



The Total Portfolio Approach (TPA): A Practical Guide for Navigating the Transition to TPA

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Foreword

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In 1986, Gary Brinson, Randolph Hood, and Gilbert Beebower published a landmark study in the *Financial Analysts Journal* that would reshape institutional investment for a generation. Examining 91 large US pension plans over a 10-year period, they demonstrated that investment policy—the strategic allocation of capital to asset classes—explained on average 93.6% of the variation in total plan returns over time (Brinson et al. 1986). The practical lesson many investors took from that research was clear: Asset allocation deserved to sit at the center of the investment process.

The impact was swift and lasting. Within a decade, the vast majority of mid-size and large institutional investors had adopted strategic asset allocation (SAA) as their organizing framework, replacing ad hoc investment committee approaches with disciplined, benchmark-driven governance structures. SAA drew its intellectual authority from modern portfolio theory and, alongside the development of asset-liability modeling, gave institutional investors a rigorous basis for long-term decision making. It was, in its time, an effective system, bringing clarity, accountability, and a common language to institutional investment management.

But the world that SAA was built for has changed. Portfolios can now include significant allocations to private markets, cross-asset overlays, and factor-based strategies that do not easily fit within asset-class silos. The correlations and risk premiums that underpinned decades of SAA modeling have proven fragile in an environment of less stable inflation, market concentration, and deepening geoeconomic fragmentation. For a growing number of asset owners, the

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governance frameworks built in the SAA era no longer match the challenges of the portfolios they now oversee.

The **total portfolio approach (TPA)** is emerging as the profession's response to this mismatch. At its core, TPA reflects a shift toward **systems thinking**, viewing portfolios not just as collections of different asset classes but as integrated complex systems operating within a dynamic market environment. As such, TPA is best understood as an asset allocation system modernized for today's complexity by integrating a goal-driven framework that evaluates every investment based on its contribution to total fund objectives, using factor-based analyses to understand risk and return exposures across the whole portfolio, replacing rigid asset-class silos with a competition for capital and aligning governance with the dynamic nature of modern institutional portfolios. Critically, TPA is not a repudiation of SAA's core principles; diversification, discipline, and long-term orientation remain central. But just as Brinson et al.'s (1986) findings catalyzed a cultural shift toward SAA in the 1980s and 1990s, TPA is catalyzing the next evolution—not through radical reorganization but through the incremental shifting of structures, roles, and belief systems for a more interconnected world.

At CFA Institute, we are taking up this topic because the profession needs independent, rigorous guidance on TPA that is distinct from commercially motivated literature. Investment is a reflexive system: The way we understand and organize the profession shapes how capital is deployed, which, in turn, reshapes the landscape we are trying to understand. This report aims to influence the investment ecosystem by informing the evolution of asset allocation frameworks and shaping professional practices in alignment with our mission to lead the investment profession globally by promoting the highest standards of ethics, education, and professional excellence for the ultimate benefit of society. Our role is not to advocate for a particular model; it is to provide trusted guidance that helps asset owner boards, chief investment officers (CIOs), and senior investment leaders determine whether their current frameworks remain fit for purpose—and if not, whether TPA might be adopted selectively, incrementally, and securely.

This report is intended as a guide for those exploring whether TPA may be relevant to their organization and for those already on the TPA journey seeking to deepen their understanding and refine their practice.

Executive Summary

Strategic asset allocation has served as the dominant organizing framework for institutional investment over three decades. It has provided clear governance, disciplined benchmarking, and a common language grounded in modern portfolio theory. For many asset owners, SAA remains fit for purpose.

But SAA has structural limitations that are becoming harder to ignore. Benchmarks can drift from an institution's actual objectives—such as meeting liabilities, preserving purchasing power, and supporting intergenerational equity—to becoming ends in themselves. The separation of benchmark design from portfolio construction fragments decision making, with asset-class teams optimizing locally rather than collectively. And the largely static capital market assumptions on which SAA depends are increasingly unreliable in an environment shaped by AI disruption, expanding private markets, sustainability risks, and shifting geopolitics. The question confronting many asset owners today is not whether these limitations exist but whether they have become material enough to warrant a different approach.

The total portfolio approach offers an integrated, goal-driven, and dynamic framework that evaluates every investment based on its contribution to the total fund's objectives rather than managing capital through rigid asset-class silos. Evidence from leading adopters, including Australia's Future Fund and the New Zealand Superannuation Fund (NZ Super), suggests that TPA strengthens governance alignment, increases portfolio resilience, and is associated with strong performance.

This report is written primarily for asset owner boards, CIOs, and senior investment leaders who are questioning whether their current SAA-based framework remains adequate and who seek to learn how TPA can be adopted effectively and safely. Portfolio managers, outsourced chief investment officers (OCIOs), and service providers supporting these institutions may also take interest in the report.

To ground this report in current practice, its contents are informed by interviews with 14 senior executives working with organizations that are adopting TPA. Our findings suggest the following:

- *TPA is a spectrum, not a binary switch:* Organizations can adopt TPA in stages, from enhancing their existing SAA with total-fund thinking (expressed as "Level 1") to full one-fund integration (expressed as "Level 5"). Partial transitions may still offer significant benefits, and full transition may not be cost-effective in many cases.
- *The barriers to adoption tend to be organizational rather than technical:* The most commonly cited challenges are cultural change, team coordination, and governance—not investment methodology. For this reason, much of this report focuses on people and change management within TPA adoption.

After reading this report, asset owners should be more equipped to

- assess whether their current SAA framework adequately serves their fund's real objectives;
- evaluate organizational readiness for TPA adoption, including governance, culture, skills, and data capabilities;
- identify which level of TPA integration is appropriate for their circumstances; and
- begin with practical first steps, such as belief setting, governance review, or reference portfolio design.

The transition to TPA requires important changes to governance structures, technology capabilities, and investment processes. It is not a quick fix. But for organizations willing to invest in the foundations, TPA represents a gateway that can catalyze stronger resilience, more adaptive decision making, and better portfolio alignment to long-term objectives.

Key Takeaways

- *TPA guardrails*: These are the checks, balances, and boundaries that ensure stakeholders work safely and effectively within the TPA framework. Three governance features are critical:
 - *Oversight*: TPA works best with stronger board and investment committee (IC) engagement than SAA typically requires. Board oversight of the portfolio and cross-functional organizational capabilities are required.
 - *Dashboards and scorecards*: Board and IC oversight of management decision making requires a suite of measures tracking progress toward goals, risk indicators, and success metrics.
 - *Resilience and strategic foresight*: The ability to anticipate, absorb, and adapt to market shocks is crucial and is a key feature of TPA. Boards and management can build resilience into their governance, often through scenario analysis and strategic foresight exercises.
- *TPA gateway*: Three themes highlight how TPA can serve as a gateway to enhanced decision making and governance structures that meet the demands of a complex investment environment:
 - *Strategic investment skill*: Asset owner management can deepen top-down investment capability, including by enhancing the role of the CIO in operationalizing the **competition for capital** that lies at the heart of TPA. Some TPA organizations include such roles as chief total portfolio officer (or variants thereof) to further strengthen capabilities.
 - *Investment philosophy*: Under TPA, an organization's investment philosophy grounds portfolio construction in long-term orientation and investment principles while treating capital market assumptions

as dynamic, regime-dependent inputs that actively inform strategy as they evolve.

- *Mindset*: A deeper TPA mindset can be cultivated through embedded beliefs, cultural buy-in, collaboration, and leadership vision that facilitates the directional shift in governance and organizational design.
- *The maturity cycle*: TPA is an evolving practice that is gaining traction and momentum, one that has arguably passed a tipping point given the practices observed among influential asset owners in this study. While TPA exists on a continuum, organizations that begin with foundational steps (e.g., belief setting, governance review, reference portfolio design) can capture meaningful benefits without pursuing full integration. The success of broader TPA adoption will depend on how smoothly the investment ecosystem adapts in terms of shared practices, interoperability across teams and organizations, and supportive technology.

Introduction

For over three decades, strategic asset allocation has formed the foundation of institutional investment strategies. A key intellectual catalyst was Brinson et al.'s (1986) study demonstrating that asset allocation policy explained, on average, 93.6% of the variation in pension fund returns over time—a finding that gave the profession both its organizing principle and its governance architecture. Institutions defined long-term benchmarks and policy weights based on capital market assumptions, assigned responsibilities within asset-class silos, and evaluated success relative to predefined benchmarks. Within relatively stable market regimes, SAA offered discipline, transparency, and a common language for decision making grounded in modern portfolio theory (see Markowitz 1952).

As financial markets have grown more complex, interconnected, and uncertain, however, SAA's limitations have become increasingly apparent. A central limitation lies in its reliance on benchmarks that may be poorly aligned with an institution's ultimate objectives, such as meeting real liabilities, preserving purchasing power, or supporting intergenerational equity. Benchmarks often become ends in themselves, incentivizing behavior that optimizes relative performance rather than **total portfolio outcomes**. Moreover, the separation between benchmark design and portfolio construction can fragment decision making, with asset-class teams optimizing locally rather than collectively, leading to missed diversification opportunities and inefficient use of risk budgets.

While recent publications have advanced the conceptual and operational foundations of TPA, including Elkamhi and Lee (2025, 2026) on its theoretical history and framework, Filbeck and Bok (2025) on operational mechanics, and the Thinking Ahead Institute (2025c) on peer benchmarking, less attention has been paid to the organizational and cultural conditions required for successful adoption—an aspect that was frequently cited in our interviews as most important and most challenging. This report addresses that gap. Its primary

contribution is a practitioner-oriented analysis of the governance, people, and change management dimensions of TPA transitions.

This report is grounded in observed evidence and structured interviews with 14 senior executives from 11 organizations consisting of large asset owners (including pension funds and sovereign wealth funds), asset managers with OCIO and multi-asset mandates, and one investment service provider. Interviewees are from funds collectively representing approximately US\$1.4 trillion in assets and asset managers with over US\$1.48 trillion in total AUM.¹ These executives were selected for their demonstrated leadership in portfolio innovation and governance. All interviewees view TPA as contributing to their organizational thinking, though not all have fully implemented TPA. Interview insights are presented throughout the report in call-out boxes. Later, we discuss the results of an optional survey taken by the interviewees to structure and standardize comparisons across organizations. At the end of this report, we provide an appendix that shares a brief history of the TPA and a glossary of key terms.

What Is TPA?

The total portfolio approach is more than a portfolio construction technique. It is an *integrated investment philosophy and decision-making framework*. As such, TPA is not a single method to be replicated but a spectrum of practices through which institutions seek to better align capital, risk, measurement, and long-term objectives. It represents a unified, goal-oriented, dynamic, and integrated approach that is grounded in beliefs about the time-varying nature of risk and return and about how institutions can best deploy governance, culture, and analytical tools to achieve their long-term goals.

Whereas SAA is benchmark driven, focusing on policy weights and generating alpha within asset-class silos, TPA is goal driven, evaluating investments based on their marginal contribution to the total fund's objectives, risks, and constraints. This makes TPA not a radical departure but, rather, a natural evolution. TPA preserves the discipline of asset allocation while adapting it for a more interconnected and uncertain investment landscape and for the impending technological transformation arising from AI.

Despite variations in implementation, TPA is unified by several defining characteristics: (1) Investments are evaluated by their marginal contribution to total fund objectives rather than by an asset-class benchmark; (2) public and private assets, factor exposures, and liquidity characteristics are considered

¹The funds (and their assets in US dollars) are MN (US\$168 billion), PGGM (US\$268 billion), CalPERS (US\$542 billion), NZ Super (US\$51 billion), Future Fund (US\$204 billion), HOOPP (US\$85 billion), and USS (US\$98 billion). The asset managers (and their AUM in US dollars) are Bridgewater (US\$102.4 billion), Baillie Gifford (US\$272 billion), and Schroders (US\$1.108 trillion). The service provider is MSCI. AUM data were sourced from Thinking Ahead Institute (2025a) or from the latest available company annual reports, websites, or direct communication with organizations as of 31 December 2025.

together, allowing capital to flow toward the most attractive opportunities at the total-fund level (Filbeck and Bok 2025; Meyer 2024); (3) capital market assumptions are treated as dynamic, regime-aware inputs rather than fixed long-term parameters; (4) governance is configured for distributed ownership and active oversight, with clear accountability rather than two-step policy-then-implementation handoffs; and (5) the CIO and senior leadership take a more central role in operationalizing the competition for capital across the portfolio. The features described in the list and table that follow are common manifestations of these underlying characteristics, but specific design choices vary across TPA adopters.

In practice, TPA often involves the following:

- A **reference portfolio** (a simple portfolio, often a mix of listed equities and fixed income) that expresses the board's risk appetite: It is distinct from a policy benchmark in that it is not intended to be closely tracked but serves as a baseline for risk budgeting and is one comparator among several. While not all TPA adopters use reference portfolios, when used, they support total-fund-level risk management
- Delegation of active risk decisions to investment professionals within defined guardrails
- Factor-based and scenario-driven analysis to support integrated decision making (see Gilmore and Simonian 2025)
- Multiple comparators and dashboards rather than a single benchmark

Several features commonly distinguish TPA portfolios: a broad investment opportunity set (including assets outside traditional classes, such as reinsurance or gold); diversity in risk factor sources; willingness to accept more illiquidity; and emphasis on sustainability, dynamic management of portfolio exposures, and integration across teams and mandates. The ideal TPA design aims for robustness against

"TPA doesn't mean you have to act all the time. Sometimes it means doing nothing—because you're watching the market every day and choosing not to act. Indecision is a decision itself."

—Jacky Lee, HOOPP (Healthcare of Ontario Pension Plan)

"People will perceive it as being more complex because rather than having their own little silo to operate within, there's now a greater need to collaborate, to coordinate."

—Stephen Gilmore, CalPERS (California Public Employees' Retirement System)

Exhibit 1. Comparison Table: SAA vs. TPA

Dimension	SAA	TPA
Academic foundations	Modern portfolio theory, CAPM	Systems thinking, behavioral finance
Belief system	Efficient markets, stable risk, benchmark focus	Dynamic, goal-driven, integrated thinking
Governance model	Two-step: policy versus implementation; distributed across asset-class teams against benchmarks; CIO role narrower	One-step: integrated, collaborative; total-fund outcomes driven by the CIO and senior leadership; broader cross-team discretion informed by board oversight and dashboards
Risk focus	Volatility and tracking error	Drawdown, mission impairment, systemic risk
Decision process	Static allocations, asset-class sleeves	Competitive capital allocation across portfolio
Performance measurement	Single benchmark, alpha versus benchmark	Multiple comparators, including multifactor performance attribution at the total-fund level, via dashboards, scorecards
Adaptability	Limited, slow to adjust	Moderate, responsive to regime shifts and new risks
Robustness and resilience	Limited	Can be incorporated

“System thinking means how it all hangs together. When our head of infrastructure, instead of thinking about deals, thinks about what the portfolio really needs, and when our head of credit says he wants to reduce credit exposure to have more equity, that’s the incentives, culture, and model working.”

—Gustavo Gomberg, Future Fund

present threats and resilience to recover from future challenges.²

The core dimensions of SAA and TPA are summarized in **Exhibit 1**.

When Is TPA Attractive?

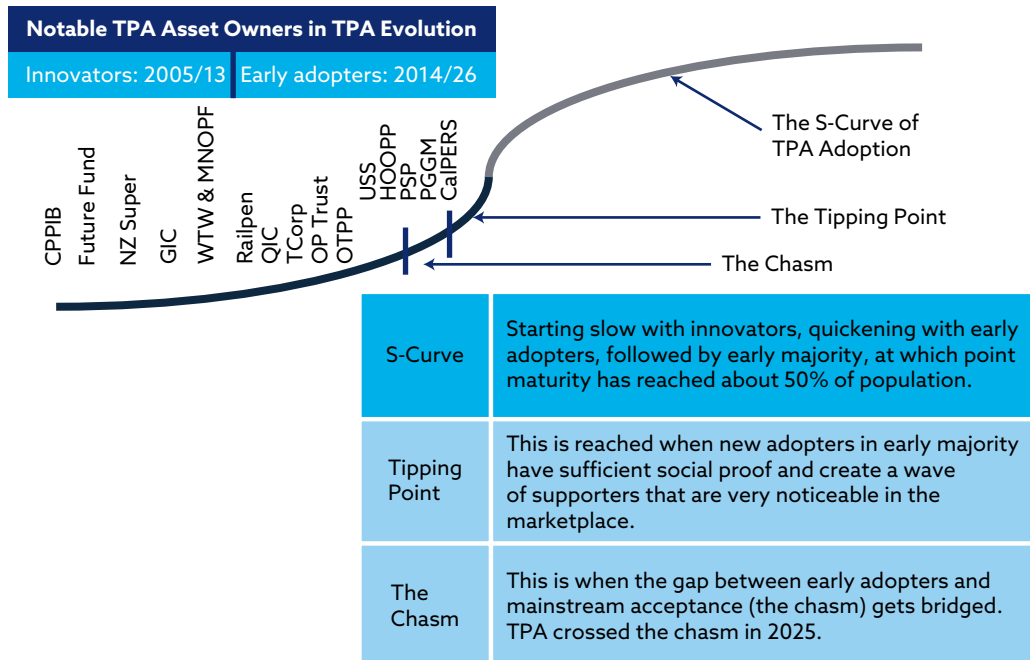
Although any organization can implement TPA, it is not universally suitable. SAA has stood the test of time and may continue to match some funds’ circumstances and preferences.

²Resilience and robustness are used in overlapping ways in the investment literature. Robustness in this report is *positioning the portfolio in the present* to respond favorably to emerging factors, shocks, and threats. This is mostly about portfolio quality in the context of uncertainty to reduce vulnerability to adverse outcomes or degradation of portfolio quality. Resilience is *positioning the organization and portfolio over time* to respond favorably to future threats. This is mostly about organizational system capacity for anticipating shocks, absorbing shocks, and adapting to shocks.

Based on a preliminary assessment of the 100 largest asset owner funds globally (see Thinking Ahead Institute 2025a), 8 organizations use TPA, 66 use SAA, and 26 are hybrids that fall somewhere in between. TPA is significantly less prevalent among smaller funds. Even so, early signs of standardization and institutionalization can be observed in such organizations as CalPERS and PFZW (Netherlands), whose successes have begun to encourage others to adopt similar approaches. **Exhibit 2** tracks the timeline of funds adopting TPA.³

The decision to adopt TPA should always return to the fundamental question, “What is the organization aiming to solve?” The suitability of TPA depends on both external investment conditions and internal organizational dynamics. The essential question for the board, investment committee, and CIO, therefore, is whether the organization’s goals, skills, and culture are better served by TPA—with its emphasis on integrated goals, shared ownership, and collaboration—or by SAA, which provides clearer structure and simpler governance.

Exhibit 2. Timeline of Funds Adopting TPA



Source: Urwin 2026.

Notes: WTW, MNOFF (Merchant Navy Officers Pension Fund), Railpen (pension fund for Britain’s rail workers), QIC (Queensland Investment Corporation), TCorp (NSW Treasury Corporation), OPTrust (OPSEU Pension Plan), OTPP (Ontario Teachers’ Pension Plan), PSP Investments (Public Sector Pension Investment Board).

³To complement the external mapping in Exhibit 2, our interviewees self-assessed where they currently sit on the TPA spectrum (described in the section titled “The Practical Side of Transitioning to TPA”) and where they expect to be in three years. The distribution is reported in the survey insights section (see Exhibit 6 and the accompanying discussion), allowing readers to compare Thinking Ahead Institute’s external view of the S-curve with the funds’ own internal positioning.

Rules of Thumb for TPA Adoption

The following are helpful rules of thumb for adopting TPA.

- **Beliefs:** The adoption of TPA is closely linked to an organization's beliefs. As the perception grows that investment conditions are tightly connected—requiring improved management of systemic, sustainability, and resilience factors—TPA becomes more attractive.
- **Governance and culture:** Strong governance and a collaborative culture are essential. TPA can streamline governance with robust governance structures and cultural alignment. Weak governance and culture make it difficult to build adaptability and collaboration.
- **Scale:** While SAA and TPA are both scalable in terms of portfolio size, the size of the internal team matters. Transitioning to TPA requires significant

resources, making it less practical for smaller teams. However, OCIO arrangements can offer practical, turnkey steps toward TPA.

- **Skills:** TPA does not automatically upgrade an unskilled investment team. If there are doubts about the team's ability to effectively use TPA's broader risk management options, SAA may be safer.
- **Organizational types:** While TPA frameworks are featured in pension funds, sovereign funds, insurance funds, endowments, family offices, OCIOs, and multi-asset platforms, some characteristics can discourage their adoption. Asset owners with limited risk appetites or short tenures are less likely to benefit from TPA. The burden of transitioning from SAA to TPA may outweigh its advantages for these organizations.
- **Data platform:** Effective TPA requires a strong data and intelligence infrastructure. The use of high-quality, timely data is crucial for the dynamic decision making and integrated risk management that TPA demands.

"The next priority for advancing the TPA framework is to further integrate scenario thinking, using forward-looking, structural scenarios to position the portfolio amid growing global uncertainty, while also deepening the alignment of the portfolio with client goals and identity, ensuring that investment decisions are . . . resilient to future shocks and authentically reflect what matters most to stakeholders."

—Michael Kurz, MN

"There is probably a small set of real boundary conditions that need to be fulfilled in order to be able to realistically expect success in TPA. Data is one of them, culture is another, and a third is adaptable governance."

—Jeremy Baskin, MSCI

Foundational Pillars of TPA

The effectiveness of TPA depends on the coherence of five foundational pillars: investment, governance, risk, sustainability, and intelligence (including people, process, technology, and information). The people “stack” is a critical part of the intelligence pillar, which merits its own discussion later in this report (see “The People Factor” section). The current section examines each pillar and how it functions within a TPA framework, with a focus on practical implications for asset owners considering or implementing the transition.

Investment: Ecosystem and Framework

The investment pillar encompasses the investment ecosystem and the investment framework.

Investment Ecosystem

Within TPA, the *investment ecosystem* is understood as a dynamic and adaptive system in which internal forces, such as incentives, culture, and decision rights, interact continuously with external forces, including market regimes, regulation, and technological change.⁴ In this setting, outcomes are rarely attributable to isolated decisions; instead, they emerge from interactions across the system (see Hayman and Pang 2025).

Understanding the investment ecosystem in this way is crucial because TPA seeks to break down silos and manage the entire portfolio as a unified whole. TPA requires a deep appreciation of how all elements of the ecosystem interact, from governance and culture to data and technology. How a fund views the investment ecosystem ultimately underpins the beliefs, assumptions, incentives, and constraints that guide investment decision making, including how strategies are formed, risks are interpreted, and trade-offs are managed.

Two prominent examples highlight how SAA and TPA differ in practice:

- Example 1: SAA is generally based on a single correlation assumption for equity and bond returns—a key input in the portfolio optimization process. This assumption is typically revisited periodically as capital market assumptions are revised. However, the stock/bond correlation is highly sensitive to growth, policy, and inflation cycles; any modeling that does not account for changes in these elements in a timely manner will produce portfolio allocations that are suboptimal. TPA, as a dynamic framework, can be as sensitive to stock/bond correlations as the investor desires.

⁴At its core, the investment ecosystem comprises asset owners, asset managers, regulators, service providers, and intermediaries operating within structured frameworks of governance, technology, regulation, and market infrastructure. Together, these elements enable the flow of capital and the functioning of financial markets. For organizations adopting TPA, this ecosystem is anchored by the asset owner's purpose: investing affordably, securely, sustainably, and systemically (Thinking Ahead Institute 2019). Here, *sustainably* is best defined as intergenerational efficiency and fairness; *systemically* refers to resilience to systemic risks.

- Example 2: Public and private markets have very different characteristics regarding liquidity, cash flows, and frequency of valuations. As such, returns are not easily comparable, which affects the computation of the classic optimization process. In contrast, advanced versions of TPA are able to work on the drivers of return (e.g., expected growth rates, discount rates, and factor exposures) and more clearly identify the fundamentals on like-for-like terms.

TPA's **holistic investing** lens helps organizations anticipate and adapt to first-order effects and second-order ripple effects of shocks emanating from the ecosystem whose complexity and interconnectedness mean that changes in one area can have far-reaching effects elsewhere. Transitioning to TPA, therefore, involves engaging with a wide range of ecosystem participants, working to achieve common goals, and managing **systemic risk**.

Investment Framework

An *investment framework* comprises the principles, processes, decision rules, governance arrangements, and underlying *investment philosophy* that guide how an organization makes investment decisions and manages its portfolio.

A well-articulated philosophy provides a coherent foundation for decision making: It promotes consistency, investment discipline, and alignment with fiduciary goals.

Key elements of an institutional investment philosophy typically include the following:

- Beliefs about markets and investor behavior, including views on efficiency and behavioral biases
- Assumptions about risk and return, such as risk premiums and diversification benefits; under TPA, capital market assumptions are treated as dynamic inputs subject to regime-dependent adjustment rather than the relatively fixed long-term parameters of SAA (see Elkamhi and Lee 2025)
- Propositions and conjectures that support strategy, including applications of theory (for example, modern portfolio theory) and optimization techniques

"Portfolio and organizational resilience—it's not just about the portfolio but how we create an organization that is resilient to change."

—Gustavo Gomberg, Future Fund

"TPA supports and enhances long horizon investing, creating opportunities that are more challenged under an SAA approach. For NZ Super, our Strategic Tilting program is one of the most pure expressions of our long horizon and requires connectivity across the whole investment team to be effective."

—Will Goodwin, NZ Super

- Guiding principles for portfolio construction and management, such as long-term orientation, cost efficiency, and sustainability
- An approach to governance and decision making, including clarity of roles, accountability, and the choice of SAA or TPA structures

The investment philosophy informs the investment framework—the practical architecture through which portfolios are constructed, risks are measured and monitored, and performance is assessed. In a TPA context, this framework operates both within the organization as a system and within the broader investment ecosystem. TPA should therefore be understood not merely as a set of portfolio features but as an integrated philosophy and framework that embeds aligned objectives, best ideas, **dynamism**, and **joined-up** decision making across the organization.

Governance: Ownership and Oversight

Under TPA, governance evolves from a predominantly hierarchical model under SAA toward one characterized by *distributed ownership and robust oversight*, enabling greater agility while preserving accountability. Clear action and decision matrixes define each participant's responsibilities and contribution to total portfolio outcomes. Typical participants include the sponsor or asset owner, the board, the investment committee, management, and external advisers or managers.

Traditional RASCI (responsible, accountable, support, consulted, informed) frameworks are widely used in SAA contexts but are often insufficient for TPA, which relies more heavily on collaboration. Where external managers are used, for example, effective TPA governance requires robust data-sharing agreements, integrated reporting platforms, and clear protocols for how real-time portfolio analytics and dashboards incorporate externally managed assets alongside internal positions. While accountability must remain clearly assigned, ownership of outcomes under TPA is often shared and calibrated by influence: Responsibility for decisions implies

"USS's investment framework sets objectives and risk limits for the overall portfolio, and the investment manager (USSIM) manages the portfolio holistically against those objectives, demonstrating elements of TPA in our specific approach."

—Lindsey Matthews, USS (Universities Superannuation Scheme)

"There should be increased board involvement in TPA governance, with boards setting higher-level objectives focused on total-fund returns rather than asset-class benchmarks."

—Jacky Lee, HOOPP

significant ownership; oversight implies moderate ownership; and support, consulted, or informed implies lighter ownership.

A typical TPA governance structure assigns complementary roles:

- *Sponsor/asset owner*: Provides overarching oversight and periodic strategic input and is consulted on asset allocation policy questions
- *Board*: Retains primary ownership and accountability for key policy decisions, including the reference portfolio and risk appetite, and exercises oversight through structured dashboards and review processes
- *Investment committee*: Validates major reallocations, operationalizes competition for capital, and acts as a strategic checkpoint, while delegating day-to-day portfolio management to the CIO
- *Chief investment officer*: Accountable for active risk, portfolio tilts, and liquidity management, translating board-level risk parameters into implementable strategies
- *Chief total portfolio officer (or equivalent)*: Responsible for total portfolio operational delivery, real-time analytics, data governance, dashboards, rebalancing, and portfolio overlays, supporting both the CIO and investment committee with consistent metrics and insights

Governance effectiveness depends not only on structure but also on culture. TPA governance requires collaboration, constructive challenges, and disciplined cadence. Oversight must be authoritative and informed, with the ability to question decisions and trigger reconsideration when necessary. Regular portfolio reviews must be timely, thorough, and supported by agile processes.

Risk: From Risk 1.0 to Risk 2.0

Traditional risk management, the “Risk 1.0” model, focuses on expected returns, volatility, and correlations derived from capital market assumptions.

While analytically rigorous, volatility is an incomplete proxy for risk, particularly in the presence of systemic shocks, regime changes, and nonlinear dynamics. Moreover, Risk 1.0 frameworks are often insufficiently integrated to allow for insight into total portfolio risk.

“Private markets expose investors to a whole different set of risks that are not there in public markets. You have liquidity risk, you have funding risk. . . . This goes far beyond obviously just volatility or even value at risk or certainly tracking error.”

—Dimitris Melas, MSCI

The “Risk 2.0” model defines a system that is additive to Risk 1.0 but contains full functionality across all dimensions of total portfolio risk. Elkamhi and Lee (2025) provide useful context in highlighting risk dimensions that TPA is often implemented to address

(e.g., drawdown risk, mission impairment, and systemic exposure). A common requirement for Risk 2.0 is an organization-wide risk culture that interprets risk collectively, using dashboards, key risk indicators, and **joined-up risk** thinking that spans silos and time horizons. The Risk 2.0 culture should meet the challenges of integrating private market risks with public market risks.

A transition toward a Risk 2.0 framework involves several shifts:

- *Wider framing:* Incorporating systemic risks, regime change, and total portfolio interactions, including resilience factors and intertemporal risks
- *Softer elements:* Recognizing the importance of qualitative factors, such as governance quality, culture, skill, and teamwork, alongside quantitative metrics
- *Longer-term perspective:* Explicitly accounting for risks that compound or emerge over long horizons, such as climate transition risk, demographic shifts, technology disruption, and geopolitical fragmentation, which may not be visible in short-term volatility measures but can materially impair an institution's ability to meet its long-term objectives, including capital growth targets and meeting liabilities

Transitioning to Risk 2.0 is challenging. There is natural inertia to stretch existing models rather than redesign them in a more fundamental way (e.g., bringing cash flows and growth into the mix when applying macro-modeling methods to aid in integrating private market assets with valuation issues). In addition, TPA applies the use of scenarios to deal with resilience—the ability to absorb shocks and adapt. Resilience is increasingly a central risk objective but not one served well by prior risk methods.

The TPA framework also incorporates intertemporal risk. Most consideration of risk focuses on the portfolio's cross-sectional exposures at a point in time. But the sources and magnitude of risks vary considerably over different time horizons. For example, in a defined contribution pension context, member outcomes depend critically on how risk and return evolve over the full life cycle of a plan participant. In a TPA setting, defining the money-weighted objectives and investing strategy can be calibrated to the

"We subject the portfolio to a whole variety of scenarios and spend a lot of time talking about what scenarios to use and seeking to construct a portfolio that is robust. . . . We use a variety of scenarios to subject the portfolio to what could happen."

—Lindsey Matthews, USS

"What I like about TPA is that it looks at the whole and it doesn't look at it only from an asset-class perspective, but you're really aggregating all your risk exposures."

—Ziad Hindo, Bridgewater

member's pot size and contributions, creating age-specific objectives that reflect a changing risk appetite. The TPA framework for this context explicitly addresses and adapts to intertemporal risk in addition to cross-sectional risk.

Sustainability: System-Level Investing

Within TPA, sustainability is not an overlay or constraint; it is a core design feature. TPA enables **3D investing**, which balances risk, return, and **real-world outcomes** across both short- and long-term horizons. This type of *system-level investing* recognizes that financial markets are embedded within environmental, social, and economic systems (Lucomnik and Burckhart 2026), acknowledging such systemic risks as climate change, biodiversity loss, and social instability as ones that cannot be diversified away and that pose material threats to long-term outcomes.

Traditional SAA frameworks have integrated environmental, social, and governance (ESG) considerations and stewardship at the portfolio level, but they have struggled to approach sustainability from a systems lens, which would include the following:

"We integrate sustainability into the investment process as part of our long-term risk and return assessment. ESG factors help us identify and manage risks that can affect portfolio outcomes over time. At the same time, we recognize that investments have real-world effects, and we take responsibility for those impacts through our responsible investment approach."

—Michael Kurz, MN

- Explicitly focusing on system-level risks and their relevance to fiduciary duty and financial materiality
- Clarifying objectives and processes for influencing outcomes across the investment chain
- Developing investment intelligence that captures causal relationships and feedback loops
- Assessing and reporting on the effectiveness of sustainability-related actions

There are several ways funds can integrate sustainability into their TPA. Among our interviewees, for

example, MN (Netherlands) explicitly treats sustainability as a risk dimension that supports long-term economic returns, while recognizing the broader societal effects of investment decisions. PGGM (Netherlands) integrates sustainability objectives directly into portfolio-level mandates and reporting. To embed sustainability effectively within TPA, therefore, organizations should

- align sustainability ambition with organizational capacity and opportunity,
- integrate stewardship, including systemic stewardship, into core investment processes, and
- foster a culture that supports long-term, system-aware decision making.

Intelligence: People, Process, Technology, and Information

Technology and data intelligence are central enablers of TPA. The modern investment organization increasingly relies on an integrated intelligence ecosystem—the *interconnected networks of people, processes, and technologies that build decision-useful intelligence*. There are four key components:

- *People stack*: talent, leadership, culture, and governance (see “The People Factor” section for a detailed discussion of the key elements of the people stack)
- *Process stack*: iterative decision-making processes, feedback loops sensitive to information in real time, and workflow design
- *Technology stack*: data architecture, software, and infrastructure
- *Information stack*: dashboards, scorecards, and decision-support tools combining human judgment with analyses driven by artificial intelligence (AI)

AI is becoming particularly important within the intelligence ecosystem, enabling the processing of structured and unstructured data, assessment of materiality, and translation of information into decision-useful insights. Practical applications of AI include factor decomposition across public and private assets, enhanced scenario generation for stress testing, liquidity forecasting under varying market regimes, and real-time aggregation of risk exposures across the total portfolio.

In this context, technology increasingly becomes a linchpin of TPA, enabling faster, more accurate, and more adaptive decision making. The combination of human intelligence and artificial intelligence is considerably more powerful than each of these on their own.

Summary

The TPA proposition is that by adopting joined-up thinking, adaptive governance, and systems leadership, asset owners and managers can better navigate complexity, manage

“I think as a best practice, [TPA] needs to have information technology embedded in it, particularly in terms of how you’re integrating that information from [the] public market, from your private securities. You’re aggregating all these factor exposures and in a timely manner.”

—Ziad Hindo, Bridgewater

“Sound investment in bringing all data on the same platform so there’s one version of the truth will really be a huge competitive advantage. If you don’t have that, then you should work on that with high priority.”

—Jeremy Baskin, MSCI

systemic risks, and deliver sustainable long-term value. The integration of investment, governance, risk, sustainability, and intelligence within TPA is a considerable organizational challenge; however, when successfully implemented, it should create a resilient and future-ready investment framework in which each pillar reinforces the others.

The Practical Side of Transitioning to TPA

In this section, we discuss considerations for the transition to TPA, including the various stages and the costs and risks.

TPA Is a Spectrum

TPA is a continuum rather than a binary choice. This is a key insight for organizations evaluating adoption: TPA can be applied to varying degrees, calibrated to an organization's size, resources, and objectives. The most successful transitions are incremental, building on existing capabilities rather than requiring wholesale reorganization. Organizations can begin by evolving tasks and responsibilities, making TPA accessible and exciting for staff while preserving institutional knowledge and stability. Engagement alongside governance is critical; adoption succeeds when people are motivated by the approach, not merely directed toward it.

As a useful heuristic, research from the Thinking Ahead Institute identifies five levels of TPA, shown in **Exhibit 3**. How each level develops within individual organizations may vary.

This section focuses on the first three levels because they represent the foundational stages most relevant to organizations beginning or actively considering the transition to TPA. Levels 4 and 5 involve deeper structural changes that build on these foundations and are more relevant to organizations already operating within a TPA framework.

Level 1: Enhanced SAA

The initial stage centers on enhancing existing SAA processes by developing some total portfolio thinking within a collaborative culture and prioritizing total portfolio goals over benchmarks. This involves setting beliefs at the organizational level—embedding shared values, assumptions, conjectures, and principles that underpin the TPA proposition.

Shifting Priorities

Enhanced SAA prioritizes what is assessed to be best for the organization and the total portfolio, focusing on absolute returns and total portfolio risk in the fund's goals. This approach embraces long-term target returns and establishes acceptable drawdowns, using a shared risk language, common metrics, and a unified approach to risk appetite.

Exhibit 3. Key Steps in the TPA Transition

TPA Level	Stage	Common Steps
1	Enhanced SAA	The organization retains its existing SAA framework but begins to adopt total portfolio thinking, prioritizing total portfolio goals alongside benchmarks, codifying shared investment beliefs, using multiple comparators rather than a single benchmark, and integrating sustainability across the whole fund.
2	Mindset TPA	Governance roles are clarified between the board, the investment committee, and management. A reference portfolio is often introduced to express the fund's risk appetite and guide capital allocation. Portfolio management becomes more dynamic, with conviction-based decisions and explicit attention to illiquidity risk across the total portfolio.
3	Top-down TPA	A strengthened top-of-house investment function is introduced, supported by real-time dashboards and key risk indicators. The reference portfolio, strategic portfolio, and total portfolio are managed as a coherent whole, with dedicated capabilities for managing downside risk through scenario analysis and stress testing.
4	Joined-up TPA	External manager relationships are deepened and streamlined around total portfolio objectives. Mandates are broadened to encompass multiple capital and sustainability goals. The portfolio benefits from thematic strategies and factor-based insights to enhance diversification and capture relative value across the portfolio.
5	One-fund TPA	The portfolio operates as a fully integrated fund, consolidating mandates to capture economies of scale. Risk management is extended beyond traditional measures to include resilience and systemic risk, while sustainability and system-level investing are embedded as a core investment objective alongside risk and return.

Source: Thinking Ahead Institute (2025b).

Enhanced SAA involves fostering team collaboration principles so that the whole organization is aligned in aiming for the goals of the whole fund. This process is prioritized relative to specific asset-class or benchmark-driven goals.

Codifying Shared Beliefs

Strong investment beliefs are integral to TPA, guided by a clear investment philosophy and strong discretionary judgment in portfolio analysis and decision making. Few organizations have undertaken the rigorous process of codifying critical investment beliefs central to the investment philosophy and portfolio construction principles. Accurately determining and recording these beliefs is vital because they capture the

"You need to have a culture where people want to work together. Silos exist for a reason. Most people like working in a silo. It's easier to do things tribally."

—Johanna Kyrklund, Schroders

essence of the TPA value proposition and form a cornerstone of the compelling vision necessary for successful transitions.

Level 2: Mindset TPA

Level 2 involves a governance ownership reset and can include the construction of a reference portfolio.

Governance Ownership Reset

This stage involves resetting governance ownership, clarifying board and investment committee delegations, and role positioning. Effective realignment ensures central roles are clear and measurement and incentives are appropriately calibrated. The TPA construct necessitates heightened respect for ownership and oversight responsibilities, with accountability and responsibility at its core. An actions matrix is vital; it requires a reset to delegate greater freedom and dynamism to the IC and management, within established guardrails and under increased board oversight.

Reference Portfolio Construction

Alongside the governance reset, a robust risk appetite policy replaces the traditional SAA policy benchmark. A reference portfolio is a common feature of TPA—but not a necessary one—used to express board-level risk appetite and assess risk across the portfolio. While several TPA adopters have moved away from an explicit reference portfolio, relying instead on alternative risk appetite and risk budgeting constructs, reference portfolios are still useful for many, particularly while transitioning to TPA.

The reference portfolio (RP) sets the guardrails for total portfolio risk within the risk budgeting process (see **Exhibit 4**). Typically constructed from listed equities and fixed-income assets, the reference portfolio serves as a baseline for risk budgeting and as one comparator among several for measuring progress. It guides capital allocation decisions but is not intended as a benchmark to be closely tracked. The actual portfolio maintains comparable total risk but allows for significant latitude (with tracking error typically around 4%–5% per year), aiming to avoid benchmark drag. Funds with reference portfolios generally omit an SAA design, but some funds work with a multi-asset-class **strategic portfolio** that is consistent with the reference portfolio risk profile to signal the investment diversification intended.

“So what’s going to change is that we are setting steps from SAA to TPA, and the first step is to work with a reference portfolio and a clear risk budget.”

—Jeroen Rijk, PGGM

Ultimate success in this stage depends on the accurate alignment

Exhibit 4. The Reference Portfolio—What It Is and What It Does

What the RP is	A mix of listed equities and fixed income/cash that meets the desired risk profile.	What the RP is not	The benchmark to measure performance against, although it will be among the multiple comparators.
A board governance decision to identify optimal risk appetite, reflecting the long-term mission.	A portfolio that defines the level of return that can be generated without relying on skill and other value-add levers.	A portfolio to use as a safe harbor via replication or close tracking.	The long-term SAA portfolio that will be more granular.
What the RP does	Good governance allocates decision rights (defined authority and practices) and responsibilities (checks and balances).	What the RP does not do	It does not define the total portfolio return target on its own, but it does support the active risk and return budget.
It provides a level setting for risks enabling returns to be compared <i>ex ante</i> and <i>ex post</i> .	It guides the competition for capital framework by providing the notional funding for deals.	It does not build a robust and unambiguous construct for performance.	It does not guide diversification; it guides risk appetite and risk tolerance.

of active return requirements with risk budgets and governance capacity, supported by a clear and realistic risk budget framework.

Level 3: Top-Down TPA

Level 3 involves a top-of-house strategic reset and often includes the use of dashboards and scorecards.

Top-of-House Strategic Reset

This step focuses on organizational design, often introducing an enhanced CIO function, a chief total portfolio officer role, **cost-of-capital models**, portfolio-level hedging and overlay strategies, consolidated balance sheet management, and total portfolio risk and resilience capabilities. These changes strengthen top-down disciplines and reflect the total portfolio mindset.

“We’ve moved . . . to setting risk budgets across multiple facets. . . . Risk appetites are set at the trustee level through the investment committee, and those are translated into a set of key risk indicators with thresholds—limits around them—which are then embedded in the mandate for the investment manager. So the investment manager has objectives, constraints, and risk limits, and we measure performance relative to those objectives, to those constraints, and to those risk limits.”

—Lindsey Matthews, USS

Dashboard and Scorecard Constructs

Dashboards and scorecards are essential tools that enable the organization to apply beliefs and portfolio construction parameters in a timely and effective manner. Balanced scorecards link strategy to execution, translating such objectives as risk-adjusted returns, liquidity, and sustainability into measurable indicators. Dashboards communicate strategy and progress across stakeholder groups, facilitating organizational alignment.

The dashboard assesses portfolios across such dimensions as efficiency, resilience, sustainability, implementation effectiveness, and robustness. It combines quantitative and qualitative measures for enhanced governance and investment decisions. Dashboards are used for ongoing management, whereas scorecards support *ex post* evaluation. Leading funds increasingly integrate risk frameworks using these tools to manage multi-dimensional risks, set risk budgets, and adapt dynamically to changing circumstances. There is a growing trend toward incorporating systemic and operational risks into oversight.

Dashboards provide a multi-lens view of the portfolio. They assist with asset allocation, exposure assessment, and strategy evaluation via data analytics and visualizations. They are central for evaluating the marginal contributions of new strategies to the overall portfolio.

The measurement framework underpinning dashboards is “SMART” in two senses: (1) It is “specific, measurable, achievable, relevant, and time-bound,” and (2) it is “systemic, multiple, agile, reflexive, and transparent” (Thinking Ahead Institute 2024b, p. 44). This expanded approach enables a nuanced, adaptable, and responsive portfolio construction process, with agility and holistic monitoring considered within a systems-thinking context.

“TPA as a gradual transformation requires careful change management, collaboration across investment teams, maintaining transparency and accountability during the transition, and recognizing the complexity of implementation, especially for senior leadership. And be realistic on what raised performance expectations might be—perhaps 50–60 basis points.”

—Stephen Gilmore, CalPERS

Summary

The following are the essential criteria for TPA feasibility:

- Securing management and board commitment to a compelling vision for TPA’s net value proposition
- Achieving comfort among the board and management with a governance reset
- Fostering a “one-organization” mindset and embedding it in behaviors throughout the organization

- Mobilizing organizational capability, resources, and readiness for the TPA transition

Signals of successful TPA transitions include the following:

- Governance and delegation reset—diligent oversight and clearer ownership
- Management delivery reset—expanding CIO roles and introducing chief total portfolio officer roles
- Beliefs level setting—deeper embedding and improved alignment
- TPA mindset—cultivating collaborative culture
- Reference portfolio guardrails—defining risk appetite and tolerance and constructing risk budgets
- Dashboard and scorecard constructs—developing intelligence stacks and incentivizing with key performance indicators and key risk indicators

The costs of transition are as follows:

- Investing in technology and data infrastructure
- Allocating resources for project management and staff training
- Managing potential disruption and opportunity costs throughout the transition period

The following are the risks of transition:

- Ineffective implementation, particularly regarding governance, processes, and culture
- Inconsistent data, highlighting the need for robust data platforms
- Liquidity management, especially as portfolios become more diversified
- Cultural resistance, which can hinder the transition process
- Adverse market conditions, potentially affecting program performance

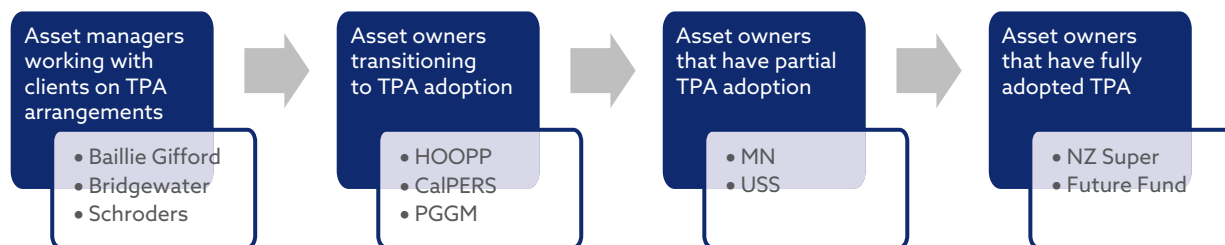
Survey Insights into TPA Transitions

In this section, we discuss the results of an optional survey we conducted on TPA adoption and the outlook for the future.

The State of TPA Adoption Among Survey Respondents

In conjunction with our interviews, we conducted an optional survey regarding organizations' process of TPA adoption. The survey was conducted in late 2025, and for each question, at least 10 of the 14 interviewees responded. While the small sample size is not representative of the broader industry, it represents a

Exhibit 5. TPA Adoption in Surveyed Organizations



high-quality cross-section of organizations shaping TPA and the next generation of portfolio management practices, evidenced by **Exhibit 5**.

Overall, the TPA adoption survey results indicate growing confidence in the TPA approach, tempered by continued operational and cultural challenges. Respondents were clear about their priorities for strengthening TPA adoption and outcomes:

- Enhance data and technology systems to enable more comprehensive portfolio oversight.
- Strengthen governance frameworks to clarify roles, streamline decision making, and achieve “joined-up” portfolio management.
- Improve integration between top-down and bottom-up investment processes.

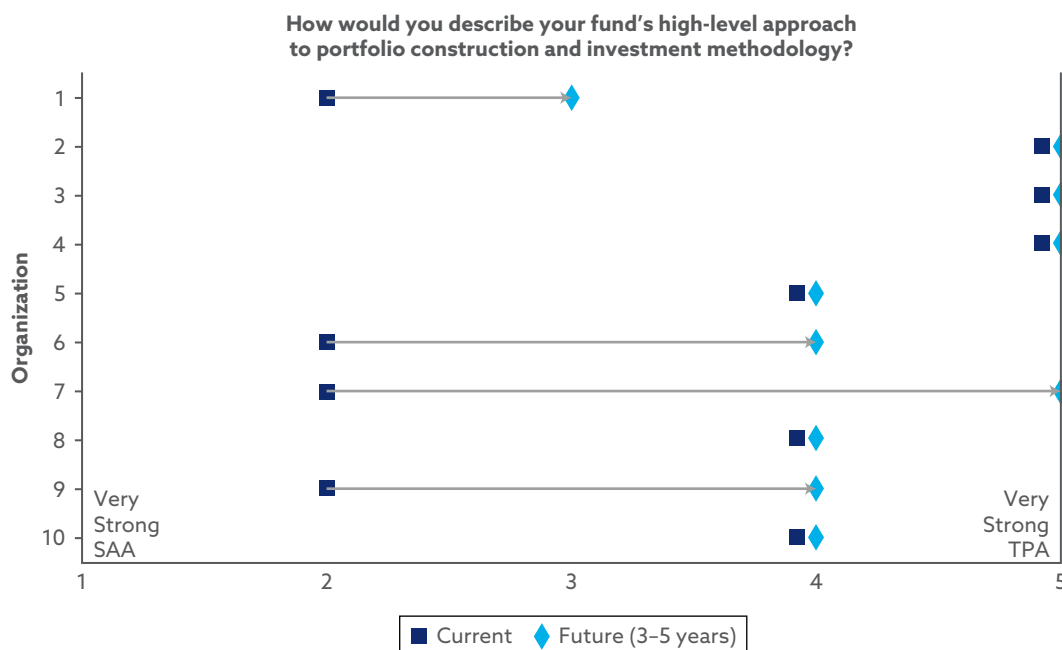
Current and Future Adoption Status

Ten respondents rated their fund’s approach to portfolio construction and investment methodology on a five-point scale ranging from very strong SAA (1) to very strong TPA (5), as shown in **Exhibit 6**. The average “current” score was approximately 3.5. When asked about the next three to five years, the average expected “future” score rose to 4.3. Note that six of these ten respondents indicated that the current strong/very strong TPA rating for their organizations would remain the same in the future (see Exhibit 6). These results suggest broad confidence that the TPA framework will become more embedded in their organization over time.

Motivations and Metrics

The primary motivations for TPA adoption shown in the survey were better all-around portfolio management quality (returns, risk, liquidity), improved risk-adjusted returns, and a more effective governance framework. Some respondents also cited sustainable investing and stewardship integration as being important motivators for their funds.

Exhibit 6. Current Investment Methodology, Ranging from Very Strong SAA to Very Strong TPA



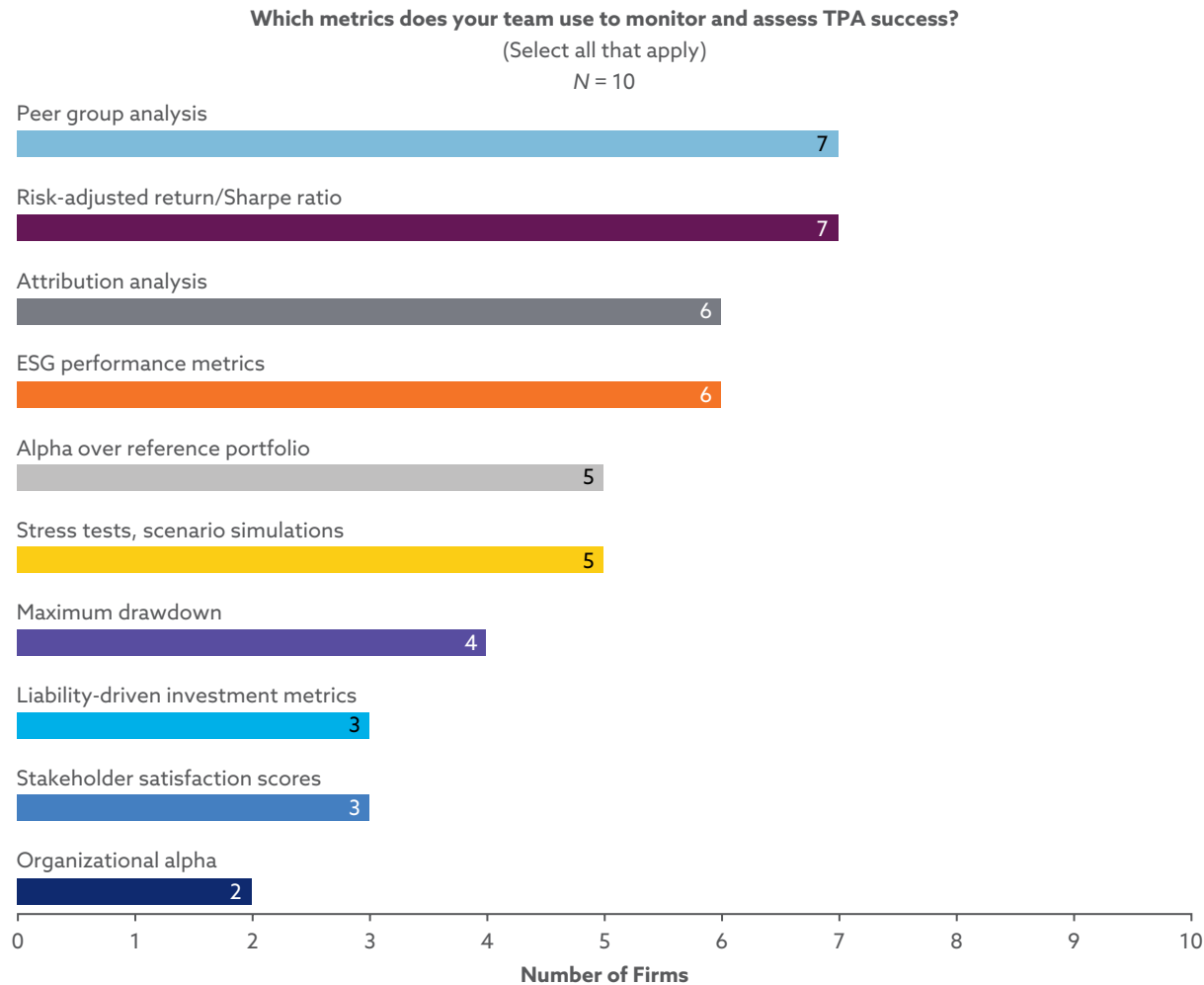
The TPA adoption survey also shows that the metrics used to assess TPA success vary across funds. Still, a common finding among our sample is the use of multiple comparators, which reflects the underlying investment philosophy that risk is multi-faceted and there are multiple objectives to consider. The majority of funds track risk-adjusted return or the Sharpe ratio and use peer group analysis to measure performance. However, as shown in **Exhibit 7**, a variety of additional methods are used depending on the needs and preferences of the fund, including attribution analysis, ESG performance metrics, and **organizational alpha** (a forward-looking assessment of organizational capability to produce added value, typically evaluated through qualitative governance reviews and capability assessments).

Transition Governance

Organizations demonstrated varied approaches to overseeing and managing the TPA transition. For example, two had a dedicated TPA committee with cross-asset representation. Four incorporated TPA into existing investment committee responsibilities. Two others were led by CIOs; there was no formal committee.

Barriers to adoption included challenges around culture and governance. Indeed, the most common challenges cited were "cultural change/people management," "complexities of investment team management and coordination," "governance challenges," and to a lesser extent, "identifying appropriate market factors in the

Exhibit 7. Metrics Used to Evaluate TPA Fund



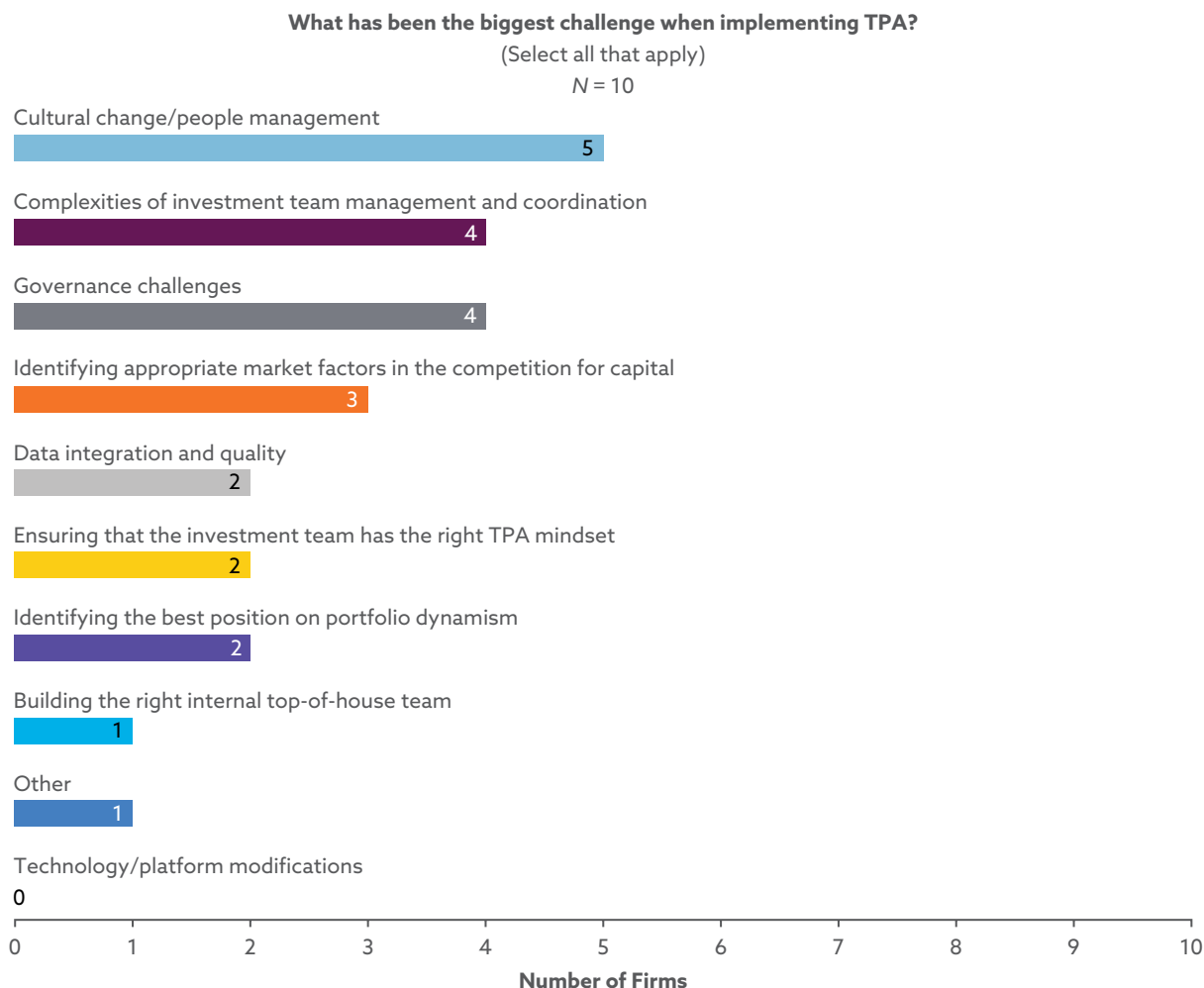
"The biggest TPA challenge is organizational culture within asset owners, who are constrained by short-term performance measurement and traditional governance structures. And they struggle to adopt a long-term, holistic view; they often revert to benchmark-relative performance metrics."

—Stuart Dunbar, Baillie Gifford

competition for capital." **Exhibit 8** shows the full list of responses to the survey question regarding barriers to TPA adoption.

These results reinforce that TPA transition is not just a technical exercise but one that requires organizational learning and a shift in culture. However, even organizations that appear to have the conceptual understanding and governance readiness for TPA may still face structural constraints

Exhibit 8. Challenges with Implementing TPA



in the technological backbone required to fully operationalize the approach and quantify outcomes.

Technology and data capabilities among surveyed organizations are mixed. Participants rated their current technology and data infrastructure for supporting a TPA framework. Both “availability and access of data” and “accuracy and scope of data” had an average rating of 3.1 out of 5 (5 being very good availability/access). These moderate ratings reflect ongoing efforts to improve systems capable

“It’s less the amount of data that is available. . . . It’s more the quality assurance of the data, the structuring of the data in a useful way, and making it available in useful formats.”

—Michael Kurz, MN

of providing consolidated, real-time portfolio exposure measures and integrated risk analytics.

Outlook

When asked about the benefits of TPA, survey respondents highlighted stronger total-fund goal alignment and improved risk-adjusted return efficiency. Positive outcomes also included “more disciplined and deliberative active risk decisions” and “the emergence of deeper, more substantive discussions around the underlying factors and economic mechanisms that drive portfolio risks and returns.” Indeed, over half of respondents reported that they estimate risk-adjusted return benefits of more than 50 bps greater than an SAA counterfactual.

Although the empirical evidence is not definitive, these anecdotal reports are broadly consistent with (and may be informed by) external research. For example, Garmash (2025), looking at 10 years of data, finds TPA adopters earning an average of 150 bps of additional return annually compared with SAA peers, and estimates an ongoing performance advantage of at least 50–100 bps relative to SAA. Thinking Ahead Institute (2025c) found that TPA adopters did 1.3% per year better than SAA adopters in a 10-year, 26-fund study.

However, attributing performance differences to TPA implementation is challenging. There are differences in fund size, mandates, and benchmarks; limited history; and the small population of TPA adopters. These differences collectively hinder meaningful comparisons between TPA and SAA organizations. It is also important to note the high exposure to alternatives in the TPA group in the Thinking Ahead Institute study. Still, the vast majority (90%) of respondents in our survey believe that funds implementing TPA will achieve better overall performance, while over 80% anticipate improvements in fund governance and long-term sustainability focus.

Although several challenges to TPA adoption remain, respondents expressed a positive outlook. Headwinds include regulatory or fiduciary pressure, stakeholder (e.g., board or sponsor) demands, the desire for a simpler investment methodology and model, and the consolidation of data in an intelligence stack that is decision useful. Still, respondents were optimistic that by embedding TPA within their fund’s strategic identity and engaging stakeholders effectively, they could unlock stronger governance and long-term portfolio resilience.

Respondents were then asked about their next priorities. Responses included strengthening their frameworks and developing more robust portfolios that incorporate analytics, scenarios, and integrated decision making. These and other priorities that were top of mind are captured in the word cloud shown in **Exhibit 9**.

Exhibit 9. Commonly Used Terms When Asked About Future TPA Priorities



The People Factor

TPA's success depends on people as much as on portfolio construction. This section addresses four critical dimensions of the people factor: mindset, leadership, culture, and organizational design. Together, these aspects shape how TPA is implemented and sustained, influencing outcomes for clients, firms, and society.

Mindset: Beliefs, Values, and Behaviors of Investment Professionals

At the core of TPA is a mindset that goes beyond technical proficiency to encompass clarity of purpose, ethical responsibility, and systems thinking—the ability to see the whole rather than isolated parts, recognize interconnections, and focus on patterns of change. This mindset involves several shifts: from zero-sum to positive-sum thinking, from narrow specialization to T-shaped teams⁵ (combining deep expertise with broad cross-disciplinary knowledge), and from linear extrapolation to complex pattern recognition. In conditions of volatility, uncertainty, complexity, and ambiguity, this mindset fosters vision, understanding, collaboration, and adaptability.

⁵See CFA Institute (2019) and Cao (2021) for a discussion of T-shaped skills and T-shaped teams, respectively.

Effective stakeholder management likewise requires this systems mindset. Stakeholders are best understood as constituents with mutual interests: those directly served (e.g., pension scheme members), those indirectly served (e.g., communities and society), those who influence success (e.g., service providers), and those with systemic influence (e.g., regulators). Adopting a systems view reframes these relationships, recognizing that organizational success depends on fostering well-being within the broader systems in which the organization sits.

Example: CalPERS—Investment Beliefs and Mindset

CalPERS, a leading US pension fund, conducted a comprehensive review of its investment beliefs. It involved board and staff consultations, public input, and the establishment of a formal belief statement. This process anchored future investment policies and helped manage stakeholder expectations, highlighting the importance of mindset and shared values in guiding its investment framework and supporting its planned move to a TPA system.

Leadership: The Transformational Opportunity

Leadership in TPA has become more demanding in an era of heightened uncertainty. Leaders face complex decisions and must build coalitions, seek diverse perspectives, and maintain disciplined follow-through. The transition from A-shaped leadership (pyramidal, linear, siloed, transactional) to B-shaped leadership (flat and networked, looped, empathetic, systems oriented) reflects a need for greater empowerment and connectivity.

“We are typically an industry of people. You think this is a numbers industry, but it’s not. It’s about people.”

—Johanna Kyrklund, Schroders

Individuals with T-shaped skills—those with both subject matter depth and breadth—are especially valuable, contributing cognitive diversity and integrated thinking to problem solving. However, teams must also include specialists with I-shaped skills to address complex, time-specific challenges. The key is adaptability: Team members should be able to assume multiple roles, take personal accountability, and prioritize collective success over individual achievement.

The chief investment officer and the investment leadership team play pivotal roles, with responsibilities spanning investment decisions, team leadership

and management, strategic input, and stakeholder relations. The competency model for CIOs includes technical skills (investment, finance, valuation, management science), soft skills (innovation, collaboration, humility, relationship management), leadership skills (vision, ethical culture, governance, crisis management), and T-shaped skills (situational fluency, connecting diverse perspectives, systems understanding). Values drive attitudes, which motivate behaviors, underscoring the importance of people in organizational success. Similarly, the chief total portfolio officer—a title not yet widely adopted—plays a top-of-house role in the organizational design of TPA funds. Their responsibilities include investment decisions (rebalancing, active overlay, treasury, balance sheet management, portfolio construction), leadership, management, strategic input, and stakeholder relations.

Culture: Driving Organizational Purpose Forward

Culture is a powerful, often invisible force that determines how work gets done within an organization. For TPA, culture is built on openness, fairness, transparency, and trust, where collaboration thrives and individuals are empowered to give their best. A unified culture, rooted in shared vision and strategy, fosters alignment and resilience. Critically, successful TPA adoption requires making the transition engaging and accessible for staff—not merely mandating structural change from above. When TPA is framed as an evolution of existing expertise rather than its replacement, teams are more likely to embrace the shift. Incremental changes to tasks and responsibilities, rather than radical reorganization, help preserve institutional knowledge while building the collaborative mindset TPA demands.

“People say, ‘Well, this is PGGM, an organization [for which] you’re not going to change the culture and behavior of people overnight.’ There is skepticism that this is going to work. But I see a really different culture already emerging—how people cooperate, how things are arranged. The top is really strong and decisive.”

—Jeroen Rijk, PGGM

A strong culture requires clear communication, evidence-based practices, and consistent engagement that can promote participation, diverse thinking, and safe dialogue. Ultimately, culture is the shared influence of values and beliefs on organizational thinking and behavior.

Empowering leadership and engaged followership are equally important; lasting success depends not just on visionary leaders but also on committed contributors. The concept of “flow,” from psychology, describes a state of high engagement and focus, where individuals perform at their best. In organizations, a culture in flow means smooth collaboration, clear purpose, high energy, and adaptability.

Culture requires intentional effort to sustain. Incentives can both strengthen and undermine culture depending on their alignment. In institutional investment, culture is most influential in driving organizational purpose and the ethos among team members, including guiding decision making into dispersed and decentralized places. Though intangible, culture profoundly shapes organizational outcomes and bridges present realities with future possibilities.

Organizations are living systems. They are propelled by purpose, identity, strategy, governance, leadership, talent, and technology—all interconnected through culture. The combined power of these elements is realized when they are aligned.

Example: Canadian Pension Funds—Collaborative Culture in TPA

Canadian pension funds, such as CPPIB and PSP Investments, are recognized for their collaborative cultures, which have been vital to the success of their TPA models. These organizations have broken down silos between asset-class teams, investment management, and risk management, creating environments where culture, collaboration, and trust are prioritized alongside technical excellence. The part played by strong governance in guiding culture in these examples is substantial.

Organizational Design: Internalization Maturity and Enhancing Performance

Organizational design in TPA aims to maximize value generated by people and processes (the “org-alpha”). Internalization maturity describes how asset owners adjust their insourcing-outsourcing balance (which mandates are managed in-house, which are externally managed) to achieve better risk-adjusted net returns. Org-alpha can increase as internal teams expand—provided mandates are strategically chosen, talent is cultivated, collaboration is maintained, and culture remains strong. Internalization should be a coherent strategy aimed at improving costs, controlling intellectual property, limiting agency drag, and enhancing diversity of talent. As organizations mature, challenges related to culture, governance, and alignment may intensify.

Effective organizational design in TPA focuses on power, trust, and accountability. Fewer but deeper external relationships enhance trust in outsourced services. Concentrating power in a broader risk budget enables meaningful measurement and mission clarity. Integrating long-term, extra-financial opportunities (“integrated finance”) and intergenerational fairness (“inclusive finance”) are central to TPA. Examples such as ABP, PGGM,

GPFG-Norway (Government Pension Fund Global in Norway), and CalPERS show how governance and culture can drive value chain integration.

Remuneration strategy is integral to organizational design, supporting the recruitment, retention, and development of talent. It must reinforce the organization's mandate and culture, align with stakeholder preferences, and balance individual and collective achievement. Harnessing different motivations and effective incentives is complex due to outcome path dependency, performance variability, and the need for regular review and oversight.

The remuneration trend in organizations adopting TPA is toward more flexible, balanced, and judgment-driven remuneration arrangements. They aim for less volatility in incentives and emphasize both total performance and broader objectives. There is no universal solution: Context matters, and striving for perfection should not impede practical progress.

Example: New Zealand Superannuation Fund— Org Design for TPA

NZ Super is noted as a pioneer in TPA implementation. The fund transitioned from a traditional SAA model to a fully integrated, one-fund TPA model, allowing all investment opportunities to compete equally. Its organizational structure was adapted to support TPA, with cross-functional teams, clear accountability, and a focus on continuous improvement. Since its inception, the organization has emphasized the benefits of culture and governance. It was able to sustain its focus and edge on these dimensions in its TPA era despite large-scale growth of assets and staff.

Summary

The people factor in TPA is multifaceted, encompassing mindset, leadership, culture, and organizational design. Success in TPA requires more than technical expertise; it demands a holistic, systems-oriented mindset, a culture of openness and trust, and an organizational design that enables agility, accountability, and cognitive diversity. By investing in these human dimensions, organizations can realize the full potential of TPA and deliver superior outcomes for clients, stakeholders, and society.

Conclusion

Transitioning to TPA is a demanding process requiring organizational maturity, ample resources, and readiness for cultural change. Funds should embark on the TPA journey only if fully prepared to invest in establishing the necessary

foundations. This transformation represents a significant change, requiring a clear vision, dedicated leadership, and disciplined implementation. While the benefits of TPA are often considerable, the associated costs and risks must also be carefully evaluated. Ultimately, success is contingent on careful planning, robust foundations, and a willingness to adapt and learn from experience.

Diversity Within TPA: No One-Size-Fits-All Approach

TPA is not a single, uniform model. It is an integrated framework whose effectiveness depends on the coherence of interconnected pillars: investment, governance, risk, sustainability, and intelligence (principally, technology and people). Any change to one element inevitably impacts the others. Importantly, TPA should not be viewed as a binary alternative to SAA; instead, it exists on a continuum. This continuum can be expressed at five levels, ranging from enhanced SAA (Level 1) to one-fund TPA (Level 5), with organizations able to adopt TPA incrementally, capturing meaningful benefits at each stage without requiring full transformation.

As a framework for investing, TPA encompasses a variety of forms, both in current practice and under development. Given the diverse contexts in which funds operate, it is natural to approach TPA using guiding principles rather than rigidly prescriptive practices. The core principles of TPA include aligning investment with organizational goals, encouraging the best ideas through well-defined competition for capital, and promoting dynamism and collaboration in portfolio construction.

Ongoing Relevance of SAA

It is important to recognize that not all funds are positioned to benefit from these TPA principles. The feasibility of transitioning relies on four essential conditions:

- Securing management and board commitment to a compelling vision for TPA's value proposition
- Gaining board and management comfort with a governance reset
- Fostering a "one-organization" mindset and behaviors throughout the organization
- Mobilizing the organizational capability, resources, and readiness required to undertake the TPA transition

These requirements constitute a high bar. The principal constraint to successful TPA adoption is not the size of the fund but the size and depth of organizational resources. As such, SAA is expected to remain the dominant investment system for the foreseeable future.

Our analysis of the SAA system suggests that it remains fit for purpose, continuing to provide a framework for best practices; however, structural challenges persist. First, SAA benchmarks must closely align with the fund's fundamental goals—a difficult task. Second, separating the creation of benchmarks from portfolio construction leads to inefficiencies because siloed work undermines holistic portfolio management; greater collaboration and integration are possible improvements. Third, reliance on historic capital market assumptions and modern portfolio theory are increasingly seen as insufficiently robust for today's dynamic environment. While more frequent resets of SAA benchmarks would help, they do not fully address this limitation. As a result, many funds are adopting total portfolio thinking within their existing SAA frameworks.

The Path Forward: What Comes Next?

Innovation theory suggests that every new idea faces a “chasm”—the gap between early adopters and widespread mainstream adoption (Moore 1991). The gradual emergence of breakthroughs in investing reflects the inherently cautious nature of investors when faced with complex situations. However, by 2025, increasing numbers of investors have begun to embrace the TPA model.

There are two critical moments in the innovation and diffusion process. These are outlined by Everett Rogers (1962) and Geoffrey Moore (1991): first, confronting the chasm—where the challenge is moving from theory to practical adoption—and second, crossing the chasm, where successful implementation paves the way for others to follow. In 2025, TPA appeared to cross this chasm, with such organizations as CalPERS, CPPIB, NZ Super, Future Fund, and PGGM leading the way. Early signs of standardization and institutionalization were evident in the processes of these leading funds. Their successes have encouraged others to make the transition.

The transition to TPA remains a journey of transformational change, demanding vision, leadership, and disciplined execution. It can be seen as an industry-wide challenge in which asset owners will be able to work alongside asset managers in the development of more mature and sophisticated practices. While the potential benefits are substantial, careful consideration of the associated costs and risks will help ensure the best possible outcome.

“I think it’s incumbent on asset managers to try to understand how those asset owners are thinking, what are their vulnerabilities, and how we can be part of a solution to help increase the resiliency of their portfolios by building solutions that directly address those vulnerabilities rather than just presenting a menu of products.”

—Jessica Oleson, Bridgewater

Call to Action: What Asset Owners Should Do Next

After reading this report, asset owners should be equipped to take concrete steps toward evaluating and, where appropriate, adopting TPA. We recommend the following practical starting points:

- *Assess alignment.* Review whether your current SAA benchmark successfully reflects the fund's real objectives—liabilities, purchasing power, intergenerational equity—or has become an end in itself.
- *Evaluate organizational readiness.* Consider your governance structure, culture, team skills, and data capabilities against the requirements outlined earlier. Where are the gaps? Which are addressable in the near term?
- *Identify the right level.* Use the five-level spectrum to determine which degree of TPA integration matches your circumstances. Partial adoption at Levels 1–3 can deliver significant benefits without requiring full organizational transformation.
- *Start with practical first steps.* Begin with belief setting, a governance review, or a reference portfolio design exercise. These foundational steps are valuable regardless of how far down the **TPA spectrum** the organization ultimately moves.
- *Invest in engagement, not just governance.* Successful TPA adoption depends as much on staff engagement and cultural buy-in as on formal governance changes. Make the transition accessible and motivating for investment teams by framing TPA as an evolution of their existing work, not its replacement.

The investment profession stands at a point of evolution comparable to the one that followed Brinson et al.'s (1986) landmark research four decades ago. SAA was adopted because it was recognized as an effective system for its era. TPA offers the same promise for ours—a modernized, adaptive framework built on the enduring foundations of disciplined asset allocation. The question is not whether TPA will reshape institutional investment but how quickly and effectively individual organizations will engage with it.

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Appendix: A History of TPA

TPA has been shaped by a multitude of forces, and its evolution is not a straight path. To capture the entire history of such forces would be impractical. This appendix offers one way of framing the development of TPA as a practice.

The Evolving Practice of the Total Portfolio Approach

TPA has emerged as the most significant shift in portfolio management thinking since the introduction of strategic asset allocation in the 1980s. What began as a set of technical innovations around factor-based risk management has evolved into a governance and cultural philosophy that treats the portfolio as one adaptive system rather than a collection of asset-class silos. A comprehensive review of TPA's theoretical underpinnings and historical precedent for TPA can be found in Elkamhi and Lee (2026).

Core influential sources for how to *do* TPA include two CAIA Association reports (CAIA Association 2024; Filbeck and Bok 2025), WTW's Thinking Ahead Institute studies, and case work from Future Fund, NZ Super, GIC, and CPPIB. Despite diversity in instituting TPA, the consensus among these groups is that TPA replaces the static comfort of SAA with an operating model built on organizational clarity, collaboration, and continuous calibration.

Academic and commercial analyses converge on three essential enablers:

- Empowered governance that separates oversight from execution
- A one-team culture where incentives and data reinforce collaboration
- Integrated systems and factor lenses that measure risk and opportunity holistically (see Hecht et al. 2026; Wilshire 2026).

Performance evidence is limited but accumulating. A study by Jarvis (2025) and Thinking Ahead Institute's (2019, 2024b) global peer reviews show TPA adopters earning roughly 50–180 bps of additional return annually compared with SAA peers, driven by greater allocation dynamism and better liquidity management.

A caveat, however, is that TPA implementation has a short history, small sample size, and potential survivorship bias among early adopters, making long-term assessments of performance and comparability with SAA peers problematic. Garmash (2025) also finds TPA investors adjust portfolios about twice as actively as non-TPA investors without increasing overall risk (though the net-of-transaction-cost implications remain an area for further research). Nangle (2025) provides a fund-by-fund analysis of GIC, CPPIB, and NZ Super, which offers a more nuanced assessment before concluding that institutional investors are likely moving to TPA for reasons beyond historical performance data alone.

At the same time, critiques such as *The Ambachtsheer Letter* (2024) argue that TPA is not a revolutionary break but a mature evolution of modern portfolio theory—the logical next step once institutions acquire the governance independence and in-house capabilities to manage capital holistically. Ambachtsheer reminds readers that without fiduciary autonomy, expert governance, and internal management skill, TPA rhetoric risks remaining aspirational.

Meanwhile, operational research (Meyer 2024; Toledo 2026) emphasizes the technological infrastructure required to make the “total portfolio” more than an aspiration: real-time investment books of record, unified cash-flow forecasting, and cross-asset data integration. Meyer (2024) notes that many funds may underestimate the importance of liquidity forecasting and system interoperability in turning TPA principles into live decision support.

In synthesis, the literature suggests that TPA is best understood as an organizational transformation rather than an investment model. It redefines success as total-fund alignment with the institution's mission and long-term objectives rather than incremental alpha, but implementation remains uneven across the industry. What is known is how the pioneers are doing it—through governance clarity, cultural integration, and technology. What is still underexplored is how small or more regulated funds can adapt these lessons within practical constraints. One promising pathway is through OCIO arrangements, which can offer small funds access to TPA-style integration without requiring full in-house infrastructure (Podkaminer 2025; Filbeck and Bok 2025).

Timeline and Current State of TPA

The evolution of the total portfolio approach is a story of innovation, adaptation, and the growing complexity of institutional investment. From the early days of portfolio theory to the present, the journey toward TPA reflects the changing needs of asset owners, increasing maturity, and broad shifts in investment thinking.

1960s–1980s: The Foundations

The seeds of TPA were sown in the 1960s and 1970s, following the emergence of modern portfolio theory and the development of mean-variance optimization by Harry Markowitz. This era established the importance of diversification and

risk-return trade-offs, laying the groundwork for more sophisticated approaches to asset allocation. However, investment governance was still relatively simple, with boards holding dominant roles and the focus largely on managing external fund managers.

1980s–1990s: The Rise of Strategic Asset Allocation

By the 1980s and 1990s, SAA became the dominant paradigm. The intellectual catalyst was Brinson, Hood, and Beebower's 1986 study in the *Financial Analysts Journal*, which demonstrated that investment policy—the strategic allocation of capital across asset classes—explained on average 93.6% of the variation in pension fund returns. SAA provided a clear governance structure, separating the creation of a policy portfolio (the “what”) from its implementation (the “how”). Boards set long-term benchmarks, while managers executed within defined asset-class buckets. This two-step approach was well suited to an era of growing institutionalization but was inherently static and slow to adapt to changing market conditions.

2000–2009: The Birth of TPA

The limitations of SAA became more apparent as investment environments grew more complex. The first decade of the twenty-first century saw the birth of TPA, initially among innovative funds seeking greater efficiency and flexibility. TPA was designed to address the “joined-up” issue—bridging the gap between policy and implementation and enabling more dynamic, goal-driven decision making. Early adopters included large sovereign wealth funds and public pension plans, particularly in Canada, Australia, and New Zealand.

2010s: Early Adoption and Coexistence

During the 2010s, TPA and SAA coexisted, with some funds experimenting with hybrid models. TPA gained traction as organizations recognized its ability to unlock teamwork, maximize opportunities, and integrate sustainability considerations. The focus shifted from simply meeting benchmarks to achieving holistic fund goals, including risk, return, and real-world impact. However, adoption was gradual, as TPA required significant cultural and governance changes.

2020s: Acceleration and Mainstreaming

The 2020s have marked a tipping point for TPA. The growing complexity of investment challenges—such as sustainability, systemic risk, and regime shifts—has highlighted the limitations of SAA. TPA is now increasingly recognized as best practice among leading asset owners, with a clear trend toward broader adoption and deeper integration of TPA principles.

Looking Ahead

Today, TPA is seen as a “quiet revolution” in investment practice that is following an S-curve of innovation: slow initial uptake, followed by acceleration as early adopters validate the approach and social proof builds. The journey from SAA to TPA is ongoing, with most funds expecting to move further along the TPA spectrum in the coming years. The future of TPA will be shaped by continued innovation in governance, risk management, and sustainability, as well as the ongoing need for organizational alignment and cultural readiness.

The intellectual foundations of SAA and TPA reflect distinct eras and philosophies in investment management. Each is rooted in a different belief system, shaping how institutions define, measure, and pursue investment success.

Glossary

3D investing: This investment approach integrates risk, return, and real-world impact, aligning portfolios with long-term sustainability and real-world outcomes. It is consistent with system-level investing.

Competition for capital: Competition for capital is essentially a method of quantitatively and qualitatively assessing each new investment opportunity's contribution to certain portfolio risk factors/dimensions. The risk factors/dimensions are investor specific, with cost of capital representing a significant component.

Cost-of-capital models: These models are quantitative assessments of the expected return from a prospective investment. They compare the cost-of-capital hurdle rate (required return for the complexity, illiquidity, and/or risks concerned) with the reference portfolio defining the overall cost of capital.

Dynamism: Dynamism means taking action at the point of a significant change in view/circumstances. It mostly involves adding and removing ideas quickly and varying portfolio exposures for both return generation and risk management purposes.

Holistic investing: Holistic investing involves the integration of all capital, risks, and opportunities into a single, system-wide view for decision making.

Joined-up: Joined-up refers to “effective combinations within and across teams and across providers; limited siloes in the organisation; shared values across the organisation. Connecting ideas across the organisation in both portfolio and the enterprise” (WTW 2024, p. 72).

Joined-up risk: It is the recognition and management of risks across the entire portfolio, cutting across mandates, teams, and asset classes.

Organizational alpha: Organizational alpha is the capability of an organization to produce added value (often assessed through qualitative governance reviews and capability benchmarking) based on its people, process, and technology. It incorporates the *horizontal design features* in the organization (like TPA) and the *vertical functional pillars* (like the investment framework); a systematic review of these factors would consider the sum of these qualitative elements.

Real-world outcomes: These are the broader societal, environmental, and economic impacts generated by investments, beyond just financial returns.

Reference portfolio: A reference portfolio is a simple portfolio, often a mix of listed equities and fixed income, that expresses the board's risk appetite. It is distinct from a policy benchmark in that it is not intended to be closely tracked but serves as a baseline for risk budgeting and is one comparator among several.

Strategic portfolio: A strategic portfolio is the diversified implementation of the reference portfolio, designed to target the same overall risk profile while expressing the desired breadth of asset classes (e.g., expanding a 60/40 reference portfolio into a five- or six-asset-class structure). It is an expression of the investor's long-horizon investment strategy but is not a benchmark for performance.

Systemic risk: "Systemic risk—with its principal examples of climate change, biodiversity, and geopolitical security—is the special part of market or systematic risk arising from malfunctions in the system that cascade through the market" (WTW 2024, p. 71).

Systems thinking: Systems thinking involves "emphasising the whole over the parts, the collective over the individual, the inter-connectedness, the emergent properties of the system over time" (Thinking Ahead Institute 2024a, p. 19).

Total portfolio approach (TPA): TPA is "an approach to portfolio construction that is a 'more joined up' process that starts with clearly specified investment goals and applies a competition for capital among all investment opportunities, in a dynamic approach" (WTW 2024, p. 71).

Total portfolio outcomes: Total portfolio outcomes are the holistic performance result achieved at the whole-fund level, integrating financial, sustainability, and mission objectives.

TPA spectrum: The TPA spectrum is a continuum showing how investors are positioned from traditional SAA with some TPA elements to more integrated TPA models, choosing the level of TPA adoption suited to their organization.

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