



DYNAMIC RISK BUDGETING

A Disciplined Framework for Engineering
More Resilient Portfolios

LodeStar Advisory Group LLC

Naples, Florida
www.Ldstar.com

ABOUT LODESTAR ADVISORY GROUP LLC

LodeStar Advisory Group LLC® is a fee-only, fiduciary wealth management firm based in Naples, Florida. We work with a limited number of families and individuals with substantial capital who require rigorous judgment under complexity rather than broad accessibility.

- ◇ **INDEPENDENT FIDUCIARY ADVICE.**
- ◇ **DELIBERATE RISK ARCHITECTURE.**
- ◇ **APPLIED DECISION SCIENCE.**

OUR GUIDING PRINCIPLES

- **Judgment Under Complexity.** Most advisors optimize for access. We optimize for the quality of decisions when capital and circumstances are consequential.
- **Asymmetric Construction.** Portfolio architecture should be engineered so that upside meaningfully outweighs downside across full market cycles.
- **Process Over Narrative.** Risk budgets and decision parameters are established in advance. Adjustments are judgement-driven, informed by data, and market conditions, and made within a defined architecture rather than improvised under stress.
- **Fiduciary Independence.** Fee-only. NAPFA-Registered. No product sales, no commissions, no third-party allegiances.

Traditional diversification works most of the time and fails when protection is needed most. Dynamic Risk Budgeting is a disciplined response to that failure.

1. The Problem with Static Risk Allocations

Most institutional and private client portfolios are still constructed around a static strategic asset allocation – typically a fixed mix of equities, fixed income, and a modest allocation to alternatives. The mix is reviewed periodically, rebalanced to target, and otherwise left to ride through market regimes.

This approach rests on two assumptions that have repeatedly proven fragile. First, that historical correlations will hold during periods of market stress. Second, that the investor’s capacity and willingness to bear risk remain constant across the cycle. Both assumptions break down in the environments that matter most: equity bear markets, liquidity crises, and sharp rises in real rates or inflation.

When correlations rise toward 1.0 – as they did in 2008, early 2020, and portions of 2022 – the diversification benefit that justified the static mix evaporates precisely when it is needed. The portfolio experiences a larger drawdown than the investor anticipated, sequence-of-returns risk intensifies for those in distribution, and recovery times lengthen nonlinearly.¹

The mathematics are unforgiving. A 30 percent decline requires a 43 percent gain to recover; a 40 percent decline requires a 67 percent gain. Limiting the depth and duration of these drawdowns is therefore not a secondary objective – it is a primary determinant of long-term compounded wealth.²

Exhibit 1. Return Required to Recover from a Drawdown

Portfolio Decline	Gain Required to Recover	Years to Recover at 8%
10%	11%	~1.3 years
20%	25%	~2.9 years
30%	43%	~4.6 years
40%	67%	~6.7 years
50%	100%	~9.0 years

Note: Recovery years assume a constant 8% annual return with no further losses. Actual recovery paths are path-dependent and typically longer.

2. What Dynamic Risk Budgeting Is

Dynamic Risk Budgeting (DRB) is a disciplined process for allocating risk – not merely capital – across a portfolio so that the expected contribution of each component to total portfolio volatility and to tail risk remains intentional and adjustable as conditions change.

In practice, DRB begins with a clear statement of the maximum risk the portfolio is designed to take under normal conditions and the maximum drawdown the client can reasonably sustain without altering behavior or spending plans. From that risk budget, exposures are sized and then actively managed. The process has four interlocking elements:

1. **Explicit risk budget.** Define the target and maximum contribution of equity beta, credit, duration, and alternative risk premia to overall portfolio volatility and expected shortfall. Capital weights are the residual of risk weights, not the starting point.
2. **Regime awareness.** Maintain a small set of observable indicators – trend, volatility regime, credit spreads, liquidity conditions – that signal when the probability of a severe drawdown has risen materially. These indicators inform, but do not mechanically dictate, adjustments to the risk budget.
3. **Liquid alternative sleeve.** A dedicated allocation (typically 20-35 percent of the portfolio) to liquid, transparent strategies whose return streams are designed to exhibit low or negative correlation to equities during equity stress. This sleeve is the primary tool for reshaping the distribution of outcomes without sacrificing long-term compounding potential.³
4. **Decision parameters established in advance.** Establish in advance the conditions under which risk will be reduced or restored, and the magnitude of those adjustments. These parameters exist to protect the process from the behavioral pressures that arise precisely when adjustments are most needed.

The result is a portfolio whose risk profile is intentional rather than accidental, and whose behavior under stress is a designed outcome rather than a hope.

3. The 40/30/30 Architecture as Applied Risk Budgeting

One practical expression of Dynamic Risk Budgeting is a 40/30/30 capital allocation:

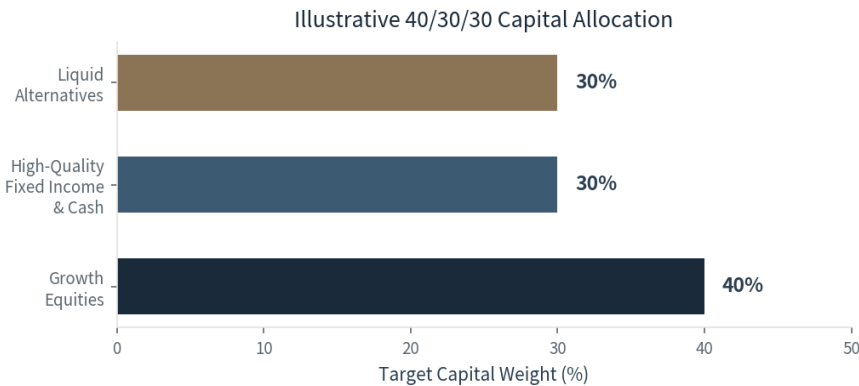


Exhibit 2. A 40/30/30 Capital Allocation

Sleeve	Target Weight	Primary Role
Growth Equities	40%	Long-term compounding engine
High-Quality Fixed Income & Cash	30%	Stability, liquidity, ballast
Liquid Alternatives	30%	Differentiated return streams; downside moderation

The third sleeve is not an afterthought. It is created by reallocating capital that would otherwise sit in traditional equities and bonds. The alternatives selected must be liquid, daily or near-daily marked-to-market, and transparent in holdings and strategy. The objective is not to maximize alternative exposure for its own sake; it is to obtain return streams that behave differently when equity beta is under pressure.⁴

Under Dynamic Risk Budgeting, the 40/30/30 weights are not permanent. When regime indicators signal elevated tail risk, the equity risk budget can be reduced – either by lowering the equity weight, by increasing the protective characteristics of the alternatives sleeve, or both. When conditions normalize, risk is restored through a deliberate, judgement-driven process informed by data and market indicators. The discipline lies in making these adjustments as a matter of process rather than of narrative or sentiment.

4. Why This Matters for Substantial Capital

For clients with investable assets of \$1 million to \$10 million – and particularly those approaching or in retirement – the cost of a large, prolonged drawdown is not symmetrical to the benefit of an equivalent gain. Sequence risk, spending needs, and the psychological difficulty of maintaining a plan after a severe loss all amplify the damage.

Dynamic Risk Budgeting does not eliminate volatility. It attempts to shape the distribution of outcomes so that the left tail is thinner and recovery periods are shorter. In doing so, it protects the one resource that cannot be replaced once spent: time. Capital that spends less time recovering has more time compounding.

This is the practical meaning of engineering resilience. It is not a promise of higher returns in every environment. It is a deliberate choice to prioritize the durability of capital across the full range of market regimes the client is likely to encounter.

5. Implementation Principles

Successful application of Dynamic Risk Budgeting requires several non-negotiable disciplines:

- **Liquidity first.** Every holding in the alternatives sleeve must be redeemable on short notice without material gating or penalty. Illiquidity risk is itself a form of tail risk.
- **Transparency.** Strategy and holdings must be observable. Black-box approaches undermine both risk measurement and client confidence.
- **Pre-commitment.** Decision parameters and risk budgets are established when markets are calm. Judgement is then applied within those parameters when markets become stressed.
- **Integration with the broader plan.** Risk budgets are set in light of spending policy, tax location, and the client's actual capacity for loss – not solely in light of a mean-variance optimizer.
- **Behavioral realism.** The framework acknowledges that even sophisticated investors are vulnerable to decision error under stress. Process exists to protect the portfolio from the decision-maker as much as from the market.⁵

6. Conclusion

Dynamic Risk Budgeting is not a market-timing system and it is not a guarantee. It is a disciplined framework for making the risk profile of a portfolio intentional, adjustable, and resilient across regimes. By combining an explicit risk budget, regime awareness, a liquid alternatives sleeve, and judgement-driven adjustments within pre-defined parameters, the approach seeks to limit the depth and duration of major drawdowns while preserving participation in the long-term growth of productive capital

For clients whose capital is substantial and whose decisions carry lasting consequences, this form of engineering is not optional sophistication. It is one practical expression of fiduciary care.

Notes

1. Empirical correlation profiles are highly asymmetric. Longin & Solnik (2001) documented the rise of correlations in extreme market conditions. Page (2018) further showed that during the worst 1% of U.S. equity declines, correlation with international equities rose to +87%, while the same correlation fell to -17% during the strongest rallies – evidence that traditional diversification often works on the upside and fails on the downside. The 2022 inflation shock, in which both equities and bonds declined simultaneously, provided a contemporary illustration of the same phenomenon.
2. The recovery mathematics are elementary but frequently under-appreciated in portfolio construction. See Magdon-Ismail & Atiya (2004) on time under water in drawdown analysis. More recent pension-fund simulations covering 2006–2025 continue to show that limiting maximum drawdown from the mid-30% range to the low-teens range materially shortens recovery periods and improves terminal wealth outcomes for long-horizon investors.
3. “Liquid alternatives” here refers to strategies available in mutual fund, ETF, or similarly liquid vehicles that provide daily or near-daily liquidity and transparent pricing – distinct from private equity, private credit, or hedge fund structures with multi-year lockups. Recent work on risk contribution (rather than dollar weight) as the correct sizing lens for alternatives further supports treating this sleeve as a risk-budget tool rather than a capital-allocation afterthought (Vanguard, 2026).
4. The specific composition of the alternatives sleeve is a matter of ongoing research and manager selection. The architectural principle – reallocating from traditional beta to differentiated return streams – is the constant. Empirical studies of dynamic risk budgeting in liquid multi-strategy settings have reported meaningful improvements in risk-adjusted returns relative to static risk budgets (Newton Investment Management, 2025; related Dynamic Risk Parity results, 2015-2025).
5. The integration of behavioral decision science into the risk-budgeting process recognizes that the largest risks to capital often arise from the decisions investors make under stress, not solely from market movements. See Kahneman & Tversky (1979) and the subsequent applied literature on investor behavior in drawdowns. Decision parameters that allow risk to be reduced before the worst of a decline arrives shrink the size of the loss the client must endure and thereby reduce the behavioral pressure to abandon the plan at the wrong moment.

References

- Kahneman, D., & Tversky, A. (1979). Prospect Theory: An Analysis of Decision under Risk. *Econometrica*, 47(2), 263–291.
- Longin, F., & Solnik, B. (2001). Extreme Correlation of International Equity Markets. *Journal of Finance*, 56(2), 649–676.
- Magdon-Ismail, M., & Atiya, A. F. (2004). Maximum Drawdown. *Risk Magazine*, 17(10), 99–102.
- Markowitz, H. (1952). Portfolio Selection. *Journal of Finance*, 7(1), 77–91.
- Newton Investment Management. (2025). The Benefits of Dynamic Risk Budgeting in a Liquid, Well-Diversified Strategy.
- Page, S. (2018). When Diversification Fails. *Financial Analysts Journal*, 74(3), 19–31.
- Taleb, N. N. (2012). *Antifragile: Things That Gain from Disorder*. Random House.
- Vanguard. (2026). Alternatives in a Portfolio: Think Role, Risk, and Realism.

This paper is for informational purposes only and does not constitute investment advice, a recommendation, or an offer to buy or sell any security. Past performance is not indicative of future results. All investing involves risk, including the possible loss of principal. LodeStar Advisory Group LLC® is a registered investment adviser. Registration does not imply a certain level of skill or training. For additional information, please see the firm’s Form ADV Part 2A available at www.adviserinfo.sec.gov.
