved deep into the money need to be monetised: sold to raise cash, rolled to lower strikes, or used to fund the purchase of discounted equities. This monetisation must happen while the options still carry their peak value. That window is shorter than most investors realise.

A typical equity crisis follows a recognisable pattern. The initial drop is fast, over two to four weeks. Implied volatility reprices sharply higher. The puts reach their maximum value somewhere in this window. Then policy response begins: central bank statements, fiscal announcements. Volatility starts to mean-revert. Options that were worth five times their premium at day 20 are worth two times at day 40. By day 60 the position may have given back the majority of the extraordinary gain.

Without pre-committed monetisation triggers, committees hesitate, volatility mean-reverts, and the unrealised gain decays before any cash is realised. The hedge "worked" on paper but delivered nothing.

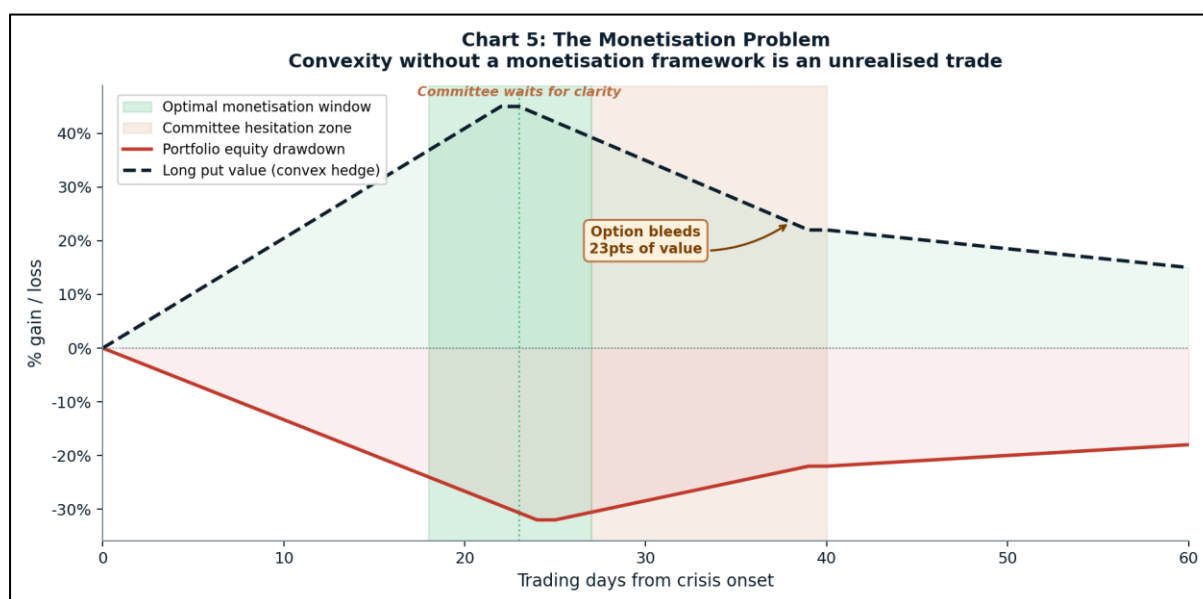


Chart 5: Illustrative crisis monetisation window. The convex instrument reaches peak value 15-25 trading days into a drawdown as volatility spikes. Without pre-committed monetisation triggers, committees hesitate, the volatility mean-reverts, and the unrealised gain decays before any cash is realised. The hedge "worked" on paper but delivered nothing.

6.2 Why Committees Hesitate

When markets are falling sharply and the tail hedge is generating large, unrealised gains, the investment committee faces a decision under extreme uncertainty. The arguments for waiting always feel compelling: "The market could fall another 20%." "Let's wait for clarity on the policy response." These arguments are not irrational. They reflect genuine uncertainty. But waiting for clarity is structurally incompatible with monetising convexity, because the clarity arrives at the same time as the vol mean-reversion.

6.3 What a Proper Monetisation Framework Requires

A monetisation framework that actually functions must be designed and approved before the crisis, not during it. The committee must have already agreed, in advance:

- **Trigger levels defined by portfolio drawdown** – monetise the first tranche when portfolio drawdown reaches 8%, the second at 12%, the third at 18%. No new approval required.
- **Hedge P&L coverage ratios** – monetise the first tranche when hedge P&L covers 50% of the contemporaneous portfolio loss, the second at 75%, the third at 100%.
- **Pre-approved counterparties and execution venues** – the team should not be spending crisis time locating counterparties or negotiating execution terms.
- **Redeployment instructions** – proceeds go first to operating cash and margin coverage, then to pre-identified equity or credit purchases at defined thresholds. Agreed before the crisis.
- **Time limits** – any tranche not monetised within a defined period of trigger is automatically closed. Waiting for the perfect moment is not permitted.

Without these components, the monetisation is discretionary. Discretionary monetisation in a crisis is a committee decision under maximum uncertainty with maximum career risk. It will be delayed. When it finally happens, it will be suboptimal.

6.4 The Tranche Approach

Tranche	Trigger Condition	Size	Proceeds Directed To
Tranche 1	Portfolio drawdown -8% OR hedge P&L covers 50% of loss (first)	30% of hedge position	Operating cash, margin requirements, 30-day Treasury instruments
Tranche 2	Portfolio drawdown -15% OR hedge P&L covers 75% of loss	30% of hedge position	Pre-identified equity allocations at target discount to fair value
Tranche 3	Policy intervention signal OR vol normalisation (term structure flattens)	Remainder	Broader redeployment into distressed credits, alternatives as pre-agreed

No tranche waits for the bottom. Each tranche generates real cash at a defined, pre-agreed point. The portfolio ends the crisis with less paper exposure than if every option was held to maximum theoretical value, but with substantially more real cash and redeployment capacity than if the committee waited for clarity.

7. What a Version That Actually Works Looks Like

Structural Element	Standard Pitch Deck	Honest Working Version
Beta leg instrument	Equity index futures at 6% margin, no cost discussion	Physical equity for domestic allocations. Futures only for non-domestic allocations where franking does not apply.
Financing cost treatment	Omitted	Explicitly modelled: SOFR/BBSW plus roll cost plus dividend leakage. Stated as annual drag before alpha hurdle.
Alpha leg source	Managed futures, market-neutral equity, QIS carry, vol strategies	Long convexity: rolling OTM equity puts or vol strategies with genuine positive payoff in sharp drawdowns.
Alpha correlation assumption	Historical 0.05–0.15 in normal conditions	Structurally negative in stress by instrument design. Not an empirical estimate from calm-market history.
Annual carry cost of alpha leg	Presented as return-positive across all periods	Explicitly budgeted as 100–200bps annual cost. Accepted as the price of genuine protection.
Real alpha hurdle (after costs)	Implicitly zero	250–400bps above cash, stated and stress-tested before capital is committed.
Monetisation framework	Not mentioned	Pre-committed, board-approved tranche triggers. No discretion during drawdown. Redeployment targets pre-agreed.
Governance standard	IC presentation with scenario analysis	Daily monitoring of hedge P&L, correlation, and margin. Drawdown playbook approved before deployment.
Australian super fund treatment	Generic, no franking discussion	Physical domestic equity for beta. Franking modelled explicitly. Portable alpha applied only to non-Australian beta.

The honest version is more expensive in calm markets. Over a three to five year period without a significant drawdown, this version will underperform the marketed version and will underperform a simple passive portfolio. That is not a flaw in the design. It is the cost of insurance that is structurally sound rather than decorative.

The question for any investment committee is whether they are purchasing a structure that looks good in quarterly performance attribution, or one that will function under the conditions that justified the cost of building it.

8. The Questions Any Investor Should Ask

Before committing capital to any portable alpha strategy, the following questions should produce clear, direct, quantified answers. Vague responses are informative.

Question	What to Listen For
Q1: What is the all-in annual cost of beta replication, including financing rate embedded in futures pricing, quarterly roll costs, foregone dividend income, and for Australian investors, foregone franking credit value? Please show the calculation for this specific portfolio.	A number. Not a footnote assumption. If they cannot give a number, they have not done the work.
Q2: What was the realised correlation of the proposed alpha strategy with equity markets during: March 2020, October 2022, and August–October 2015? Show the monthly returns, not the full-period average.	A data series. Not a correlation average. If they cannot provide it, they do not know how the strategy behaves when it matters.
Q3: Is the alpha source a factor premia strategy? If so, what is the mechanism by which it remains uncorrelated with equity markets when broad liquidity disappears?	A structural mechanism. Not a historical correlation. "Low correlations in our back-test" is not an answer.
Q4: Does the alpha leg use options or other convex instruments? If yes, what is the monetisation framework? Who has authority to trigger realisation? Where is this documented?	A specific written protocol with trigger levels and named individuals. If it is not written down, it does not exist.
Q5: What is the break-even alpha required, after all financing, roll, dividend leakage, and convexity carry costs, for this structure to outperform simply holding the physical beta? Has that calculation been shared?	A basis point number. If it is not in the documentation provided, demand it before proceeding.
Q6: What happened to similar implementations during the three stress episodes in Q2? Not the back-test. The live performance.	Live data. If it does not exist, ask why not, and what that implies.

9. The Superannuation Fund Lens

Australian superannuation funds are a particular case study in the gap between portable alpha theory and practice. Several large funds explored portable alpha strategies in the 2000s and early 2010s and either discontinued them or significantly modified their implementation after discovering the franking problem.

9.1 Why the Economics Are Hardest for Super Funds

A super fund in the accumulation phase (15% tax on investment income) receives franking credits at full value. When a company pays a 70% franked dividend of 4%, the fund receives the 4% dividend plus a franking credit worth approximately 1.03% (70% franked at 30% corporate rate, valued at 15% super tax). Total after-tax dividend receipt: approximately 5.03%. A futures position on the same index receives none of this. The tax benefit is attached to the legal ownership of the shares. A derivative over those shares does not carry it.

On \$10 billion of domestic equity exposure, the franking refund adds approximately 1.5 percentage points to the after-tax yield – roughly \$150 million per year. A portable alpha structure that substitutes futures for physical equity on that allocation forgoes \$150 million in annual after-tax income. The alpha source needs to generate that \$150 million before it earns a single dollar of net return.

9.2 The SAA Distortion Problem

Portable alpha creates a gap between the stated strategic asset allocation and the economic reality of the portfolio. If a \$50 billion fund with a 40% strategic allocation to global equity runs a portable alpha structure over that allocation, the SAA still reads 40% global equity. But the economic exposure is approximately 40% global equity plus a 40% notional allocation to whatever the alpha strategy is. The leverage is real, even if the SAA document does not reflect it.

Trustee governance frameworks, member disclosure obligations, and regulatory capital treatment all attach to the economic reality, not the SAA label. A fund that does not update its risk disclosures, liquidity stress testing, and trustee education when implementing portable alpha is creating governance risk that may not be visible until a drawdown exposes it.

9.3 What Super Funds Can Sensibly Do

- Retain physical Australian equity allocations in full. Do not replace domestic equity with futures. The franking economics are too valuable to sacrifice.
- Apply the synthetic beta leg only to non-Australian allocations: global developed market equity, emerging markets, or fixed income indices where franking is irrelevant.
- Use the freed capital from non-domestic synthetic beta to fund the convexity programme. The annual premium budget (2–3% of the non-domestic allocation) is the honest cost to carry.
- Build the monetisation framework into the investment policy statement, not the manager mandate. It needs to be a fund-level governance decision, approved by the trustee board.

10. A Five-Year Worked Example with Real Costs

The standard pitch deck tests portable alpha across a single year. The following example runs a \$100 million portfolio through five years including three calm years, one moderate correction, and one severe drawdown. Three versions are compared: a simple passive ETF, the marketed portable alpha structure, and the honest structure (real costs included, genuine convexity at 150bps carry per year).

Scenario assumptions by year

Year	Equity Return	Conditions	QIS Alpha (marketed)	Convexity Alpha (honest)	Notes
Year 1	+12.0%	Bull, low vol	+4.5%	-1.5%	Calm. Convexity carries negative.
Year 2	+8.0%	Bull, rising vol	+4.0%	-1.5%	Steady. QIS performs well.
Year 3	-12.0%	Moderate correction	+1.5%	+8.0%	QIS partly correlates. Convexity partial payoff.
Year 4	+15.0%	Recovery rally	+5.0%	-1.5%	Strong recovery.
Year 5	-28.0%	Severe drawdown	-4.0%	+35.0%	Crisis. QIS collapses. Convexity pays fully.

Annual and cumulative returns: all three versions

Year	Passive ETF	Marketed Portfolio Alpha	Honest Portable Alpha	Honest vs Marketed
Year 1: +12% equity	+12.0%	+18.5%	+10.5%	-8.0% (convexity drag visible)
Year 2: +8% equity	+8.0%	+14.0%	+8.5%	-5.5%
Year 3: -12% equity	-12.0%	-6.5%	-3.5%	+3.0% (convexity partial payoff)
Year 4: +15% equity	+15.0%	+22.0%	+15.5%	-6.5%
Year 5: -28% equity	-28.0%	-27.0%	+5.5%	+32.5% (convexity crisis payoff)
5-yr cumulative	-10.3%	+10.4%	+35.2%	+24.8% over 5 years
5-yr annualised	-2.2% p.a.	+2.0% p.a.	+6.2% p.a.	+4.2% p.a. structural advantage

In the three calm years and the recovery year, the marketed version significantly outperforms the honest version. A governance body reviewing three-year rolling performance after years 1, 2 or 4 would see the marketed version winning by several hundred basis points per year. That is the governance pressure that causes boards to reduce convexity budgets at the worst possible time.

11. Three Cases from Practice

The following three cases illustrate the failure modes discussed in this paper. They are drawn from public information and practitioner accounts. Specific fund names are not used, but the patterns are widely recognised in the institutional investment community.

11.1 The Superannuation Fund and the Franking Problem

A large Australian superannuation fund began implementing a portable alpha programme on its domestic equity allocation in 2007. The structure used SPI futures for beta replication with a diversified blend of global managed futures and market-neutral strategies as the alpha engine. Initial performance in 2007 was strong.

In 2008, two of the three expected benefits materialised. The equity market fell sharply, and the managed futures strategy generated positive returns. That particular alpha source performed as modelled in that particular crisis.

The post-tax review conducted in 2009 revealed the problem that had been accruing silently. The fund had been paying an implicit tax penalty of approximately 110–120 basis points per year by holding futures rather than physical equity. Over two years, combined with financing drag, the structure had cost the fund over 200 basis points of after-tax return relative to a simple physical ETF. This cost appeared nowhere in the pitch deck and had not been modelled in the original approval.

The fund restructured in 2010 to use physical equity for the domestic allocation. The economics improved immediately. But the fund had already paid years of avoidable cost.

11.2 The Family Office and the Unrealised Gain

A family office implemented a portable alpha structure in early 2019 with genuine convex elements: long puts as part of a volatility overlay. Beta was replicated via total return swaps on a global equity index. The structure had been well designed.

March 2020 arrived. At their peak approximately 18 trading days into the drawdown, the option book showed paper gains of approximately \$18 million on a \$40 million programme, against portfolio losses of approximately \$60 million. The tail hedge was working exactly as designed.

The investment committee met three times during the drawdown. Each time, a faction argued for waiting: conditions might deteriorate further, let us wait for policy clarity. Consensus to act was not reached on any occasion. This is not a criticism of the individuals involved. The uncertainty was genuine and the arguments for waiting were rational in isolation.

By the time policy backstops normalised volatility, the options had given back approximately 70% of their peak unrealised value. The family office crystallised gains of approximately \$5 million rather than the \$18 million available at the peak. The hedge had worked. The governance had not.

The family office subsequently built a formal monetisation protocol with pre-committed trigger levels and pre-approved redeployment targets – describing it as among the most valuable governance work, they had undertaken.

11.3 The QIS Correlation Surprise

A boutique multi-asset fund marketed itself as running a capital-efficient portable alpha framework with low correlation to equity. The alpha source was FX carry (long AUD and EM, short JPY and CHF), equity factor premia (low volatility, quality, momentum), and systematic relative value in fixed income. Historical back-tests showed correlation with equity of approximately 0.15 over ten years.

During Q4 2018, which included the sharpest equity drawdown since 2009 at that point, the alpha strategies collectively lost 6.8%. Realised correlation over those three months was approximately 0.62. The ten-year average of 0.15 was real data. It was also computed entirely from calm-market history.

The investor had been told "uncorrelated alpha." What they owned was "alpha with low correlation in conditions of moderate volatility and adequate liquidity." The conditions that arrived were different.

The manager rebuilt with a larger convex allocation and reduced factor strategy weight. The lesson was not about strategy construction. It was about the accuracy of correlation statistics as a forward-looking description of stress-period behaviour.

12. Implementation Checklist

For investors who have concluded that a properly structured portable alpha framework is appropriate for their portfolio, the following checklist sets out the minimum requirements for a defensible implementation.

12.1 Before Any Capital Is Committed: Economics and Design

- Calculate the all-in annual beta replication cost specific to your portfolio. Include financing embedded in futures pricing, quarterly roll costs, foregone dividend income, and for Australian investors, foregone franking credit value. Document this as a stated annual drag, not a footnote assumption.
- Define the alpha source. If it relies on historical low correlation rather than instrument design, document the conditions under which that correlation breaks down and model those conditions explicitly.
- Calculate the real hurdle rate: the alpha return required after all costs to outperform the passive benchmark. This number belongs in the investment proposal, not omitted from it.
- If using convexity, budget the carry cost explicitly across the full cycle. Acknowledge that this cost will generate negative alpha attribution in calm years and that this is expected, not a failure.
- Model the full five-year return across at minimum three scenarios: no crisis, moderate correction, and severe drawdown. The no-crisis scenario should not look good relative to passive. If it does, the convexity carry is not being charged correctly.

12.2 Before Any Capital Is Committed: Governance and Monetisation

- Draft the complete monetisation framework. Define trigger levels for each tranche as portfolio drawdown thresholds and hedge P&L coverage ratios. Define tranche sizes, approved execution counterparties, and pre-agreed redeployment targets.
- Obtain formal board-level approval for the monetisation framework. The approval should explicitly acknowledge that the framework will be executed mechanically in a crisis without requiring a new committee vote at the time.
- Identify by name the individuals with authority to execute each tranche. Establish execution counterparty relationships before they are needed.
- Pre-identify redeployment targets: which assets the proceeds will purchase, at what entry levels, in what sequence. If the programme exists to create buying capacity at crisis bottoms, the target list should be agreed when rational analysis is possible.

12.3 Ongoing Monitoring

- Monitor rolling three-month correlation of the alpha leg with equity at each rebalancing. Define a threshold above which a formal review is required before continuation.
- Monitor actual beta replication cost quarterly against the original budget.
- Conduct a formal post-event review within 60 days of any significant market stress event.
- Review convexity sizing annually against current portfolio size and loss tolerance.

- Run an annual tabletop exercise where the committee walks through a hypothetical crisis execution of the monetisation framework. Resolve disagreements about discretion versus pre-commitment before the next crisis reveals them.

The four things that determine whether portable alpha actually works:

- (1) The beta replication cost is stated and modelled, not assumed to be zero.*
- (2) The alpha is structurally uncorrelated by instrument design, not historically uncorrelated.*
- (3) The monetisation framework is pre-committed and board-approved before any crisis arrives.*
- (4) The governance body understands that calm-market underperformance is the cost of real protection.*

Conclusion

Portable alpha is not a strategy. It is a test.

It tests whether financing costs have been priced honestly rather than assumed away. It tests whether the alpha is structurally uncorrelated in stressed conditions or merely appears uncorrelated in calm-market history. It tests whether the monetisation framework is real and pre-committed, or implicit and discretionary. It tests whether the governance framework accounts for the economic leverage created, not just the SAA label attached to it.

Most implementations fail these tests not because markets are unpredictable, but because the mispricing is systematic and largely predictable. The financing drag always exists. The QIS correlation with equity in stress follows from the common underlying factor of liquidity. The committee will always hesitate during a drawdown if there is no pre-committed framework. None of this is surprising to anyone who has managed a derivatives portfolio through a crisis.

The version of portable alpha that can actually deliver on its stated purpose looks significantly different from the pitch deck. It uses physical equity for domestic allocations. It uses genuine convexity as the alpha source and accepts the carry cost explicitly. It sets the real hurdle rate honestly at 250–400 basis points above cash. It has a pre-committed, board-approved monetisation framework with no committee discretion during drawdowns.

That version is harder to sell because it is honest about costs. It underperforms the marketed version in every calm quarter and outperforms it in the ones that matter.

The question is which version the investor is actually purchasing. That question is usually not answered in the pitch deck.

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Further Reading

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

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Appendix A: Futures Pricing Mechanics and the Dividend Problem

This appendix works through the mathematics of futures pricing and the resulting cost structure using realistic Australian market parameters, providing practitioners with the tools to calculate the real beta replication cost for their specific portfolio.

The No-Arbitrage Futures Price

The theoretical futures price for an equity index contract is derived from the cost-of-carry model. The standard continuous-time formula is:

$$F = S \times \exp((r - d) \times T)$$

Where F is the futures price, S is the current spot index level, r is the annualised risk-free rate, d is the annualised dividend yield, and T is the time to expiry in years. If r exceeds d, the futures price will be above spot. The buyer of the futures is paying a premium over spot that reflects the net financing cost.

Worked Example: ASX 200 Futures, Current Parameters

Parameter	Value	Notes
ASX 200 spot level (S)	8,200 points (illustrative)	Current index level
Risk-free rate (r)	4.35% p.a.	RBA cash rate effective March 2026
Gross dividend yield (d)	3.90% p.a.	ASX 200 trailing 12M gross yield
Franking credit grossed-up yield	~1.10% p.a. additional	Super fund accumulation phase (15% tax)
Net carry (r - d)	+0.45% p.a.	Positive: futures trade above spot
Implied cost to futures holder vs physical	0.45% p.a. on notional + franking loss	Before roll costs and bid-ask
Roll cost (estimated quarterly)	0.05-0.10% per roll = 0.20-0.40% p.a.	Bid-ask spread × 4 quarterly rolls
Total annual drag: super fund	~1.75-2.15% p.a.	Financing + roll + franking
Total annual drag: non-super investor	~0.65-1.05% p.a.	Financing + roll only; no franking leakage

The Franking Credit Calculation in Detail

Franking credits arise because Australian companies pay corporate tax at 30% before distributing dividends. A \$70 cash dividend with \$30 franking credit has a grossed-up value of \$100. The fund's 15% tax on \$100 is \$15. The fund received \$30 in franking credit. Net refund to the fund: \$15. After-tax dividend receipt: \$70 + \$15 = \$85, compared to \$70 cash only without franking.

As a percentage of the original investment: the franking refund adds 1.5 percentage points to the after-tax yield. For a large super fund, this is not a rounding error. On \$10 billion of domestic equity exposure, it is \$150 million per year.

Appendix B: Quick Reference Tables

Portable Alpha Failure Mode Diagnostic

Symptom	Likely Cause	Diagnostic Question	Resolution
Structure outperforms in back-test but underperforms live	Financing costs excluded; alpha correlation underestimated	Does the back-test include a 200bps annual drag on the beta leg?	Rerun with full cost loading; reject if hurdle not cleared
Alpha leg draws down with equity in stress	Alpha source is factor premia, not structural convexity	What is the theoretical mechanism for uncorrelation?	Replace with genuinely convex instruments or exit
Unrealised hedge gains never materialised as cash	No monetisation framework; committee hesitated	Is there a pre-committed trigger framework approved before crisis?	Build and board-approve a tranche monetisation protocol
Returns erode over time despite positive gross alpha	Roll costs and financing drift compounding	What was the actual all-in beta cost last year vs original estimate?	Restate hurdle rate with actual costs; consider physical equity for domestic beta
Board questions why hedges are costing money in calm markets	No pre-education on convexity carry	Did the investment proposal explicitly model calm-year underperformance?	Conduct board education session; revise proposal to show all three scenarios

Instrument Selection Guide by Investor Type

Investor Type	Beta Leg	Alpha Leg	Key Constraint
Australian super fund (large, >\$20bn)	Physical domestic equity. Futures for offshore allocations only.	Convexity programme: rolling OTM puts, 2-3% AUM annual budget	Franking economics dominate domestic beta decision
Australian super fund (mid-size, \$2-20bn)	Physical domestic equity. Assess offshore futures vs physical on cost.	Managed convexity via specialist manager with clear monetisation mandate	Operational capacity for derivatives; AFSL considerations
Family office (global mandate)	Futures or TRS depending on ISDA infrastructure and size	Convexity-focused overlay, 2-4% AUM, with pre-committed monetisation	Governance framework; need IC-level monetisation pre-commitment
Insurance ALM desk	Fixed income TRS or bond futures for liability matching	Conservative: long vol on rate curve; avoid equity correlation risk	Regulatory capital treatment under RBC2/Solvency II
Lean investment team (<10 staff)	Consider whether operational complexity justifies the structure at all	If proceeding: single managed account with specialist manager	Infrastructure overhead may exceed benefit for sub-\$500M portfolios