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NCPERS Message

Strengthening Public Pensions Through Data

By Matt Eckel, Associate Director of Research, NCPERS

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As Associate Director of Research at NCPERS, I have the privilege of working at the intersection of research and advocacy for public employee retirement systems across the nation. I see firsthand how data and insights can transform the way pension systems operate, make decisions, and serve their members. Today, I'm excited to share how two of our flagship research initiatives—the NCPERS Public Retirement Systems Study and our Public Pension Compensation Survey—provide the critical insights that pension systems need to stay current in an evolving and uncertain landscape.

The Public Retirement Systems Study, which NCPERS has conducted annually since 2011, is a crucial resource for understanding the fiscal health, operational practices, and strategic priorities of public pension systems nationwide. Meanwhile, our Compensation Survey delivers the granular workforce data that systems need to attract, retain, and fairly compensate the talented professionals who manage nearly $6 trillion in retirement assets on behalf of public servants.

Together, these studies form a comprehensive knowledge base that empowers pension leaders to make informed decisions backed by peer data and industry trends. In an era where every basis point matters and governance scrutiny is intense, having access to reliable benchmarking data isn't just helpful—it's essential.

The Power of Peer Comparison

Our recently released Compensation Survey results have already sparked important conversations among pension executives and trustees. The data reveals not just what systems are paying their staff, but how compensation structures vary by system size, geographic region, and governance model. For pension boards wrestling with succession planning, working to fill specialized positions in areas like alternative investments or cybersecurity, and looking to benchmark their compensation practices against peer institutions, this information is invaluable.

What makes our Compensation Survey particularly powerful is its granularity. We don't just report averages; we provide detailed breakdowns by position level, years of experience, and system characteristics. This enables pension systems to craft compensation packages that are both fiscally responsible and competitive enough to attract top-tier talent.

In addition to the comprehensive study report, participating plans have complimentary access to a detailed results dashboard, which allows them to generate custom analyses and get the most out of the data. NCPERS members who do not participate get half-price access to both products.

Your Voice Matters: Public Retirement Systems Study Now in the Field

I'm pleased to announce that our 2026 Public Retirement Systems Study is currently in the field and accepting responses. This year's study builds on a 14-year tradition of tracking industry trends while incorporating new questions that address emerging challenges like artificial intelligence integration and the role of ESG in contemporary pension investing.

The value of the Public Retirement Systems Study grows with every participating system. Last year, we achieved a record 201 responses, allowing us to provide unprecedented insights into funding trends, asset allocation strategies, and governance practices. The interactive dashboard available exclusively to NCPERS members has become an essential tool for peer benchmarking and strategic planning.

If your organization hasn't yet participated in this year's study, I strongly encourage you to reach out to me at research@ncpers.org. The survey is designed to be completed in under an hour, and the insights you'll gain from the final report and member dashboard will prove invaluable throughout the year. Whether you're preparing for advocacy efforts, evaluating investment approaches, or simply wanting to understand how your system compares to peers, the Public Retirement Systems Study provides the information and insights you need.

Looking Ahead

As public pension systems navigate an increasingly complex environment—from market volatility to a changing policy environment to demographic shifts to technological transformation—the need for robust, reliable data has never been greater. Through our research initiatives, NCPERS remains committed to arming pension professionals with the intelligence they need to make confident, informed decisions.

The deadline to participate in the Public Retirement Systems Study is approaching quickly. Don't miss this opportunity to contribute your system's experience to this collective knowledge base while gaining access to insights that will inform your strategic planning.

Please contact research@ncpers.org today to ensure your voice is heard and your system is represented in this critical industry research. ◆

Navigating the Evolving Landscape of Public Pensions: Insights from BlackRock's Latest Peer Study

By: Jonathan Cogan and Sarah Siwinski, BlackRock

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In an era of heightened scrutiny and evolving market dynamics, public pension plans face increasing pressure to meet long-term obligations while navigating complex investment environments. To support plan sponsors in this mission, BlackRock's Client Solutions Group (CSG) conducted a comprehensive peer study analyzing annual report data from more than 145 U.S. public pension plans, representing over $5.4 trillion in assets under management. The peer study spans a wide range of plan sizes ($458 million to $539 billion) and offers a robust view into how public pensions are allocating assets, managing risk, and benchmarking performance. Below, we highlight four key themes that emerged from the analysis.

You can download and review CSG's U.S. Public Pension Peer Study under the Peer Studies section of this webpage.

1. **Funded ratios: A modest climb**
   In fiscal year 2024, the average funded ratio across the public pension universe rose to 78%, up slightly from 77% in FY2023.

2. **Portfolio allocations: A tilt toward growth**
   The study found that, on average, public plans allocated 78% of their portfolios to growth assets. This includes 44% in public equities and 34% in alternatives such as private equity, real estate, and infrastructure.

3. **Risk exposures: Concentration in economic growth**
   One of the most striking findings was the concentration of portfolio risk in the economic growth factor. Over 80% of the average portfolio's total risk, which is measured at 13.4%, was attributed to this single factor.

4. **Historical and expected returns: A turning point**
   Over the past decade, only 51% of plans in the study achieved or exceeded their assumed return targets. However, based on BlackRock's capital market assumptions, the outlook is more optimistic: over 80% of plans are expected to exceed their assumed return going forward, with an average margin of 92 basis points[1].

Conclusion: Benchmarking for better outcomes

This peer study offers a valuable lens through which public pension stakeholders can evaluate their own positioning relative to peers. By understanding how others are allocating assets, managing risk, and setting expectations, plan sponsors can make more informed decisions that align with their unique objectives and constraints.

As the public pension landscape continues to evolve, data-driven insights like these will be essential for navigating uncertainty and delivering on long-term promises to beneficiaries. ◆

Watch for a deeper look into these findings in the upcoming Winter edition of PERSist.

Jonathan Cogan, CFA, CAIA and Sarah Siwinski, CFA *lead BlackRock's Client Solutions Group's public pension practice. They partner with plans to address their unique investment challenges through the creation of tailored investment solutions. Jonathan and Sarah also publish industry thought leadership, like the annual peer risk analysis - now in its seventh vintage. They engage with pension staff on investment strategy and help educate boards on industry trends and themes.*

Disclosures:

BlackRock. The views expressed are as of Fiscal Year 2024 / December 2024 and subject to change with market conditions. All public pension data throughout this presentation is sourced from Pensions and Investments, public annual reporting and BlackRock as of December 2024 & Fiscal Year 2024.

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Endnotes:

[1] BlackRock's Long-Term Capital Market Assumption Disclosures: This information is not intended as a recommendation to invest in any particular asset class or strategy or product or as a promise of future performance. Note that these asset class assumptions are passive, and do not consider the impact of active management. Given the complex risk-reward trade-offs involved, we advise clients to rely on their own judgment as well as quantitative optimization approaches in setting strategic allocations to all the asset classes and strategies. References to future returns are not promises or even estimates of actual returns a client portfolio may achieve. Assumptions, opinions and estimates are provided for illustrative purposes only. They should not be relied upon as recommendations to buy or sell securities. Forecasts of financial market trends that are based on current market conditions constitute our judgment and are subject to change without notice. We believe the information provided here is reliable, but do not warrant its accuracy or completeness. The outputs of the assumptions are provided for illustration purposes only and are subject to significant limitations. "Expected" return estimates are subject to uncertainty and error. Expected returns for each asset class can be conditional on economic scenarios; in the event a particular scenario comes to pass, actual returns could be significantly higher or lower than forecasted. Because of the inherent limitations of all models, potential investors should not rely exclusively on the model when making an investment decision. The model cannot account for the impact that economic, market, and other factors may have on the implementation and ongoing management of an actual investment portfolio.

80 Percent Funded Status? Now What?

By: Michael Buchenholz, J.P. Morgan Asset Management, and David Murad, NISA

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There is a popular myth in the financial media that reaching an 80% funded status is the ultimate benchmark for pension plan health.[1] In reality, there is no magic number, and funded status alone rarely provides a complete picture of a pension system's well-being. Yet, across the country, actuaries are reporting improvements in funded status to public pension board members—many crossing this 80% threshold for the first time in over a decade. As plans, board members, staff, and advisors celebrate this achievement, a critical question arises: "Now what?" Public pension plans in this position may want to consider the following actions to help protect and build on this valuable ground gained. Further, plans that are not quite there should also take a cue from these concepts, as there is no natural or discrete point in time where what is appropriate for managing a plan and its risks changes wholesale.

Team Approach

Each system has a unique set of financial circumstances, plan design, demographics, and investment approach. The only way to ensure that the board is making informed decisions is through cooperation among stakeholders. A nearly universal objective of pension investments is to fund, along with contributions, the contractual benefit obligations promised to participants. Indeed, key actuarial funding principles start with the fact that Contributions + Investment Returns = Benefits + Expenses. However, in many cases, the team focused on measuring and analyzing plan liabilities is largely siloed from the team deciding how to invest the assets that must satisfy those same liabilities. So the left-hand side and the right-hand side of the equation can only be made to balance out as risks on either side of the equation are borne out, largely in isolation, rather than addressing those risks head-on. Driving organizational alignment—by integrating both actuarial experts and investment advisors through formal or informal meetings—can help ensure that investment decisions are aimed at the right target: funding the liabilities.

Strategic Asset Allocation

Public pension asset allocation exercises generally seek to meet or exceed the expected return target with an acceptable level of asset volatility. Rarely considered, however, is the plan's funded status volatility, which measures the tracking error between plan assets and liabilities, similar to how a US Large Cap manager measures tracking error relative to the S&P 500. Portfolios that are more closely aligned and highly correlated with liability returns will generally exhibit lower levels of funded status volatility and experience shallower funding drawdowns than their higher funded status volatility counterparts. With typical funding policies, this would also suggest lower required contribution volatility to maintain benefits.

What Can I Do?

Bringing the Stakeholders together to investigate better solutions is the goal, and with this in mind, the following probing questions are useful for board members to consider:

- **Portfolio decision drivers:** When presented with multiple portfolios that meet the actuarial return assumption with acceptable asset volatility, can differences in funded status volatility help identify the preferred choice? For example, ask your advisors *what assets have the highest correlations with the liability?*
- **Fully-funded allocation:** How will the plan's asset allocation evolve when it reaches a surplus position?
- **A wolf in sheep's clothing?:** Cash is the lowest *volatility* asset, but due to re-investment risk, it actually can be highly *risky* relative to the long-dated obligations of a pension plan. Ask your investment advisors *what assets are less risky for a pension?*
- **Investment glidepath:** What allocation changes can be made today to put the plan on a path to protecting and improving funded status, while incorporating the investment beliefs embedded in a "fully funded" allocation?

Funded Status Monitoring

While funded status is not a comprehensive measure of plan health, most would agree that it provides valuable information in monitoring how a plan is doing and should influence how plan assets are invested. Its importance can be demonstrated by observing that funded status (usually on a smoothed basis), is the primary input to required contribution calculations. If we accept its importance, we must also acknowledge the usefulness of monitoring funded status more frequently than on an annual basis. This process is not meant to replace the experience study cycle and the discount rate setting process, but rather to enhance investment decision-making in the interim.

Assets are reported on both a smoothed (actuarial) and economic (mark-to-market) basis. Analogously, liabilities can be reported on a "smoothed" basis (the infrequently adjusted actuarial assumed rate of return) and a mark-to-market basis, where the latter "trues-up" the assumed rate of return to prevailing market conditions. This process also provides transparency to stakeholders regarding the direction of the official discount rate, allowing for better planning and fewer surprises.

Conclusions

Achieving an 80% funded status is a noteworthy accomplishment for public pension plans, but it should not be viewed as a standalone indicator of plan health. True long-term sustainability requires an integrated approach that aligns asset management with liability analysis. By fostering collaboration among stakeholders—bringing together actuarial experts and investment advisors—plans can ensure that investment strategies are directly informed by the nature and timing of benefit obligations.

Strategic asset allocation can go beyond meeting return targets and managing asset volatility, by also considering funded status volatility and the correlation between asset and liability returns. Regular, transparent monitoring of funded status using both actuarial and mark-to-market measures further supports informed decision-making and helps anticipate future challenges. Ultimately, a holistic framework that unifies asset and liability perspectives enables boards and advisors to make decisions that protect and strengthen the financial health of the pension plan, ensuring the security of promised benefits for participants. ◆

Michael Buchenholz, CFA, FSA*, is Managing Director, Head of U.S. Pension Strategy, in the institutional solutions strategy and analytics team at J.P. Morgan Asset Management, Inc., helping pension funds design and implement asset allocations that achieve their specific objectives.*

Prior to his current role, Buchenholz was a client portfolio manager in fixed income global LDI solutions, responsible for combining fixed income views and actuarial and accounting considerations in order to design customized investment strategies for corporate pension plans. An employee since 2013, Buchenholz previously held roles as an actuary in Mercer's financial strategy and retirement groups.

He holds a B.S.B.A. degree in mathematics (probability and statistics) and finance from Washington University as well as an M.B.A. degree in finance and economics from Columbia University. Michael is a Fellow of the Society of Actuaries (FSA), a Chartered Enterprise Risk Analyst (CERA) and a CFA charter holder.

David Murad, CFA, ASA, CERA *is the Director, Investment Strategies in NISA's Investment Strategies Group. He oversees the team that develops proprietary financial modeling and engineering tools used throughout NISA. He also supports NISA's Strategic Portfolio Management team which is charged with maintaining hedge strategies, including completion portfolios and exposure management strategies. He is also a member of NISA's liability analysis team which works with clients and their actuaries to estimate the market exposures of a plan's liabilities.*

Prior to joining NISA in 2019, he was a Managing Director at Rocaton Investment Advisors, consulting for a wide variety of institutional clients on asset allocation, capital markets, liability driven investing and other investment issues. Prior to that, he was an actuarial consultant at Buck Consultants.

David earned a BA in Statistics and Psychology from Rice University, is an Associate of the Society of Actuaries, and is a CFA Charterholder.

Disclosures:

This document is intended solely to report on various investment views held by J.P. Morgan Asset Management. Opinions, and statements of financial market trends are based on current market conditions, constitute our judgment and are subject to change without notice.

Endnotes:

1 The 80% Pension Funding Myth, Academy of Actuaries, October, 2021 (https://www.actuary.org/wp-content/uploads/2021/10/80percent_Myth_Issue_Brief.pdf)

How to Ensure Smooth Implementation of a New Benefits System

By: Trevor Newcomb, Segal

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Transitioning to a new benefits administration software solution is a significant decision. As your organization prepares to implement your new system, it is crucial to safeguard this major investment by taking steps now to avoid costly mistakes later. Develop comprehensive implementation roadmaps complete with critical-path milestones so that when it's time to flip the on-switch for the new software, the transition is smooth and the system functions exactly as expected.

Four proven strategies for a seamless benefits administration system implementation

In Segal's experience with assisting organizations with the implementation of new benefits administration systems, four steps are critically important to the project's success.

1. Gather all functional requirements

This first step is arguably the most integral step of the new software implementation. It lays a solid foundation for the project.

Outline and document all functional requirements of the system. This is the blueprint the vendor will follow as it begins programming. Most of this information should have been defined during the RFP process, but further clarifications or more defined user stories may be needed.

In most cases, these requirements are not simple. Typically, they require substantial analysis and comprehension, which usually means clarifying questions and sessions with the vendor's design and development teams. Use this time to work with the vendor to fully drill down your organization's expectations for the system.

As you work through this process, be sure to clearly track any new requirements or modifications to existing requirements. While some of this effort has likely already taken place during the procurement phase, requirements and specifications may change as the implementation develops.

Your vendor may consider some of your new requirements to be enhancements outside the scope of the original project. Determine whether this is the case at the outset to avoid surprise cost increases later on.

2. Clean your data before the system conversion

If your current system has data containing inconsistencies or invalid characters, the issues will only become worse as the new vendor loads the data into the new system.

Make a concerted effort to identify any potential issues. Consider and verify:

- Participants' personal identifiable information
- Retirement history
- Work/contribution history
- Eligibility

Carve out time early in the project to make the necessary corrections before the final data conversion into the new system. In addition, keep in mind that there may be data fields not in your old system that you may want added to the new one. This data needs to be provided to the vendor, and a plan to load it should be developed.

3. Create a detailed testing plan

Once you answer all questions about what the system needs to do, it's time to test those solutions. Laying out the rules is one thing — ensuring they are developed correctly is another. Modern systems are inherently complex. Most organizations have many employees whose responsibilities are interdependent and may have overlapping roles. However, those employees are not always aware that their responsibilities impact others. Ensuring that all processes are fluid is of paramount importance.

You need a detailed and thorough plan of action for testing each facet of the solution, eventually tying everything together as part of an end-to-end test of each process. Part of the plan should include the normal day-to-day practices of each area in the organization and should also account for one-off, out-of-the-blue situations that require workarounds or exception handling. Anticipating these potential issues reduces the need for reactive problem solving.

4. Train, train, train!

The adage "practice makes perfect" holds true in benefits administration system implementations. Part of the implementation project should include training sessions focused on how the end user will perform their work in the new system. These sessions should occur close to when the system will go live, so training won't be forgotten or grow stale. They should also be hands-on, because the more engaged your team is in the transition, the better the results will be.

Always require the vendor to include written system documentation, but be prepared to incorporate any changes into your existing standard operating procedures. Even after live or recorded sessions, dedicate time as the project flows to ensure the fundamentals and functions of the system are understood. If additional training sessions are needed, request them earlier rather than later.

Following these best practices sets up your implementation project for success

By following these four strategies, your organization can minimize delays and avoid common pitfalls in implementing a new benefits administration system. ◆

Trevor Newcomb *is a Consultant in Segal's Administration and Technology Consulting practice in New York. He specializes in all aspects of benefit administration and works with clients on organizational and operational reviews, third-party administrator searches, benefits administration system acquisitions and assessments and benefits administration system implementation services.*

What Public Pension Funds Can Learn from Continuous Mortality Audits

By: Vincent Pellegrino, ABL Tech

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Public pension funds are entrusted with safeguarding financial security for their members and beneficiaries. Yet even well-managed systems face risks when participant records are incomplete, deaths go unreported, or beneficiaries cannot be located. These challenges often lead to overpayments, compliance concerns, and operational inefficiencies.

Protecting the future requires pension funds to conduct timely audits that close data gaps, strengthen system integrity, and ensure accurate benefit delivery.

The Hidden Risks in Pension Administration

For public pension funds, the greatest risks often stem not from investment performance but from recordkeeping. One critical example is the failure to report a participant's death. Over time, even a small number of errors can add up to significant financial losses.

Case Study Lessons

Real-world examples illustrate how mortality verification uncovers issues that might otherwise remain hidden:

- California County Retirement System (2024): A review of 8,000 records uncovered several deaths that had not been detected by the existing fund's vendor, identifying more than $300,000 in overpayments.
- New York Public Pension Plan (2025): An audit of nearly 200,000 records identified overpayments totaling multiple six figures. Detecting these issues enabled immediate corrective action and improved compliance moving forward.

- Teamster Union Pension Fund (2024): An audit revealed 65 unreported deaths with dates before 2024. The removal of these records streamlined administration, reduced pension administration costs, and enhanced overall data accuracy.

Together, these examples highlight a critical truth: even well-run systems can miss mortality events or participant updates, thus affecting fund performance and compliance.

Key Services That Address These Challenges

Audits are the first step, but sustainable solutions require ongoing processes and tools that pension funds can rely on. These three services are designed to address the common risks revealed in audits:

- Mortality Verification. Regularly confirming participant mortality through multiple data sources helps reduce overpayments and protect fund assets.
- Missing Participant Searches. Proactively locating individuals who have become unresponsive ensures benefits are delivered accurately and reduces compliance risk.
- Beneficiary Verification. Confirming and updating beneficiary records bridges the gap between participant deaths and rightful benefit payments.

When combined, these services strengthen data accuracy, improve compliance, and reduce risk for pension funds.

Takeaways for Public Pension Funds

1. Small errors matter. Even a few missed deaths can mean six-figure losses.
2. Audits should be routine. They catch data gaps early and support compliance.
3. Data accuracy equals fiduciary strength. Trustees must prioritize record integrity alongside investment performance.
4. Technology enhances efficiency. Advanced tools, including AI, help funds detect risks faster and verify participant status more accurately.

Moving Forward with Confidence

Public pension funds cannot afford to leave data gaps unaddressed. As audits have shown, even a few missed deaths can create six-figure losses and regulatory headaches. The path forward lies in pairing regular audits with comprehensive solutions that address mortality verification, participant tracking, and beneficiary identification.

By adopting these approaches, public pension funds can reduce risk, safeguard resources, and maintain the trust of the members they serve. ◆

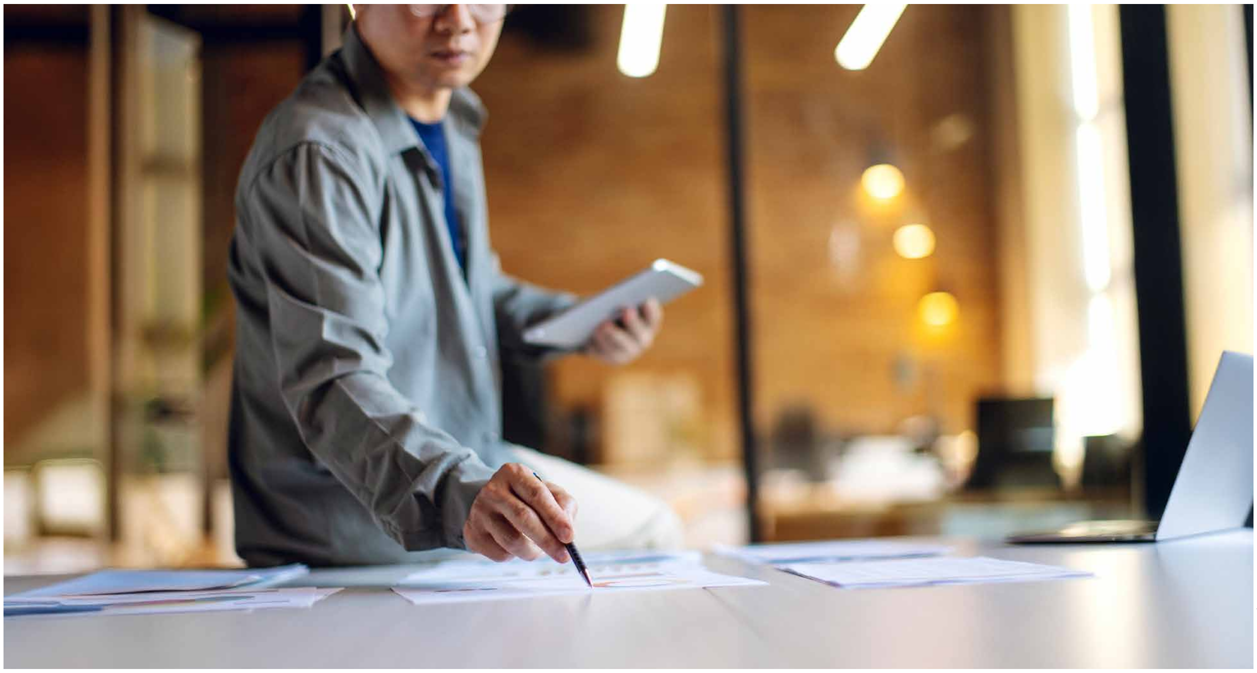
Vincent Pellegrino *is an accomplished executive with more than 25 years of experience in the longevity risk and life settlement markets. In his role as Vice President at ABL Tech, Vincent continues to drive business development initiatives, cultivate strategic partnerships, and apply his extensive knowledge to support the company's growth and client success.*

Vincent has held senior leadership roles at AIG, Credit Suisse, and Prudential Financial, where he shaped market strategies, enhanced operations and sales, and ensured regulatory compliance. His areas of expertise include managing longevity-linked asset portfolios, negotiating large life insurance acquisitions, and implementing safeguards to ensure fund solvency and reduce fraud risk.

A recognized leader in his field, Vincent has consistently contributed to advancing industry best practices while aligning institutional objectives with market opportunities. His ability to balance innovation with rigorous financial discipline has positioned him as a trusted advisor and respected figure within the financial services community.

What Makes a Great Project SME?

By: Laurie Mitchell, TEGRIT



Subject matter experts (SMEs) are invaluable resources in organizations, known for their deep knowledge and experience in specific areas. They often become SMEs through formal education, self-guided learning, and extensive experience. In the pension industry, SMEs may specialize in functions like DROP, divorces, or disability management.

The go-to selection for a project SME is often the longest tenured employee. While some of these employees are great SMEs, for others, it might not be work they enjoy or where they excel. It can be beneficial to place early or mid-career staff in these roles. These individuals may not have perfect knowledge, but they are adaptable, understand the business, and know where to find information they lack.

Knowing what makes a great SME starts with knowing what they'll be tasked with. Here are some of the primary activities the team will rely on your SME to deliver.

- **Explain the as-is process:** SMEs need to understand and explain current processes and why they are done a certain way. This knowledge helps in making informed decisions about potential changes.
- **Participate in requirements review and analysis:** This involves attending numerous meetings to review and analyze project requirements.
- **Design new processes and document procedures:** SMEs help design new processes and document them for future reference.
- **Review and approve system design documents:** This task requires dedicated time for reading and providing meaningful feedback.
- **Lead internal team through UAT:** SMEs may lead the team through User Acceptance Testing, requiring good relationships with other staff members.
- **Assist with staff and employer training:** SMEs may also help train staff and employers on new processes and systems.

What are the key characteristics of a great project SME who can tackle these tasks? The team at TEGRIT has worked with many SMEs. In their experiences, these are the characteristics that will enhance your culture and advance your project.

Curious: Great SMEs are curious and seek complete answers, not just quick answers. They check their biases at the door and treat new ideas fairly.

Articulate: They have excellent listening skills and can communicate their understanding clearly, both verbally and in writing. The person with deep understanding who can also write a short, accurate summary email or clearly summarize a complex issue and solution out loud is a great asset to a project team.

Collaborative: Collaborative SMEs are open to others' ideas, actively seek new information, and work well with a team towards a shared goal. That intense researcher who works best alone and produces great detailed reports may not be the best person to serve as a project SME.

However, that researcher may be a resource for an SME to check in with to verify details or get new information. Be careful too of the person who fears that sharing their knowledge diminishes their organizational importance. Honest sharing of needed information is key.

Critical Thinker: It's becoming increasingly difficult to find analysts with strong critical thinking skills. Critical thinking is the ability to see beyond facts, to think at a more comprehensive level, and make sound decisions. Good critical thinkers can interpret, analyze, infer, explain and evaluate new information and situations *without* getting caught in analysis paralysis.

Objective: Great SMEs rely on well-researched facts and good data to make decisions, using trusted sources to gain a deeper understanding.

Realistic: They are realistic about what they can achieve within the timeline, don't overpromise, prioritize effectively, and ask for help when needed.

Here are some of my TEGRIT colleagues' most valued traits of SMEs:

- *Maria, principal business analyst:* Being open to new ideas and willing to change. It helps if they're nice too!
- *Bala, program manager:* SMEs who can visualize how a requirement fits into the whole solution. This kind of Deep Smarts - people who can see the whole picture and yet zoom in on a specific problem others haven't been able to diagnose — is invaluable.
- *Lisa, senior business analyst:* I love the person who can live in the What If with me. That person who can envision something diferent/better. When an SME has vision and can think beyond *right now*, the outcome is often exponentially better.
- *James, lead business analyst:* Give me energy and enthusiasm for the new system and people willing to find answers to new questions.
- *Kyle, principal business analyst:* I appreciate someone who can explain clearly why an existing process is handled the way it is.
- *Sankar, principal business analyst:* My ideal SME can explain their current process clearly, is open and enthusiastic about the new solution, and is willing to be a change champion for others.

For more reading on critical thinking, the Harvard Business Review has published *A Short Guide to Building Your Team's Critical Thinking Skills* (Matt Plummer, 10/19). It is available for purchase through their online store. ◆

What a Maturing Private Credit Market Means for Investors

By: Michael Massarano, Laura Parrott, and Randy Schwimmer, Nuveen

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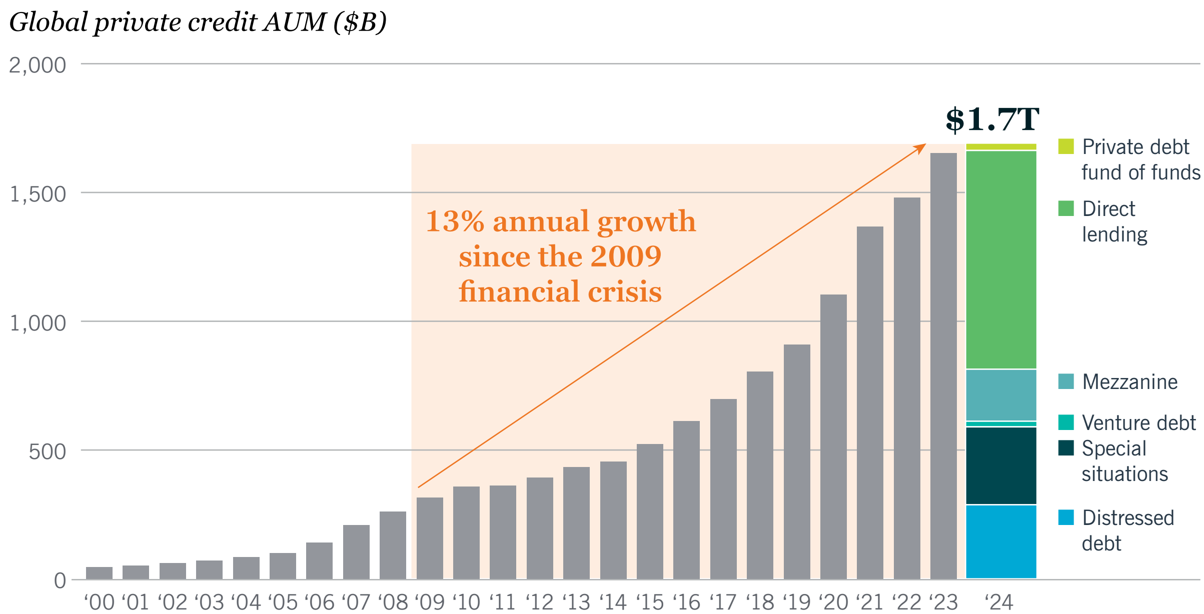
The private credit sector has experienced significant expansion over the past decade, with global assets under management reaching $1.7 trillion. This growth has inevitably attracted scrutiny and raised questions among market participants and observers. Some analysts have posited whether such rapid capital inflows might indicate the formation of a market bubble.

We contend that the market's evolution is indicative of the natural maturation process of an emerging asset class. The sector's growth has led to a broadening of the opportunity set and an increase in market complexity, necessitating more sophisticated analytical approaches and a heightened emphasis on manager selection.

In our view, the primary consideration should not be whether the private credit market has become oversaturated, but rather how to effectively identify high-quality opportunities and optimize allocations within the current nuanced market environment. This approach requires a thorough understanding of market dynamics, rigorous due diligence processes, and a strategic long-term investment perspective.

Institutional investors' confidence in private credit remains strong. Nearly half (49%) of institutional investors in Nuveen's 2025 *EQuilibrium* survey plan to increase allocations to private credit over the next two years. For wealth investors, this conviction underscores that private credit is evolving, continuing to offer durable opportunities for income and portfolio stability.

Global private credit has grown to a $1.7 trillion market



Source: Preqin; As of 30 Sep 2024.

A diverse and dynamic market

A common misconception is that private credit is one large, monolithic asset class. It has matured into a diverse ecosystem encompassing a wide range of strategies, each with its own risk profile, borrower base, position in the capital structure and regional dynamics. This diversity is one of the reasons the asset class has proven durable through changing market conditions.

Private credit strategies can be segmented in several important ways:

- **Geography.** The U.S. maintains its position as the world's most developed and liquid private credit market, supported by a diverse set of direct lending platforms. Europe, by contrast, is more fragmented, with significant differences in laws, regulations and business practices across countries.
- **Position in the capital structure.** Private credit spans the debt spectrum, from senior secured loans to junior capital and net asset value (NAV)-based lending. Senior secured loans, which sit at the top of the capital structure, are often backed by strong collateral and protective covenants.
- **Borrower type.** A distinguishing feature of the middle market and upper middle market is private equity sponsorship. While sponsor-backed entities represent a small fraction of the market — less than 5% of the U.S. middle market[1], for example — they tend to be recurring-revenue businesses with strong management teams and ambitious growth strategies. Relationships with sponsors are a critical conduit for differentiated deal flow within the private credit ecosystem. In contrast, non-sponsored transactions may offer potential yield enhancement but frequently involve smaller-scale borrowers that may be characterized by less sophisticated governance frameworks and limited financial reporting capabilities.
- **Competitive dynamics.** Not all areas of the market are equally crowded. At the top end of the U.S. middle market, for example, competition for jumbo deals has intensified, often eroding investor protections. At the lower end, smaller non-sponsored borrowers can carry more credit risk. By contrast, the core U.S. middle market has become less crowded in recent years as capital flows shifted toward the extremes.

For investors, the key takeaway is that private credit is not a monolith. It is a broad and dynamic market where risk and return can vary significantly depending on geography, structure, sponsorship, and competition.

Keys to success in a maturing market

As private credit expands and evolves, success depends more on choosing the right partners who can deliver targeted exposures that align with investor needs. Top managers share several defining strengths:

- **Proprietary sourcing.** Long-standing relationships with private equity sponsors and repeat borrowers provide consistent access to attractive deals that are not widely marketed.
- **Scale and execution.** Larger, well-established lenders can anchor transactions, shape terms, and secure stronger covenant protections.
- **Portfolio construction discipline.** Leading managers build diversified portfolios across sectors, geographies, and capital structures, with a focus on senior secured loans and resilient industries.
- **Active portfolio management.** Much of the real work in capturing value in private credit begins after a loan is made. Effective managers continuously monitor performance, engage directly with borrowers and sponsors, and intervene early when issues arise in order to protect capital and sustain performance.

The lesson is clear: private credit can deliver income, return potential, market resilience, and diversification, but outcomes are largely determined by the quality of the manager. ◆

Take a deeper dive in the full article: *Private credit's next phase: finding opportunity in a maturing market*.

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Disclosures:

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Endnotes:

[1] PitchBook 2024 US PE Middle Market Report and the National Center for the Middle Market.

Private Credit + Securitized Credit = Holistic Asset-Based Finance Allocation

By: Abhi Kane, 400 Capital Management LLC

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Allocators often treat Private Credit (PC) and Securitized Credit (SC) as separate allocations within fixed income portfolios, however, there is a compelling argument for combining them into a unified allocation. The structural and economic linkages between private and securitized credit create opportunities for enhanced diversification, risk-adjusted returns, and capital efficiency. A manager with deep expertise across both domains is uniquely positioned to deliver a more holistic ABF solution: one that integrates origination, structuring, and active credit selection across public and private markets. A unified approach to PC and SC can unlock diversification and efficiency, often missed in siloed allocations.

What do Private Credit Managers offer to Allocators?

Attractive Risk-adjusted Returns

- Portfolio managers can construct a package of diversified loans with enhanced credit spreads due to liquidity and complexity premiums.
- Direct loans are typically held at amortized cost rather than marked to market daily, which offers low volatility and reduces the impact of technical market dislocations on portfolio valuations.

Customization & Control

- Portfolio managers can negotiate terms, covenants and structures directly with the borrower. This requires superior sourcing expertise, combined with the ability to structure deals.
- Greater transparency and alignment with borrower incentives requires a deep relationship with the borrower, and a thorough understanding of the borrower's needs.
- Enhanced probability of recovery in case of a workout situation.

Access to a Rapidly Growing Asset Class

- The retreat of banks from middle-market lending has opened a large, scalable opportunity.
- Opportunity set continues to expand beyond middle market loans into real estate, infrastructure, and specialty finance.

What do Securitized Credit Managers offer to Allocators?

Attractive Risk-adjusted Returns

- Portfolio managers can construct a diversified portfolio with enhanced credit spreads with tens of thousands of CUSIPs to choose from, and a menu that includes RMBS, CMBS, ABS, and CLO securities.
- Demonstrated ability to produce enhanced credit spreads due to liquidity and complexity premiums.

Manager Skill Alpha

- Several managers have demonstrated that active management and origination capabilities can generate idiosyncratic alpha in the SC markets.
- Strong managers have and continue to navigate complex capital structures and distressed opportunities.

Robust Securitized Structures post-GFC

- Strong regulatory oversight with changes such as risk retention requirements, enhanced lending standards, and greater scrutiny from rating agencies has resulted in issuance of robust structures with strong underlying collateral and enhanced downside protection.
- That said, legacy securities offer a strong source of alpha for discerning managers who are willing to roll up their sleeves and look under the hood.

Strong Relationships with Sell-side

- SC managers often maintain close relationships with capital markets teams at major banks, providing access to favorable financing terms, negotiated repo facilities, differentiated deal flow and real-time insights into broader loan market dynamics, advantages that direct lending managers may not typically enjoy.

How can a manager with PC + SC expertise deliver a more holistic ABF solution?

In addition to the benefits offered by siloed managers, such as diversification and attractive risk-adjusted returns, a manager with deep expertise across both PC and SC is uniquely positioned to deliver a more holistic ABF solution.

Enhanced Opportunity Set

Managers with expertise across both sectors face a rich opportunity set, ranging from credit solutions in primary originations to liquidity solutions in the secondary markets.

- Managers can offer private, direct lending focused on niche strategies, underbanked sectors and special situation lending.
- Managers can leverage deep structuring expertise to offer credit solutions to banks or other credit originators seeking to transfer credit risk on newly originated or seasoned financial assets.
- Managers can acquire dislocated securities and loans in markets lacking secondary liquidity.

Higher Potential Returns with Lower Volatility

- Enhanced credit spreads due to liquidity and complexity premiums.
- While SC portfolios are impacted by bouts of technical market dislocations, the addition of PC lowers the volatility of the overall portfolio.

Manager Skill Alpha

- By combining teams that do bottom-up loan level analysis with strong top-down structuring expertise of securitized credit teams, a manager can build a robust portfolio across market cycles.
- Access to capital markets and efficient financing can significantly enhance returns.
- Opportunistic trades in dislocated markets can significantly contribute to returns.
- Managers can significantly reduce cash drag, especially in evergreen vehicles. ◆

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Disclosures:

Private and securitized credit markets and underlying instruments inherently present substantial risk of loss and a higher risk than other investments strategies. You should consider these risks with the understanding that the strategy may not be successful and work in all market conditions.

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The Long-Term Cost of Short-Term Thinking: Why Prefunding OPEB Liabilities Matters

By: Blake Orth and Shana Neeson, Gabriel, Roeder, Smith & Company (GRS)

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As public pension systems gradually strengthen their funded status, some plan sponsors are beginning to focus more on another major challenge: Other Post-Employment Benefits (OPEB), primarily retiree healthcare. The decision about whether to finance benefit obligations with a Pay-As-You-Go (PayGo) approach, or to prefund with a dedicated trust, can directly impact long-term costs, liabilities, and financial sustainability.

"The Long-Term Cost of Short-Term Thinking" explores the characteristics and trade-offs of PayGo versus prefunding through a practical lens, and includes a detailed case study of a mid-sized local government. In addition, an evaluation of how prefunding can reduce liabilities immediately and alleviate long-term costs is presented. The consideration of certain situations where PayGo may be more appropriate is discussed as well.

Click here to read the full article on the GRS website.

__Blake Orth__, Consultant, and __Shana Neeson__, Senior Consultant, support public sector plan sponsors at GRS with valuation reporting, liability and cost analysis, and studies on prefunding and plan design.

Reinventing Retiree Healthcare: A Financially Sustainable Path Forward for Public Sector Leaders

By: Steven M. Schatt and Christian Goodman, WTW Via Benefits

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State and local governments across the country for years have been grappling with a mounting fiscal challenge: unfunded Other Post-Employment Benefits (OPEB) liabilities. In many jurisdictions, these obligations now surpass pension debt, placing unprecedented strain on public budgets and long-term financial planning.

With healthcare costs rising and traditional group retiree plans becoming unsustainable, finance officers and benefit administrators are seeking innovative solutions. One proven strategy is to transition retiree healthcare delivery from group plans to the individual marketplace, supported by Health Reimbursement Arrangements (HRAs).

Group Plans are becoming unsustainable

Once the cornerstone of public sector benefit programs, group retiree healthcare plans are now financial liabilities. They are expensive, complex to administer, and expose governments to long-term risks. The aging workforce and shrinking active employee pools are eroding the cost-sharing model that once supported group coverage.

Volatile healthcare costs and pay-as-you-go funding make controlling costs difficult. For many plan sponsors, continuing with group plans means diverting funds from essential services or increasing taxes, neither of which is a sustainable option.

Transitioning to the individual marketplace

Federal legislation has transformed the individual healthcare marketplace into a viable alternative for retirees. Guaranteed issue policies, improved drug coverage, and premium subsidies through the Affordable Care Act (ACA) now give retirees access to a wide range of plans tailored to their needs and budgets.

By transitioning retirees to the individual marketplace and providing financial support through HRAs, governments move from a defined benefit to a defined contribution model. This stabilizes costs and empowers retirees with greater choice and control over their healthcare.

Why HRAs work

HRAs are tax-advantaged accounts that allow employers to reimburse retirees for qualified medical expenses, including insurance premiums. When properly structured, HRAs offer:

- **Cost predictability**: Employers set a fixed contribution, eliminating exposure to unpredictable premium increases.
- **Risk mitigation**: Governments avoid the underwriting and claims risk associated with group plans.
- **Administrative efficiency**: HRAs are easier to manage for diverse retiree populations.
- **Benefit preservation**: Governments maintain financial support for healthcare, with more plan options for retirees than group coverage provided.

Proven success across sectors

Over the past two decades, public and private sector organizations have implemented HRA-based retiree healthcare models. These transitions have led to significant cost savings, preserved valuable retiree benefits, improved retiree satisfaction, and created stronger fiscal stability.

Municipalities adopting this approach have reported OPEB liability reductions of 20–50% while maintaining or improving the quality of retiree healthcare. Such results are especially compelling for finance professionals focused on long-term budget planning and liability management.

What finance leaders need to know

For finance officers, benefit administrators, and policymakers, the path forward requires strategic planning and stakeholder engagement.

- **Understand the drivers**: Rising healthcare costs, demographic shifts, and legacy plan structures are fueling the OPEB crisis. An understanding of these factors is essential for building consensus around change.
- **Evaluate the marketplace**: The individual marketplace offers robust options, but determining subsidy levels, eligibility, and navigating enrollment requires expertise and support.
- **Structure HRAs effectively**: Designing a defined contribution model aligned with budgets and retiree needs is critical. This includes contribution levels, eligible expenses, and communication strategies.
- **Partner with trusted advisors**: Work with a consulting partner or marketplace provider to analyze the financial impact and design the right approach for your organization.

The growing financial pressure of unfunded retiree healthcare liabilities requires a bold solution. Transitioning to the individual marketplace with HRA support offers a sustainable model that protects public finances and retiree benefits. For finance professionals committed to fiscal stewardship and honoring commitments to public servants, this strategy represents an effective path to meaningful reform. To reduce costs and ensure sustainability, government entities should consult with benefits consulting partners or individual marketplace providers. These experts can analyze the financial impact of transitioning retiree healthcare and provide guidance tailored to your needs. ◆

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Christian Goodman *has over 30 years of experience in retiree healthcare consulting and benefits delivery. He has deep expertise in pre-Medicare and Medicare individual and group administration solutions within the public sector. Christian has guided over 50 municipalities through complex retiree healthcare strategies and designing benefit programs that deliver meaningful value. A trusted advisor and frequent speaker on retiree medical solutions and OPEB plan designs, he is known for his strategic insights and strong client relationships.*

Funding Your Other Post-Employment Benefits Plan: The Good, The Bad and The Ugly

By: Alisa Bennett, CavMac

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OPEB plans cover Other Post-Employment Benefits, other than pensions. This usually means retiree healthcare, but can include stand-alone life insurance, disability or long-term care plans. Here we will only consider retiree healthcare plans.

The basic retirement formula, **Contributions + Investment Income = Benefits + Expenses**, is applicable to OPEB plans just like pension plans. In other words, ***money in = money out***.

Strategies for OPEB Funding

The Good

Actuarial Funding

Actuarially funding your OPEB plan is the preferred method, just like for a pension plan. The plan takes full advantage of prudently invested funds and keeps the money secured to pay benefits when due. Using actuarial funding, the actuary uses assumptions to project OPEB benefits expected to be paid to all members and helps the plan determine an actuarially determined employer contribution (ADEC) to fund the plan.

We note that full actuarial funding for an OPEB plan is not always possible, however, due to budget or legislative constraints. Therefore, we discuss some other methods as follows.

The Bad

Pay-As-You-Go Funding

Many retiree healthcare plans, especially smaller municipalities, are pay-as-you-go, meaning the benefits (either healthcare claims or premium payments) are paid as they come due with no money set aside in advance, beyond a small amount to manage liquidity, to pay these benefits. These payments are frequently paid out of general assets and no trust is established. For accounting purposes, the employer may still have to comply with GASB Statement No. 75, but they would not be subject to GASB 74 since there is no trust.

The downside to this pay-as-you-go funding strategy is that no meaningful investment earnings are generated, so the contributions must be large enough to cover the benefits and expenses as they come due. Not only are future retiree healthcare costs hard to predict, but they are expected to increase faster than general inflation, necessitating higher-and-higher contributions to sustain the plan. Therefore, while pay-as-you-go may be cheaper than pre-funding in the near term, it is ultimately the costliest funding strategy.

The Ugly

Partial Pre-Funding Strategies other than ADEC

The following list of non-actuarial strategies for securing OPEB funds is not exhaustive. Any money deposited into a trust and set aside for retiree healthcare benefits is a positive step toward securing these benefits for your retirees.

- For pension and OPEB plans administered by the same entity, using part of the employer contributions not needed for pension funding toward OPEB benefits. It is recommended to have benchmarks and triggers in place to avoid harming the pension plan under this option.
- Setting total active healthcare premiums high enough to use excess funds to cover retiree costs.
- Increasing retiree premiums.
- Seeding an OPEB trust to earn investment income, while paying healthcare costs from general funds and not dipping into the trust.
- Requiring active member contributions, noting that there are restrictions on these and employees that do not access the retiree healthcare plan do not get their contributions back.
- Requiring employers with many part-time and lower paid employees to pay additional contributions to offset the larger, as a percent of pay, relative benefit costs (since retiree healthcare benefits are usually not salary related).

These strategies usually generate contributions that are less than the ADEC and may not sufficiently pre-fund the plan. This causes the costs to be higher in the long run than under actuarial funding and can lead to insolvency of the healthcare trust and the inability to pay benefits. This would necessitate either benefit cuts, or reversion to higher cost pay-as-you-go funding, which takes funds away from other governmental priorities.

Conclusion

The best and most efficient way to fund an OPEB plan is actuarially, paying the ADEC each year, just like a pension plan. However, this is not always possible. While the long-term costs of providing retiree healthcare benefits are only a fraction of the cost of providing pension benefits, these benefits are important to the retiree since paying for healthcare takes an increasing portion of their personal pension dollars. Often, retiree healthcare is not a guaranteed benefit, so the members are usually willing to work with the plan to keep the plan sustainable, even if it means taking on additional costs as an active employee or as a retiree. Any attempt to pre-fund retiree healthcare benefits and provide some sort of guarantee of plan continuation is commendable. With uncertainty around healthcare cost growth, Medicare funding, and other Federal legislation, it is important to analyze future costs and consider all funding options to provide secure healthcare benefits for retirees who have spent a career in public service. ◆

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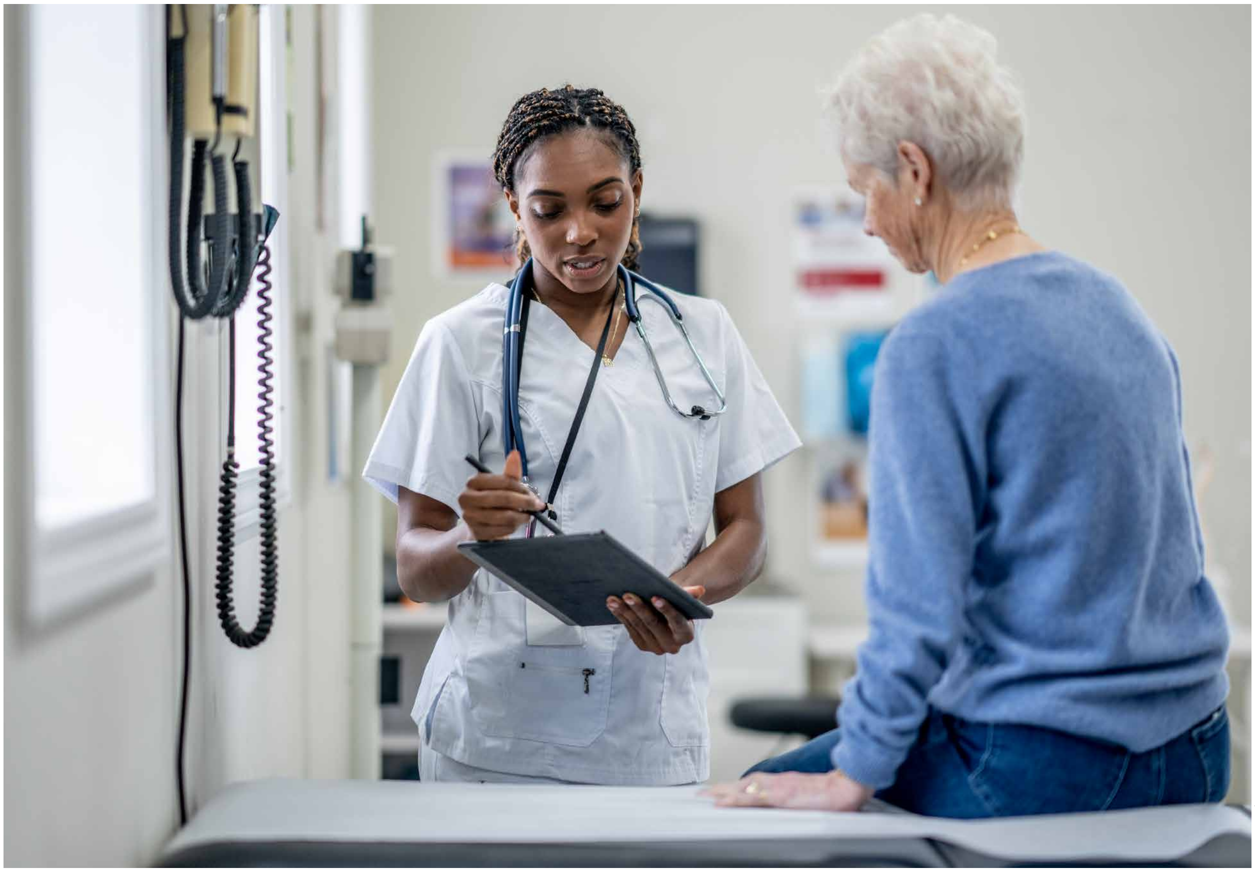
Retiree Medical Trusts—The Solution for Funding Medical Costs in Retirement

By: Linda Stuessi, Dannae Delano and Seth Gaudreau, The Wagner Law Group



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Funding medical costs in retirement is currently a top concern of both retirees and individuals concerned with saving for retirement. Individuals saving for retirement significantly underestimate these costs by incorrectly assuming that Medicare will be the answer.

Tax-favored Retiree Medical Trusts (RMTs) take advantage of the power of pooled financing and investment like traditional pension plans. Funded by mandatory contributions during active employment, and structured as group health plans, RMTs provide lifetime, tax-free reimbursements for premiums and other medical expenses for members after retirement. As group health plans, RMTs avoid many restrictions imposed on pension plans (e.g., maximum contribution and benefit levels, taxation of benefits, ability to adjust benefit levels to maintain plan stability, etc.). The RMT assets are protected by federal law.

Tax-favored Retiree Medical Trusts (RMTs) take advantage of the power of pooled financing and investment like traditional pension plans.

RMTs, traditionally, are funded by employer and/or employee contributions and reimburse two general types of medical expenses:

- *Premium Reimbursement*. Reimbursement for medical premiums (e.g., health, dental and vision insurance, Medicare supplement policies, prescription drug policies, and even Medicare premiums).

- *Medical Expense Reimbursement*. Reimbursement for miscellaneous medical expenses (e.g., eyeglasses, deductibles, drugs, generally any tax-deductible medical expense).

Unlike pension benefits, RMT benefits are not vested. Instead, trustees work with professional actuaries to establish sustainable benefit levels, which can be adjusted periodically in response to demographic experience and investment performance. This flexibility allows the plan to preserve solvency and adapt to changing conditions.

Operation and Governance

RMTs are typically established through collective bargaining agreements. Employers and unions negotiate mandatory contribution levels—often a fixed dollar amount per pay period—deposited into the trust on a pre-tax basis. Contributions may be made solely by employees, solely by employers, or a combination of methods. Employers also have the option to prefund obligations with lump-sum transfers. RMTs can allow for reimbursement of medical expenses for surviving spouses and/or dependent children, ensuring the benefit endures for families even after the member's death.

Each participating bargaining unit sets its own contribution rate. However, contributions must be uniform across the group or a defined class within it. Individual employees cannot opt out or select contribution levels.

Administration rests with a Board of Trustees that design the plan, select an investment manager, decide on distribution options, etc.

Tax Advantages Drive Value

The tax treatment of RMTs is central to their appeal. If established correctly, employers avoid payroll taxes on contributions, and employees' contributions are deposited pre-tax, lowering taxable income during their working years. Investment earnings accumulate tax-free within the trust, and perhaps most importantly, retirees receive tax-free benefits through reimbursement of medical expenses. For participants, this stands in sharp contrast to other retirement benefits, which are typically subject to income taxation upon distribution. By converting a portion of today's taxable wages into tomorrow's tax-free medical reimbursements, the RMTs can enhance after-tax retirement income.

The Power of Pooling

The RMT model will feel familiar to those familiar with defined benefit pension dynamics. Pooled financing enables the trust to deliver monthly lifetime reimbursements rather than the finite balances typical of individual medical reimbursement accounts, such as Health Reimbursement Arrangements (HRAs).

Pooling also provides investment advantages. Because new employees continually enter the plan with longer investment horizons, RMTs can maintain higher equity allocations than individual HRAs, which typically de-risk near retirement. Over time, this can support more substantial aggregate returns and more stable benefits.

Another key distinction is rollover protection. Unlike HRAs, which may limit the carryover of unused balances, RMTs allow for the preservation and compounding of contributions, ensuring participants do not forfeit unspent funds. RMTs can also be structured to allow for individual account features. For example, sick leave or vacation payouts—typically taxable income—can be redirected into an individual's account on a pre-tax basis. These balances earn tax-free investment returns and can be used to purchase higher monthly benefit levels in retirement.

Why RMTs are Important

Retiree health care is often a persistent concern for employers in the public sector. Rising medical costs can undermine the adequacy of pension benefits, leading to pressure for benefit enhancements or supplemental programs. While pension funds cannot themselves deliver health coverage, RMTs offer a complementary tool that addresses this vulnerability in a tax-efficient, sustainable way.

Rising medical costs can undermine the adequacy of pension benefits, leading to pressure for benefit enhancements or supplemental programs.

With tax advantages available to no other vehicle and the power of pooled investing, these trusts have gained steady traction in the public sector over the past two decades, particularly among public safety workers who retire earlier than the general workforce and have higher retiree medical costs than most. ◆

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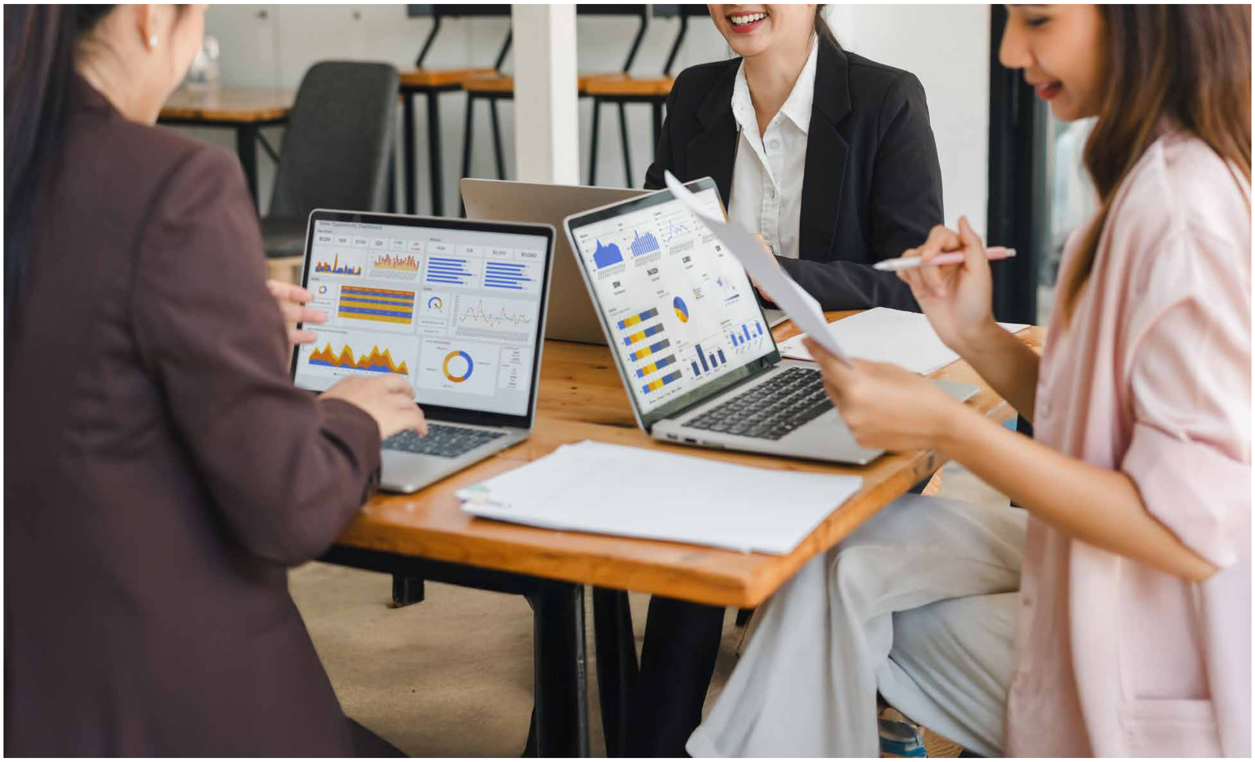
Linda L. Stuessi, Dannae Delano and Seth Gaudreau are seasoned legal counsel with decades of experience counseling clients regarding health and welfare and retirement plans in the public sector. They are members of The Wagner Law Group's Retiree Medical Practice Group and specialize in RMT legal compliance.

Finding Opportunities in Private Markets

By: Emma Norchet, T. Rowe Price Investment Management, Inc.



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More firms are remaining private for longer as doing so enables them to focus on long-term growth initiatives free from some of the burdens public companies face. In fact, the number of active unicorns (private companies with USD 1 billion+ valuations) grew approximately 14x (from around 100 in 2014 to 1,463 in 2024), with 183 new unicorns created, on average, each year.[1]

This means significantly more opportunities to invest in private markets, and we believe there are two key reasons why institutional allocators should take a closer look: first, because private firms are increasingly finding they can achieve growth targets by staying private for longer; and second, because public markets have become very concentrated.

There are three key private equity strategies—traditional venture capital, late-stage venture/growth equity, and traditional private equity—each with distinct risk/return profiles and holding periods and exit options. In the current environment, we believe that late-stage venture/growth equity is especially attractive, offering access to opportunities arising from ongoing technological developments. These opportunities divide broadly into two types: category leaders and "blue ocean" companies, or innovators creating new markets and/or making current incumbents obsolete.

Why consider late-stage venture/growth as part of a diversified portfolio? The ongoing pattern of more companies choosing to remain private longer has made investing in private markets more compelling when looking for highgrowth tech companies. This is reflected by an increase in the number of investors seeking those opportunities as they look for ways to diversify from public markets. Private markets offer access to the next wave of innovative firms at an earlier stage, bringing the potential for greater returns.

As capital for private markets is now widely available, access (ability to invest in hypercompetitive rounds), selection, a clear differentiated value proposition as an investor for the company, and research have become essential to get into the best assets; hence the need to be supported by the right investment manager. ◆

To read more on this topic, please see the full article at the T. Rowe Price website.

Emma Norchet *is the lead private technology investor on the Centralized Private Equity team in the U.S. Equity Division. She is a vice president of T. Rowe Price Investment Management, Inc.*

Emma's investment experience began in 2014, and she has been with T. Rowe Price since 2024, beginning in the U.S. Equity Division. Prior to this, Emma was employed by the Ontario Teachers' Pension Plan in San Francisco, where she was a member of the technology investment team focused on late-stage companies in the software, security, and infrastructure sectors. Emma also was employed at a multifamily office and early-stage venture capital fund in Hong Kong and Singapore.

Emma earned a master's degree in finance from City University of Hong Kong and a bachelor of laws degree from the University of Montreal.

Endnotes:

[1] Source: PitchBook.

Capital at Sea: Navigating Downside Protection in Maritime Finance

By: Bryan Schneider, EnTrust Global

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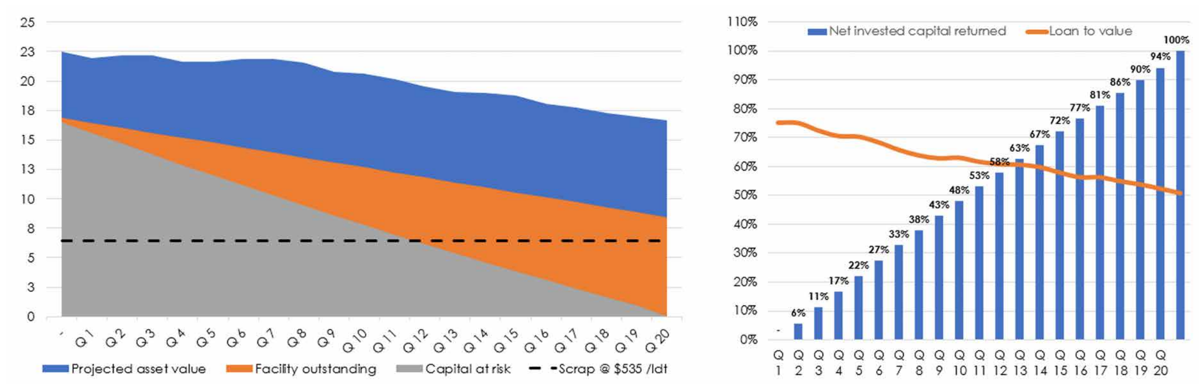
Among the numerous dimensions of the value proposition, the downside protection inherent in maritime finance helps distinguish the strategy. Alternative credit providers to the shipping industry can take advantage of the disconnect between the significant annual capital needs and the limited availability of capital to structure senior secured loans with robust covenants, collateralized by liquid hard assets that are indispensable to global trade. By sourcing transactions on a primary basis and avoiding club deals, lenders benefit as the sole debt provider in customized SPVs, sitting at the top of the capital structure with first-priority mortgages over the underlying ringfenced collateral assets.

As a hard asset lending strategy, senior secured direct lending transactions in maritime finance are typically expected to generate substantial cash flow. On average, 15-20% of a lender's capital-at-risk is reduced annually through the receipt of interest, principal and fees. Typical structures for senior secured maritime loans can include:

a) Interest rates in the low-to-mid teens (fixed or floating)
b) 1-3% original issue discounts ("OID")
c) 50-80% loan-to-value ("LTV") on collateral
d) Back-end fees (fixed or variable)
e) Quarterly amortization scheduled at a steeper pace than the underlying depreciation rate, increasing the probability of equity build over time

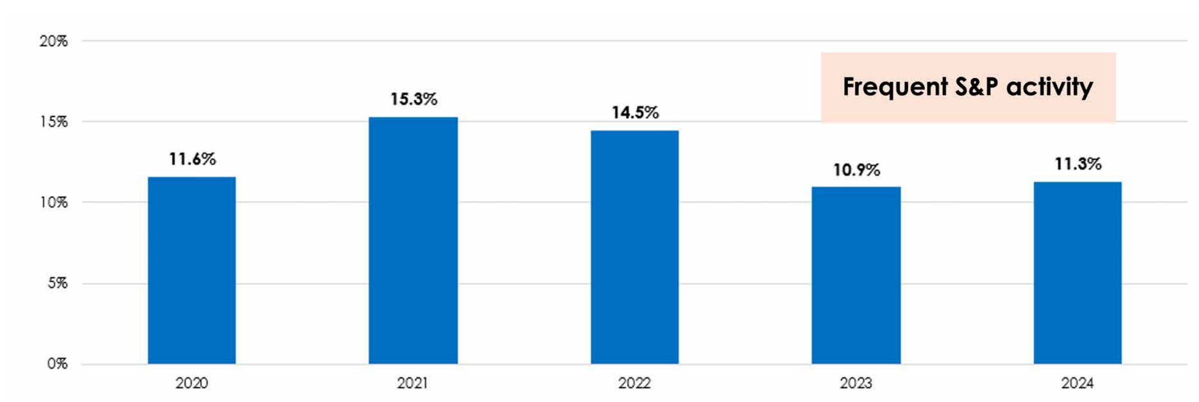
Together, these structures produce predictable cash flows that can rapidly reduce capital-at-risk, offering investors enhanced downside protection.

Figure 1 – Illustrative Example of a Maritime Loan's Capital-at-Risk Profile[1]



Understanding the credit-enhancing qualities of the collateral is an important factor in maritime finance. The global maritime industry plays a pivotal role in the worldwide economy, with 86% of world trade carried out by sea.[2] The global shipping fleet is estimated to be comprised of ~120,000 vessels[3] across more than 10 distinct sectors with a combined value of approximately $2 trillion.[4] As an industry with centuries of history, it has a deep and liquid secondary market, which helps senior secured creditors to convert collateral into cash in the event of a negative credit development. From 2020 to 2024, 10-14% of the ~30,000 vessels in the dry bulk, tanker, containership and gas sectors changed hands annually, a turnover rate that represents 3-4x the liquidity of most commercial real estate markets. With its scale and global footprint, replacement risk for the shipping industry is considered low.

Figure 2 – Number of Vessel Sales as a % of Total Outstanding Fleet[5]



Another important tool that helps mitigate downside risk is recognizing the cyclical dynamics of maritime sub-sectors and establishing a framework for countercyclical capital deployment. Sub-sectors have historically shown low correlations to each other due to the sector-specific supply and demand factors driving the cash flow, earnings, and ultimate value of the collateral assets. Skilled investors who monitor these drivers can make calculated deployment decisions on a countercyclical basis and capitalize on opportunities that arise during different boom periods.

While trade volumes correlate with global GDP, maritime assets have consistently demonstrated a low correlation with other alternative investments, including real assets. This can allow investors to achieve meaningful portfolio diversification by allocating to maritime. Real assets are often grouped broadly, yet nuances exist: expected risk, return, yield and diversification can vary across categories. Within this landscape, maritime finance is differentiated by its yield potential, collateral strength and liquidity.

Figure 3 – 20 Year Monthly Select Asset Class Correlations[6] (DECEMBER 2004 – DECEMBER 2024)

	Dry Bulk	Containership	Tanker	OSV	Rig
Dry Bulk					
Containership	0.27				
Tanker	0.37	0.19			
OSV	0.30	-0.08	0.22		
Rig	0.20	-0.16	0.09	0.95	
US Eq.	-0.28	0.47	-0.05	-0.34	-0.25
EM Eq.	-0.04	0.10	-0.44	0.01	0.18
Global Eq.	-0.22	0.47	-0.07	-0.29	-0.19
IG Bonds	-0.56	0.12	-0.34	-0.43	-0.25
HY Bonds	-0.05	-0.05	-0.27	-0.30	-0.21
Municipal Bonds	-0.55	0.15	-0.31	-0.42	-0.25
Real Estate	-0.17	0.46	-0.03	-0.33	-0.21
Commodities	0.65	0.14	0.28	0.73	0.61
Energy	-0.16	-0.09	-0.10	0.44	0.56
Infrastructure	-0.16	0.28	-0.03	-0.15	0.00

The characteristics of senior secured loans in maritime finance provide strong downside protection and should lower the probability of loss. The prevalence of high cash flows, collateralized by high-quality, liquid collateral assets, allows lenders to quickly reduce their capital-at-risk while maintaining confidence in hard asset coverage. Additionally, the ability for alternative lenders to structure senior secured loans as sole debt providers on a primary basis further supports their ability to take control of the situation in the event of a negative credit development. Together, these factors enable alternative lenders to participate in opportunities offering superior risk-adjusted returns. ◆

Bryan Schneider *is a Senior Managing Director & Product Specialist at EnTrust Global on the Blue Ocean team. Mr. Schneider joined the firm as a Senior Vice President in January 2010 with 10 years of prior experience in the financial services industry. Before joining the firm, Mr. Schneider was a Senior Consultant at NEPC where he was responsible for overseeing more than $20 billion of client investments. Mr. Schneider holds a BA in Mathematics from Saint Anselm College and is a member of the Boston Security Analysts Society, the CFA Institute and holds the Chartered Financial Analyst designation.*

Endnotes:

1 Assumptions: 2013-built, mid-sized dry bulk carrier, 75% LTV, 2.00% upfront and back-end fees, 12.00% fixed interest rate, and 10-year amortization profile.

2 Source: Clarksons Research Services, Seaborne Trade monitor, December 2024.

3 Source: Clarksons Shipping Intelligence Network – August 2025.

4 Source: VesselValues.com.

5 Source: Clarksons Shipping Intelligence Network – December 2024. Includes dry bulk, container, tanker, and gas vessel sales.

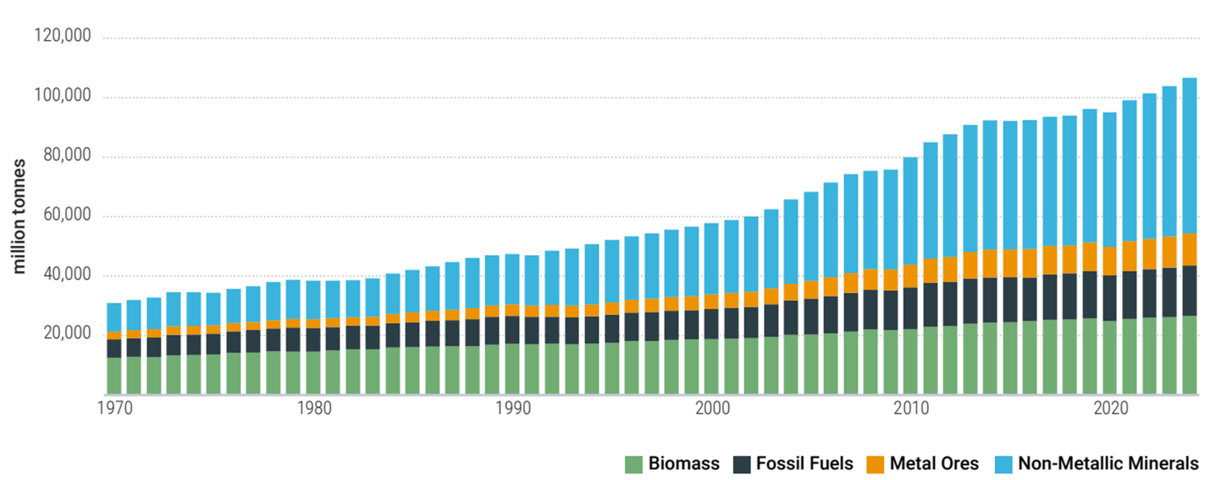
6 Source Maritime Sectors: Clarksons Research Services; Source Remaining Sectors: Bloomberg & FactSet. Statements regarding current conditions, trends or expectations in connection with the financial or shipping markets or the global economy are based on subjective viewpoints and may be incorrect. There is no guarantee that the investment objective will be achieved or that losses will not occur. Characteristics and performance of investments discussed herein are for illustrative purposes only; characteristics and performance of actual investments may vary. Correlation analysis and other measures presented herein are used for measurement or comparison purposes and only as a guide for prospective investors to evaluate the investment. The weighting of such subjective factors in a different manner would likely lead to different conclusions.

Resource Crunch: Why Efficiency is a Smart Bet in a World of Rising Costs

By: James Rich, CurvePoint Capital

Demand for raw materials has tripled over the last 50 years and still grows ~2.3% annually. As costs for energy, electricity, water, and other inputs rise, companies and governments face growing pressure to use them more efficiently.

Figure 2.9: Global material extraction, four main material categories, 1970 - 2024, million tonnes.



Source: United Nations Environment Programme's Global Resources Outlook.

This shift is reversing decades of declining real prices, accelerated by regulatory mandates and climate goals. In parallel, a wave of enabling products and services—from IoT sensors and AI analytics to advanced recycling and pyrolysis—is making resource efficiency more scalable and cost-effective than ever.

According to the International Energy Agency (IEA) and the Ellen MacArthur Foundation, circular economy, resource efficiency, and electrification markets may reach $3.4 trillion annually by 2030. Recycling and composting, waste-to-energy, smart water management, and biochar are expanding rapidly. These sectors offer strong financial upside while advancing resilience, circularity, and modernization.

Pension fund managers are uniquely positioned to capitalize on these trends. Mature efficiency solutions now deliver stable, predictable cash flows, downside protection via hard assets, inflation-hedged exposure, and uncorrelated returns.

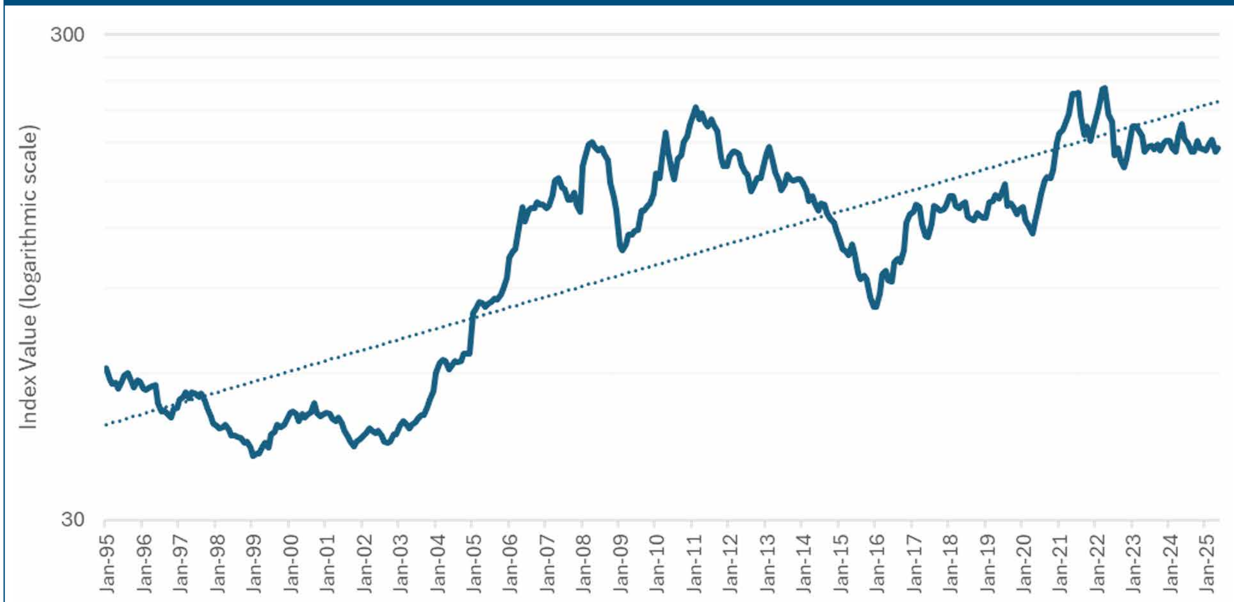
Private credit is increasingly financing resource efficiency companies. Where equity struggles with capital-intensive solutions, private credit provides flexibility and speed to fill the gap. With tailored structures, private credit investors can access growth in efficiency plays critical to cost reduction and improved performance, while capturing attractive risk-adjusted returns in underserved markets.

Rising Cost of Resources

Raw Materials

Throughout the 20th century, real prices for many raw materials declined, driven by productivity in mining and agriculture. Around 2000, the trend reversed: global raw-material costs began rising. Since then, global raw-material costs have been on a persistent upward trajectory. Industrial metals (copper, aluminum, steel) and critical minerals (lithium, nickel) have become markedly more expensive in the 21st century.

Minerals, Ores, and Non-Precious Metal Prices: 1995-2025



Source: UNCTAD Commodity Price Index, minerals, ores and non-precious metals, 1995-present, monthly (2015=100). Logarithmic scale.

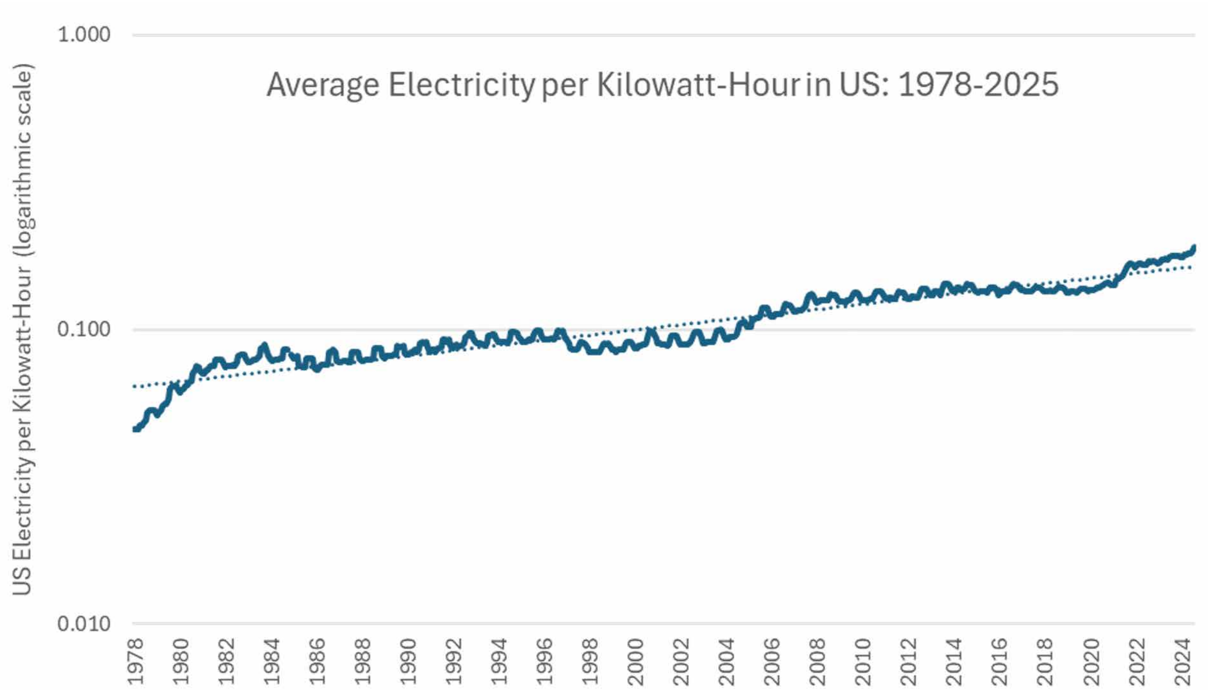
The last 30 years' price surge is mainly demand-led, tied to the energy and digital transitions. Lithium underpins batteries, copper enables electrification, and nickel and cobalt are essential for EV batteries and high-performance alloys.

Energy and Electricity

Global energy prices have trended upward for two decades. After collapsing during COVID-19, fossil fuel prices spiked to historic highs in 2022 on post-pandemic demand and the Russia–Ukraine war. Although they have moderated, the IMF's global energy price index in 2025 remains 66% above its 2016 baseline. Over time, supply chains have also become more complex and capital-intensive. Long-term costs are pushed higher by demand growth—especially in emerging markets—and by the rising expense of extracting and delivering supply from deepwater fields and LNG infrastructure. These dynamics reflect both cyclical shocks and structural forces.

Electricity prices are climbing as well. After a relatively flat 2010s, U.S. electric bills are now rising. In 2024, retail power prices increased 3–4% year-over-year, outpacing inflation, and the U.S. Energy Information Administration (EIA) expects American households to pay a record rate in 2025.

Average Electricity per Kilowatt-Hour in US: 1978-2025



Source: Federal Reserve Economic Data, Federal Reserve Bank of St. Louis. Electricity per Kilowatt-Hour in U.S. City Average, U.S. Dollars, Monthly, Not Seasonally Adjusted. Logarithmic scale.

Multiple forces are at work. Higher energy costs and heavy utility investment to replace aging transmission and distribution (T&D) and to connect renewable power generation sources are lifting bills. T&D now accounts for a growing share of costs, pushing prices higher even when fuel is stable. Supply disruptions—such as the 2021 Texas winter storm—add pressure. Meanwhile, electrification of transportation and heating is boosting demand; without matching supply, prices will keep rising.

Water

Water is typically delivered as a public utility at low, often government-subsidized, prices, yet costs are increasing due to aged infrastructure, scarcity, and more expensive treatment. Global Water Intelligence reports the steepest recorded global tariff increase in 2023–2024, with average bills for water, wastewater, and stormwater up 10.7%.

This reflects a perfect storm of expenses: long-delayed upgrades and expansions, climate-resilience needs, and energy-intensive operations that rise with energy and electricity prices. Treatment chemicals and construction materials (e.g., pipes) have also climbed, mirroring broader raw-material trends. Climate change is driving investment in adaptive infrastructure, including flood protection and drought-resilient desalination and water recycling.

Investment Opportunities

A wave of solutions is creating compelling resourceefficiency investments. Recycling and composting, wastetoenergy, smart water management, IoT/AI methaneleak detection, smart irrigation, and advanced pyrolysis reactors are becoming more affordable and scalable. ◆

A detailed write up of each these investment opportunities and data sources is available [here on the CurvePoint website](#).

James Rich *is Managing Partner and Co-Founder of CurvePoint Capital, with 22 years of investment experience in private and public investments across diverse asset classes. Before co-founding CurvePoint, he spent 15 years at Aegon Asset Management, where he co-founded the Aegon Climate Capital strategy. He also served on the board of the Aegon Transamerica Foundation, supporting financial and social empowerment initiatives. Earlier in his career, James worked at Madison Dearborn Partners and Morgan Stanley. A frequent speaker and guest lecturer, he has been featured in the Financial Times, Barron's, the Wall Street Journal, Bloomberg, and more. He mentors climate ventures through Third Derivative and holds an MBA from Kellogg and an ScB from Brown University. He lives in Boulder, CO with his wife and three children.*

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From Rail to Runway: Investing in America's Domestic Transportation Backbone

By: John Ma, Igneo Infrastructure Partners

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The changes in US Federal government policy in 2025 significantly impacted trade flows, particularly affecting the transport infrastructure that facilitates trade. The busiest port complexes in the US, Los Angeles and Long Beach, experienced a sharp decline in growth in May after ten consecutive months of year-on-year growth, as importers had been frontloading inventory in anticipation of tariffs.

Essential transportation infrastructure such as toll roads, ports, logistics, rail, and airports are predictable due to their essentiality, high barriers to entry, and strong linkage to GDP and population growth. The challenge for infrastructure investors is to identify predictable revenues in a dynamic environment where international shippers may reconfigure their networks in response to tariffs and policy changes. Igneo's middle-market focus leads to investments in domestically oriented transportation infrastructure subsectors.

"As owners of and investors in US infrastructure and related businesses, we have focused on sectors and regions that should be stable and potentially prosper as the country aims to pivot towards greater domestic manufacturing."

—John Ma, Partner, Co-Head of North America

Patriot Rail: Playing the short (line rail) game

In the current environment of volatility and uncertainty in international trade values, the short line rail industry is relatively insulated from global events, mitigating issues like tariffs. Patriot Rail operates 31 short lines covering over 1,200 route miles in 23 states, with over 90% of their freight volume being entirely domestic. They are selective in seeking exposure to intermodal transport and have no exposure to the automotive sector, reducing concerns over the impact of tariffs.

While meaningful reshoring of manufacturing has not yet been seen, it presents a longer-term growth opportunity. In the near term, an environment where industrial and manufacturing companies, the core of Patriot's customer base, have confidence to make multi-year capital investments to expand capacity would help accelerate growth. Igneo successfully refinanced the business this year, and Patriot Rail's new chief executive has led the successful creation of two partnerships to develop and operate facilities with the large Class 1 railroads.

The Federal government has helped support freight rail through competitive grant funding programs, and that Federal support has not reversed under the new Administration—evidence of freight rail infrastructure's broad, bipartisan support.

Infinity Aviation: To Infinity and beyond

Steel wheels are not the only form of transport to interest us in North America. Another mode of transport which is growing rapidly is private general, or non-commercial, aviation. There is plenty of this activity in the US, with over three and a half million private jet flights in 2023, according to JetFinder, which has driving significant demand for hangar capacity.

A report by Honeywell Aerospace Technologies predicts that 830 business jets worth $27bn will be built this year. Even though most of those will go to meet demand in the US, we estimate that there is still a three-year backlog of orders for general aviation aircraft in the US.

Earlier this year, Igneo acquired Infinity Aviation; a fixed-base operator (FBO), offering fueling services and hangars for non-commercial, private general aviation aircraft. This market is flourishing, especially in America, in part because of novel means of accessibility, including fractional jet ownership and jet cards, which allow flyers to buy hours of flight time on a plane without owning the plane itself. The Honeywell report noted a 32% growth in expenditure on new aircraft from 2019 to 2023.

Where Infinity Aviation comes in is housing the growing number of these vehicles. Major airports, including general aviation airport facilities located in or near big cities, are reaching capacity. Planes are getting larger, and existing hangars are full already. Infinity Aviation already operates at one such airport 50 miles from Boston.

True to our focus, we have alighted on a middle-market opportunity to invest in the FBO sector. There are two large national players, with over one hundred locations each, focused on Tier 1 general aviation airports. We are excited by the prospects for Infinity in secondary general aviation facilities, which includes looking for other FBO operations and hangar space at other airports.

Patriot Rail and Infinity Aviation are two examples of our approach to North America. We seek to invest in businesses with defensive revenue characteristics acquired by meeting essential needs of the economy alongside strong growth prospects derived from long-term trends. The middle-market nature of our focus means that investors are getting access to the domestic US economy, within a diversified strategy, rather than international enterprises. ◆

John Ma *is a Partner and Co-Head of North America for Igneo Infrastructure Partners and is based in New York. He is a member of the GDIF and NADIF Investment Committee.*

John is currently a board director at Patriot Rail and Terra-Gen. Prior to joining the team in 2018, John held a senior role at the Port Authority of New York & New Jersey, which operates the bi-state region's airports, ports, bridges and tunnels, and PATH commuter rail. Prior to that, John was a Managing Director and head of US infrastructure advisory in the Investment Banking Division of Goldman, Sachs & Co.

John has a J.D. from Yale Law School and an A.B. from Harvard College.

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Non-Agency Securitization: Unlocking Opportunities in U.S. Mortgage Markets

By: Imperial Fund Asset Management

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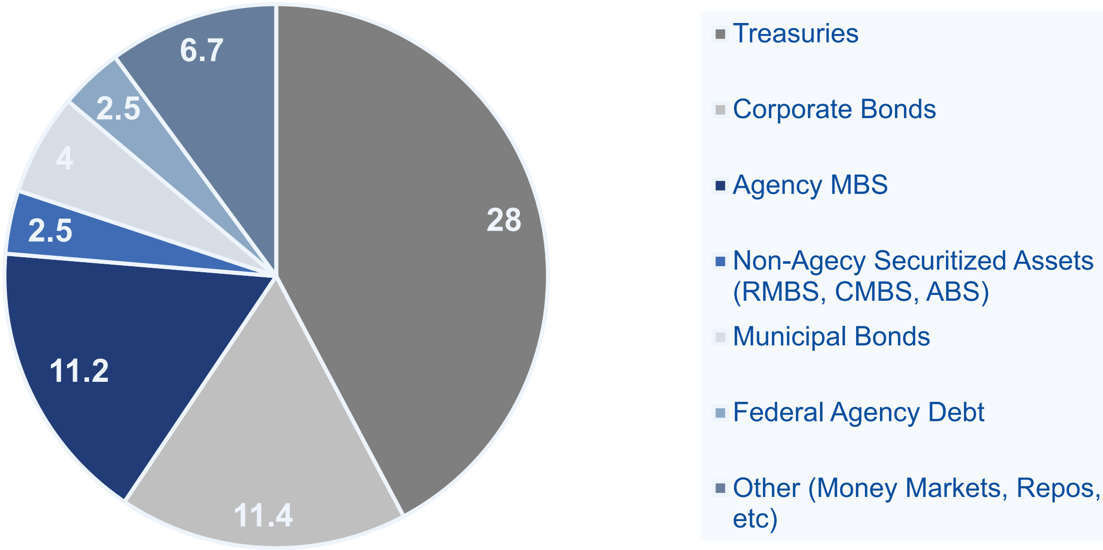
Securitization began in 1968 when Ginnie Mae was founded to keep housing affordable by insuring certain loans. In 1970, Ginnie Mae pooled government-backed mortgages into the first Mortgage-Backed Securities (MBS). This innovation gave investors access to mortgage cash flows without owning or servicing loans directly, while enabling lenders to recycle capital. Over time, securitization extended beyond mortgages to assets like credit card receivables, auto leases, royalties, and even athlete transfer fees.

Today, the U.S. fixed-income market totals $62.3 trillion, dominated by Treasuries ($28.7T), corporate bonds ($11.4T), and agency MBS ($11.2T). Non-agency securitized assets (RMBS, CMBS, ABS) account for about $2.3T, or 4–5% of the market, while municipal bonds add $4T. Together, securitized credit (agency and non-agency combined) makes up close to a quarter of the total fixed-income universe, underscoring its systemic importance. Alongside Treasuries and corporate bonds, securitized debt is one of the three largest pillars of U.S. fixed income.

Today, the U.S. fixed-income market totals $62.3 trillion, dominated by Treasuries ($28.7T), corporate bonds ($11.4T), and agency MBS ($11.2T).

U.S. Fixed-Income Market (trillion)



Source: SIFMA (Securities Industry and Financial Markets Association)

The high issuance of mortgage-backed-securities is facilitated by a process called securitization. In a securitization, assets with future cash flows are pooled. Then, legal claims on those future cash flows are converted into tradeable securities. This process simplifies investment through bonds, expands liquidity by broadening the investor base, and supports lending activity. However, risks remain: returns depend on loan performance (credit risk), bond values fluctuate with interest rates (interest rate risk), and early repayments can reduce expected returns (prepayment risk).

Risks in securitization are managed through structural features that make deals more attractive to investors. Subordination arranges securities into tranches, with junior tranches absorbing losses first to protect senior holders. Overcollateralization provides a cushion by backing securities with collateral exceeding their value. Step-up features increase coupon payments after a set period, helping offset interest rate risk and improving returns over time.

There are two types of RMBS:

- Agency RMBS: Guaranteed by U.S. government-sponsored enterprises (GSEs) such as Fannie Mae, Freddie Mac, or Ginnie Mae.
- Non-Agency (Private Label) RMBS: Not backed by GSEs and are issued by private institutions

Non-agency mortgages cater to the U.S.'s growing population of entrepreneurial, credit-worthy borrowers who are self-employed.

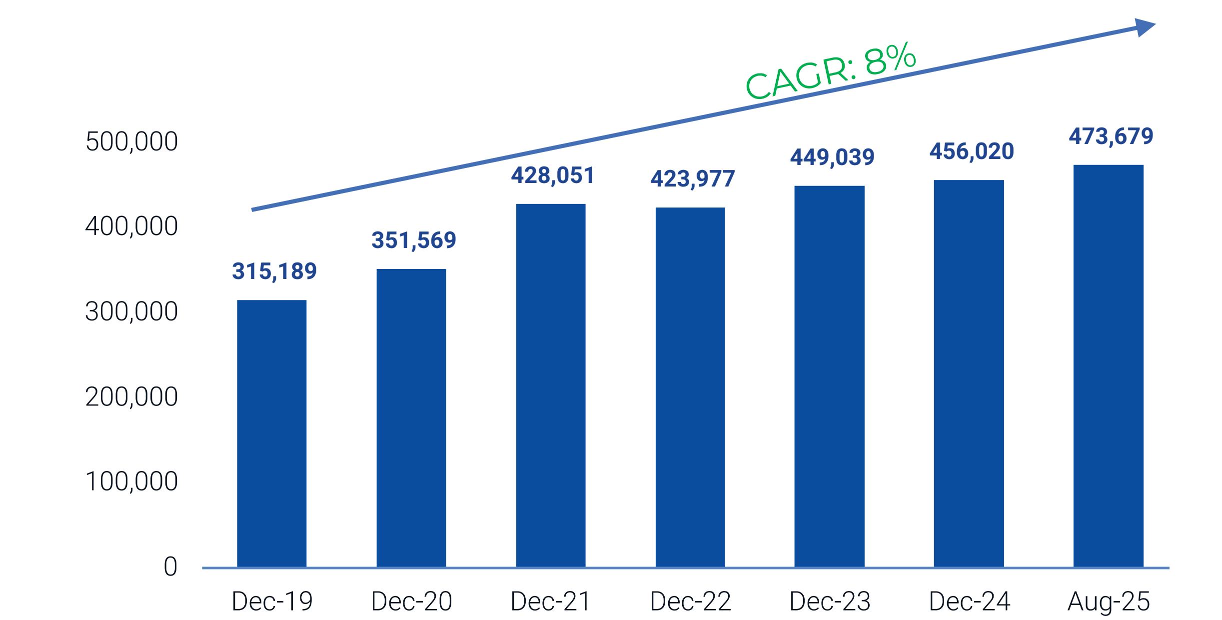
The non-Agency market emerged in response to regulatory reforms which followed the 2008 financial crisis. Congress passed the Dodd-Frank Wall Street Reform and Consumer Protection Act in 2010. Among its provisions was the creation of the Qualified Mortgage (QM) framework and Ability-to-Repay (ATR) rules—aimed at ensuring responsible underwriting and preventing the types of risky loans that fueled the collapse. New rules frequently excluded creditworthy borrowers who didn't fit the "traditional" profile—for example, self-employed individuals, real estate investors, or home buyers who might not have a W-2. To assist these home purchasers, lenders started originating non-Agency loans: mortgage products that fall outside of GSE provisions but still require responsible underwriting and ability-to-repay verification.

Non-agency mortgages cater to the U.S.'s growing population of entrepreneurial, credit-worthy borrowers who are self-employed. As of February 2024, there were 16 million self-employed individuals in the U.S. And their incomes have grown substantially. Indeed, in 2010, the average self-employed worker made approximately $4,300 more in salary-before-taxes than the average employee. In 2023, that difference had risen to $42,519. These borrowers typically pay a higher mortgage rate than agency borrowers, but this premium has narrowed over time.

Income Before Taxes:Total Wage and Salary Earners vs Self-Emplyed Workers

Source: Federal Reserve Bank of St. Louis

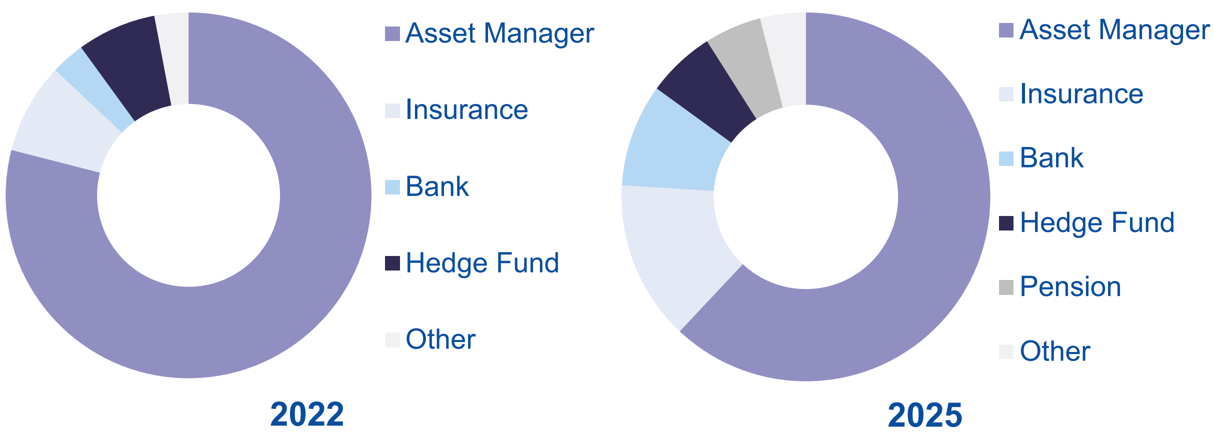
US Business Applications (#)



Source: Economic Indicators Division, Business Formation Statistics

This has resulted in increasing interest in non-agency RMBS from pension funds who now maintain a 5% market share of the space. This increased involvement reflects the search for yield as interest rates come down in global markets. Indeed, one of the flagship non-agency products, non-QM AAA, has traded at 15-30bp premium over agency RMBS as the market continues to develop.

Evolution of Non-QM Investor Profile



Sources: JPM Non-agency RMBS Snapshot; Bank of America, Non-agency MBS Weekly 08.25.25

Securitization remains a cornerstone of modern finance, channeling capital efficiently, enhancing liquidity, and expanding credit access. While success depends on careful structuring and risk management, the growth of the non-Agency sector shows how the market adapts to changing regulations, borrower needs, and investor demand. With issuance rising and institutional interest expanding, non-Agency RMBS are poised to remain a key pillar of U.S. fixed income. ◆

To read the full article, please visit Imperial Fund Asset Management's website at www.imperialfund.com or contact us at info@imperialfund.com.

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Historical Impact of Real Estate on Investor Portfolio Returns

By: Nicholas Vician, TerraCap Management

Photo Illustration © 2025, istock.com

It is no secret that real estate has been under pressure over the past two years in the face of higher interest rates that the Federal Reserve raised to combat the historic inflation that occurred throughout 2021 and 2022. The reason this is important for real estate is because real estate prices typically move inversely to interest rates. In other words, when interest rates are low, investors can pay more for real estate since there is more property cash flow available for discretionary uses. Conversely, when interest rates are high, investors cannot pay as much for real estate since more property cash flow must be used to service debt as opposed to discretionary uses. While higher interest rates today mean that values of real estate are lower than they were three years ago, if history is any indicator, this could be considered an opportune time to buy real estate to generate future outsized returns in an investor's portfolio.

Many investors are familiar with the investment strategy of dollar cost averaging in the stock market, and when the stock market declines, many investors look at it as a good time to buy. The same investment strategy could be applied to real estate, if you believe in buying through cycles, including when asset prices could be at their lowest. When you look at the historical performance of real estate, some of the best buying opportunities have come from market corrections. For example, closed-end value-add real estate funds that invested coming out of the Great Financial Crisis in 2011, 2012, and 2013 outperformed the real estate funds that were launched in the subsequent 8 years through 2021.

The current market correction that was primarily driven by the interest rate increases appears to have similarities to prior downturns, and this has created buying opportunities that could lead to outsized performance in future years. The table below shows commercial property prices over the past 12 months and the change from the 2022 peak pricing. As we can see, pricing is down today from the 2022 peak in all asset classes. The good news is that many asset classes have seen positive price improvements in the past 12 months. This appears to be an opportune time to buy real estate, as it seems we have reached the bottom in terms of pricing.

Change in Commercial Property Values

Sector	Past 12 Months	From 2022 Peak
Apartment	2%	-19%
Industrial	2%	-14%
Mall	6%	-7%
Office	2%	-36%
Strip Retail	6%	-8%
Data Center	5%	-12%
Health Care	5%	-14%
Lodging	-1%	-10%
Manufactured Home Park	2%	-13%
Net Lease	0%	-18%
Self-Storage	-4%	-24%

Source: Green Street Advisors – Commercial Property Price Index as of 9/5/2025

There is also empirical evidence that adding real estate to an investment portfolio of stocks and bonds has provided higher returns and lower volatility over the past 30 years compared to portfolios without a real estate allocation. In fact, if the real estate allocation increased from 10% to 15% in an investment portfolio over this period, the returns increased even further while volatility was also lower in this hypothetical portfolio. While there are both public and private real estate investment options, private real estate has historically had less volatility since the private markets are more immune to the daily, weekly, and monthly price fluctuations that can occur in the public markets.

Understanding that the real estate market has seen a correction over the past couple of years, and that investors with exposure to real estate have historically seen higher portfolio returns with a lower standard deviation than investors without a real estate allocation, many investors wonder where they should invest. At this time, identifying sellers that are under pressure and that own either relatively new real estate in good locations, or older real estate in irreplaceable infill locations that can benefit from repositioning could lead to buying opportunities that could generate outsized returns in future years. There are plenty of examples of apartment complexes that are selling for prices below replacement cost due to the fact that the owners are forced sellers. Buying properties below replacement cost gives an investor a defensive basis that can be rewarding once the market begins another upward trajectory. Most asset classes are cyclical, and having the conviction to buy at a time when prices are low has historically been the way investors have been able to earn outsized returns on their investment. Real estate has gone through a correction in the past two years, and the timing appears to be attractive to invest in real estate to earn outsized returns in the future. ◆

Nicholas Vician *is the Managing Director & Partner at TerraCap Management, where he leads the finance, accounting, compliance, and human resources departments. Mr. Vician is closely involved in the overall portfolio strategy by leading research initiatives to define and refine sector and geographic targets for investment. In his role, Mr. Vician works closely with the investor relations, acquisitions, and asset management teams on various initiatives at the Investment Manager.*

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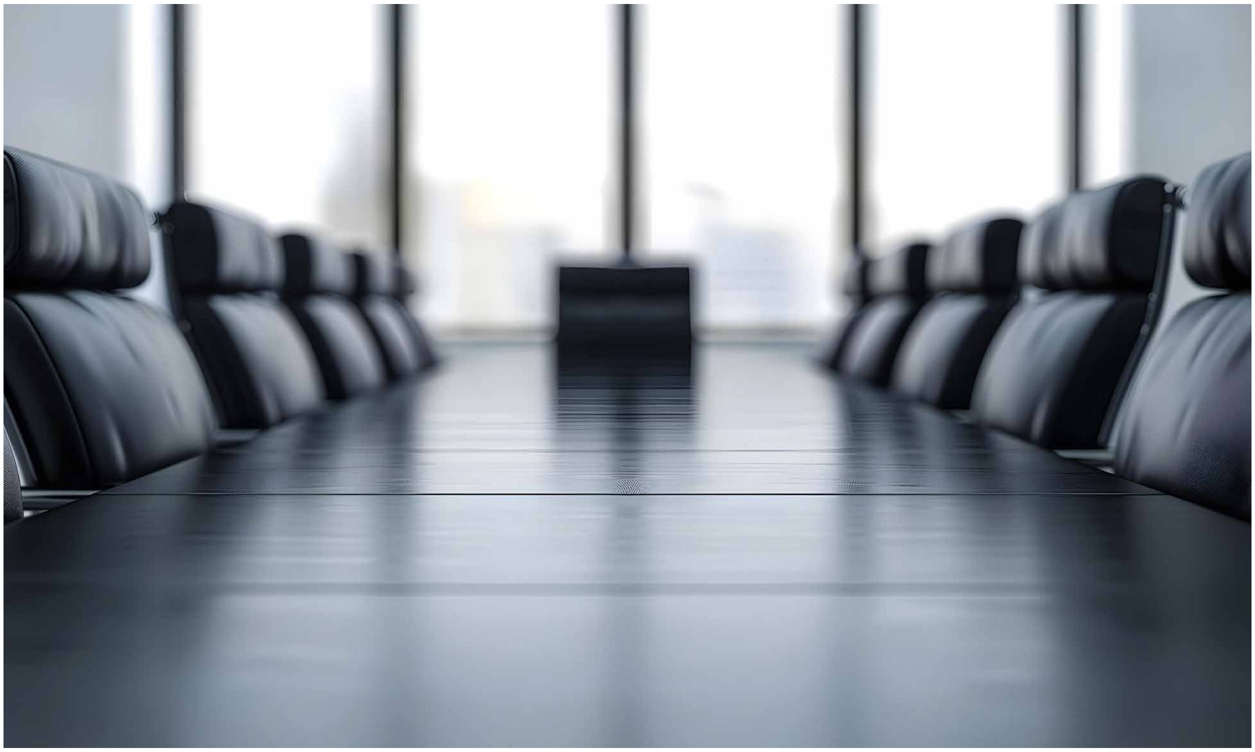
Investing in Commingled Funds: Potential Negative Implications for Pension Funds

By: Guillaume Buell and Domenico "Nico" Minerva, Partner, Labaton Keller Sucharow LLP



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Pension funds are frequently debating whether to invest in equities via either active management and separately managed accounts, or passive management and commingled funds. The pitch to investors for passive commingled accounts is often simple: reduced investment costs because investors don't need to pay someone to actively manage the related securities. Some pension funds have jumped at this opportunity for low-cost exposure to the stock market.

However, the shift to Commingled Funds comes with notable drawbacks.

When a pension fund invests in a Commingled Fund, it not only loses the right to direct where its investments go, it also loses the legal rights associated with the direct ownership of stock. This includes important rights such as (i) voting in corporate elections; (ii) initiating governance actions; (iii) obtaining information about the corporation; and (iv) suing to enforce fiduciary duties and investor rights. Historically, these have been useful tools for pension funds and other institutional investors to wield when advocating for corporate change.

a. Voting in Corporate Elections

One of the most significant rights that comes from direct ownership is the ability to directly participate in voting on corporate elections. Through direct participation, pension funds can elect nominees to a board of directors, approve mergers or acquisitions, and influence significant policy changes in a corporation's structure and governance.

Direct participation allows a pension fund to vote for positive change in a corporation while simultaneously bolstering its own interests. This aligns with American tradition and institutional investors' historical role as advocates for proper corporate governance policies. Pension funds have used the corporate voting process to advocate for caps on executive pay, amend corporate bylaws, and strengthen labor union's collective-bargaining position.

b. Initiating Corporate Governance Actions

Another significant right of direct ownership is the ability to initiate corporate governance actions such as submitting shareholder proposals to be considered at annual meetings, nominating directors, and engaging in dialogue with boards of directors. Shareholder proposals sponsored by pension funds often address important issues such as labor practices, workplace safety, and employee rights.

By initiating a proxy contest, a pension fund can submit its director nominee to be elected to the board of directors at an annual shareholder meeting. In 2024, approximately 45 shareholder nominees were elected to boards of directors through proxy contests.

Additionally, pension funds can facilitate engagement through dialogue with board members on various corporate governance issues. This is a powerful tool. For example, in 2020, California Public Employees' Retirement System reported its private engagement led to 20 corporations agreeing to change their voting standards.

c. Recovering Losses

Securities litigation is a powerful and important shareholder tool to recover losses when corporate insiders violate the securities laws. Acting as lead plaintiff allows a pension fund to steer the litigation. The lead plaintiff chooses and sets terms with class counsel, oversees the litigation process, and ultimately has the final say on a settlement's monetary recovery and any corporate governance reform requirements.

Since the adoption of the Private Securities Litigation Reform Act ("PSLRA") in 1995, pension funds, which generally experience the largest losses, are frequently called upon to act as lead plaintiffs—not only for the financial incentives but also due to their experience, expertise, and sophistication. When a pension fund acts as lead plaintiff, they not only benefit themselves, but other class members as well. Statistically, in recent securities class actions led by institutional investors, the median settlement was over five times larger than without an institutional investor lead plaintiff. Moreover, where institutional investors and pension funds served as lead plaintiff, the median settlement recovered 18.6% more of the damages in the case.

Pension funds specifically have seen some of the largest recoveries on behalf of investors. For example, a union pension fund served as the lead plaintiff in stockholder litigation against Dell Technologies and they secured a record-breaking $1 billion cash settlement for the class. This represented the largest recovery prior to judgment ever achieved in a fiduciary duty action in the Delaware Court of Chancery and the largest shareholder settlement in any U.S. state court at the time.

d. Achieving Corporate Governance Reform

Beyond monetary recoveries, corporate governance reforms obtained through securities litigation settlements are vital tools as well. These reforms can be wide ranging and take on a variety of issues.

For example, in Massey Energy Securities Litigation, Massey Energy's lack of safety culture and protocols led to the deaths of 29 miners in a mine explosion in West Virginia. As lead plaintiff, the Massachusetts Pension Reserves Investment Trust held the company accountable to the tune of $265 million in connection with the tragedy, and Massey was forced to revamp its corporate governance structure to better protect its workers.

Additionally, in Employees' Retirement System of Rhode Island v. Marciano et al., the Employees' Retirement System of Rhode Island secured a $30 million settlement on behalf of the class and robust corporate governance reforms to provide a safe and fair work environment at Guess?, Inc. Along with heavy regulations on the company's co-founder, the reforms included appointment of an independent director to the board and prohibited tactics to silence whistleblowers.

Cost Saving, But at What Cost?

Although Commingled Funds offer an appealing, low-cost solution, at what cost? The trade-offs cannot be understated. Relinquishing shareholder rights that have historically paved the way for pension funds to effect labor and corporate governance reforms is detrimental to institutional investors' ultimate goals that the companies they invest in conduct themselves legally and appropriately and always seek to maximize shareholder and worker rights. Internal and external governance action by shareholders is a crucial aspect of corporate governance and should be exercised by all investors. However, due to the traditional role of pension funds in America, this topic especially calls for more scrutiny from pension funds across the country. ◆

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The Costs of Indexing

By: Dimensional Fund Advisors

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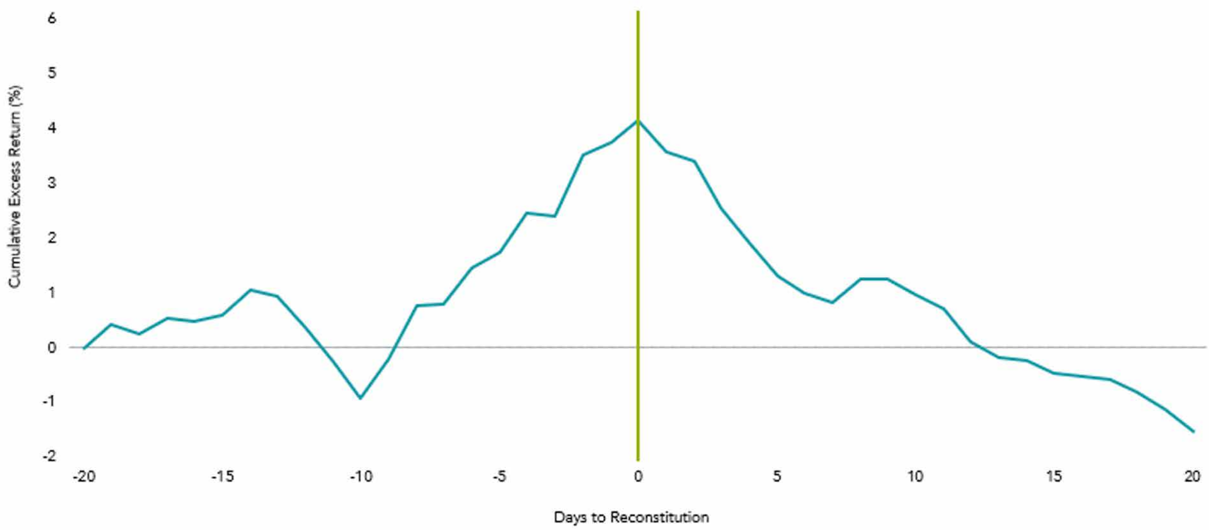
Rarely do we prioritize the lowest cost when consuming goods and services. For example, most people would not seek out the cheapest options when it comes to shoes, hotels, or sushi. That's because we evaluate the total cost of our choices, including tradeoffs not captured by the price: prematurely worn soles, sore backs from outdated mattresses, and, well, I'll leave the cheap sushi consequences to the imagination.

The investment industry, on the other hand, often does prioritize the lowest price. This is evident in the rise in popularity of index funds, which tend to sport the lowest expense ratios within their categories. But just like the consumer goods, index funds may be imposing costs that aren't apparent from the sticker price. These stem from inflexibility in both construction and implementation.

The highly regimented maintenance process indices periodically undergo leads to one of the more notable index fund drawbacks, and that's the price impact during reconstitution events. Index providers tend to telegraph what changes are coming for their indices. Because the goal for index fund managers is to minimize tracking error, the market knows what they're going to do and when they're going to do it. When that's the case, your execution is likely to suffer. Accordingly, the data show spikes in trade volume for securities being added to, or deleted from, indices, with commensurate impact on security prices. The result is index funds buying high and selling low—not a recipe for increasing expected return.

Average cumulative excess returns of index additions and deletions, January 2014–December 2023

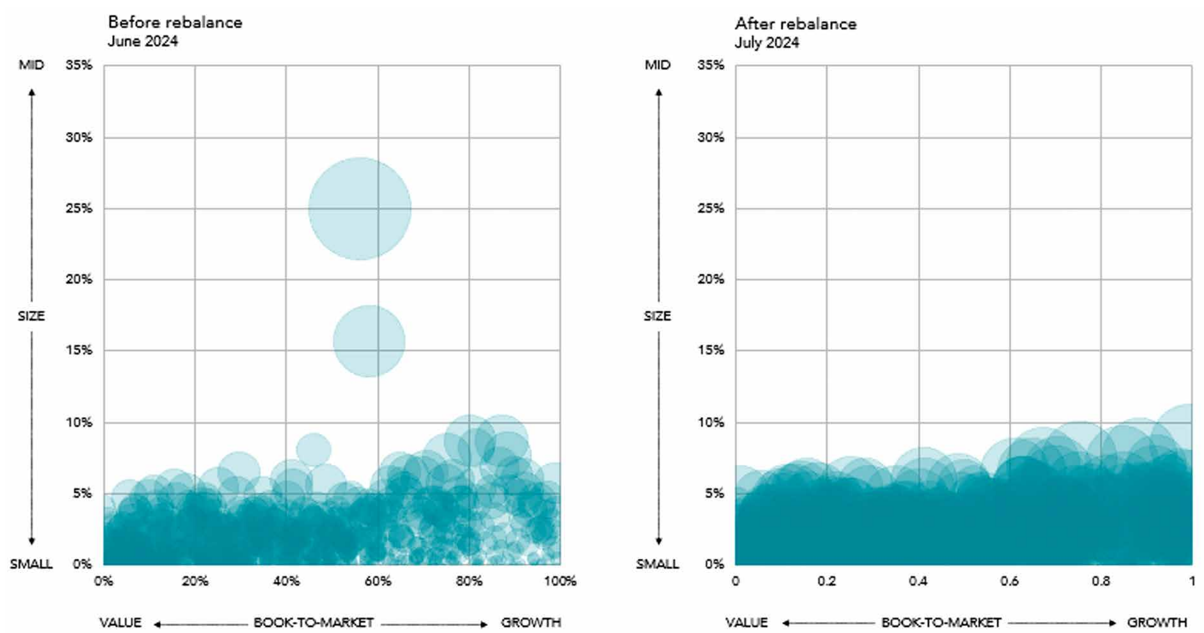


Past performance is no guarantee of future results. In USD. Sample includes all additions and deletions from 10 US indices for securities that are added to (or deleted from) an index. Sample is restricted to nonmigrating securities, which are stocks that are added to (or deleted from) an index and are not also deleted from (or added to) another index from the same index family on the same reconstitution date. See "Appendix: Index Migrations" for more information on what defines a migrating event for S&P, Russell, and CRSP indices and the indices included in the sample. Cumulative excess returns (CERs) are calculated as the cumulative sum of the daily excess returns for an individual security vs. its respective index from market close 20 trading days before reconstitution. Cumulative excess returns for deletions are multiplied by –1 before being averaged with cumulative excess returns of additions. Value-weighted average CERs are calculated by weighting the sets of CERs on a day by the securities' respective free-float market capitalizations as of the most recent month prior to reconstitution. Tesla's addition to the S&P 500 on December 18, 2020, is excluded. Indices are not available for direct investment; therefore their performance does not reflect the expenses associated with the management of an actual fund.

Infrequent rebalancing can also cause style drift. Market prices change every day, which means stock characteristics, such as market capitalization or price-to-earnings, continually vary. Between rebalancing events, stocks in the index may transition away from the intended asset class. At the same time, stocks may have moved into the asset class but may not be included in the index until the next rebalance date. It's a bit like brushing your teeth once per year for several hours rather than every day for a few minutes.

A small cap index helps demonstrate the potential cost of style drift. After all, many investors seek higher returns through an allocation to small cap funds. But a small cap index fund that's holding large caps may cost investors some of the expected outperformance for small vs. large stocks.

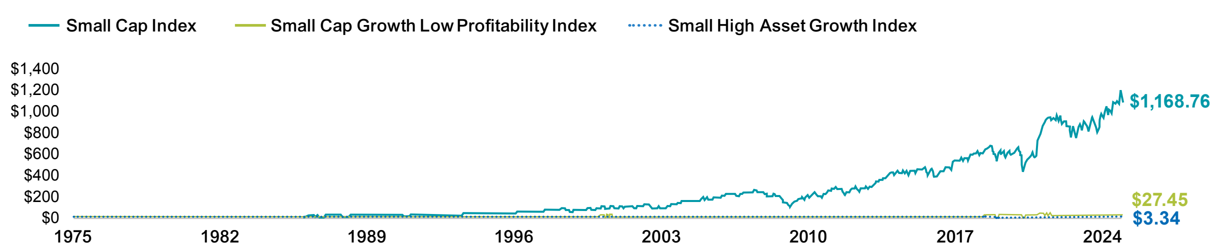
Size and valuation characteristics for Russell 2000 Index holdings



The 2024 Russell reconstitution took effect after the market close on June 28, 2024. Holdings shown before rebalance are as of June 28, 2024. Holdings shown after rebalance are as of July 1, 2024. Holdings are plotted based on stock characteristics as of the end of June 2024. Holdings are subject to change. Source: Dimensional and Russell. Frank Russell company is the source and owner of the trademarks, service marks and copyrights related to the Russell Indexes.

Index funds may also hold stocks with lower expected returns. For example, research shows that stocks of small companies with low profitability or high asset growth underperform the broader small cap market. These stocks account for a significant chunk of many index funds and often drag down their performance.

Growth of wealth for Dimensional Small Cap Indices, January 1975–December 2024



Past performance, including hypothetical performance, is no guarantee of future results.

In USD. Growth of wealth shows the growth of a hypothetical investment of $1 in the securities in each of the Dimensional indices. Performance includes reinvestment of dividends and capital gains. Dimensional small cap indices: US Small Cap Index, International Small Cap Index, Emerging Markets Small Index. Dimensional small cap growth low profitability indices: US Small Cap Growth Low Profitability Index, International Small Cap Growth Low Profitability Index, Emerging Markets Small Cap Growth Low Profitability Index. Dimensional small high asset growth indices: US Small High Asset Growth Index, International Small High Asset Growth Index, Emerging Markets Small High Asset Growth Index. The Dimensional Indices represent academic concepts that may be used in portfolio construction and are not available for direct investment or for use as a benchmark. Index returns are not representative of actual portfolios and do not reflect costs and fees associated with an actual investment. Actual returns may be lower. See "Index Descriptions" for descriptions of Dimensional index data.

Index funds have benefited the industry over the past few decades. A rules-based approach may provide more reliable outcomes than traditional active methods, may be more cost-effective, and may be easier to monitor and evaluate. Where index funds may leave money on the table is the lack of flexibility. A rules-based active investment approach with flexibility can add value by excluding low expected return stocks and rebalancing a little each day to seek more consistent asset class positioning and better execution costs. ◆

Glossary

Profitability: A company's operating income before depreciation and amortization minus interest expense scaled by book equity.

Style Drift: When an investor's portfolio deviates over time from its investment objective or targeted asset category.

Appendix: Index Migrations

S&P

S&P 500: Additions (deletions) that are deleted from (added to) the S&P 400 or S&P 600 indices
S&P 400: Additions (deletions) that are deleted from (added to) the S&P 500 or S&P 600 indices
S&P 600: Additions (deletions) that are deleted from (added to) the S&P 400 or S&P 500 indices

Russell

Russell 2000: Additions (deletions) that are deleted from (added to) the Russell 1000 Growth or Russell 1000 Value indices
Russell 1000 Growth: Additions (deletions) that are deleted from (added to) the Russell 2000 or Russell 1000 Value indices (or weight adjusted in Russell 1000 Value Index)
Russell 1000 Value: Additions (deletions) that are deleted from (added to) the Russell 2000 or Russell 1000 Growth indices (or weight adjusted in Russell 1000 Growth Index)

CRSP

CRSP US Large Cap Growth: Additions (deletions) that are deleted from (added to) the CRSP US Small Cap or CRSP US Large Cap Value indices (or weights adjusted in either index)

CRSP US Large Cap Value: Additions (deletions) that are deleted from (added to) the CRSP US Small Cap or CRSP US Large Cap Growth indices (or weights adjusted in either index)

CRSP US Mid Cap: Additions (deletions) that are deleted from (added to) the CRSP US Small Cap Index (or weight adjusted in the CRSP US Small Cap Index)

CRSP US Small Cap: Additions (deletions) that are deleted from (added to) the CRSP US Large Cap Growth, CRSP US Large Cap Value, or CRSP US Mid Cap indices (or weights adjusted in either index)

Index Descriptions

Dimensional US Small Cap Index was created by Dimensional in March 2007 and is compiled by Dimensional. It represents a market-capitalization-weighted index of securities of the smallest US companies whose market capitalization falls in the lowest 8% of the total market capitalization of the eligible market. The eligible market is composed of securities of US companies traded on the NYSE, NYSE MKT (formerly AMEX), and Nasdaq Global Market. Exclusions: non-US companies, REITs, UITs, and investment companies. From January 1975 to the present, the index excludes companies with the lowest profitability and highest relative price within the small cap universe. The index also excludes those companies with the highest asset growth within the small cap universe. Profitability is measured as operating income before depreciation and amortization minus interest expense scaled by book. Asset growth is defined as change in total assets from the prior fiscal year to current fiscal year. Source: CRSP and Compustat. The index monthly returns are computed as the simple average of the monthly returns of 12 subindices, each one reconstituted once a year at the end of a different month of the year. The calculation methodology for the Dimensional US Small Cap Index was amended on January 1, 2014, to include profitability as a factor in selecting securities for inclusion in the index. The calculation methodology for the index was amended in December 2019 to include asset growth as a factor in selecting securities for inclusion in the index.

Dimensional International Small Cap Index was created by Dimensional in April 2008 and is compiled by Dimensional. July 1981–December 1993: It Includes non-US developed securities in the bottom 10% of market capitalization in each eligible country. All securities are market capitalization weighted. Each country is capped at 50%. Rebalanced semiannually. January 1994–present: Market-capitalization-weighted index of small company securities in the eligible markets, excluding those with the lowest profitability and highest relative price within their country's small cap universe. The index also excludes those companies with the highest asset growth within their country's small cap universe. Profitability is measured as operating income before depreciation and amortization minus interest expense scaled by book. Asset growth is defined as change in total assets from the prior fiscal year to current fiscal year. The index monthly returns are computed as the simple average of the monthly returns of four subindices, each one reconstituted once a year at the end of a different quarter of the year. Prior to July 1981, the index is 50% UK and 50% Japan. The calculation methodology for the Dimensional International Small Cap Index was amended on January 1, 2014, to include profitability as a factor in selecting securities for inclusion in the index. The calculation methodology for the index was amended in December 2019 to include asset growth as a factor in selecting securities for inclusion in the index.

Dimensional US Small Cap Growth Low Profitability Index was created in February 2016 and is compiled by Dimensional. January 1975–present: Consists of small cap securities in the eligible markets with the lowest profitability and highest relative price within their country's small cap universe, after the exclusion of utilities and companies with either negative or missing relative price data. Profitability is defined as operating income before depreciation and amortization minus interest expense divided by book equity. The Eligible Market is composed of securities of US companies traded on the NYSE, NYSE MKT (formerly AMEX), and Nasdaq Global Market. Exclusions: Non-US companies, REITs, UITs, and Investment Companies Source: CRSP and Compustat. The index monthly returns are computed as the simple average of the monthly returns of 12 subindices, each one reconstituted once a year at the end of each month of the year.

Dimensional International Small Cap Growth Low Profitability Index was created in February 2016. January 1990–present: Consists of small cap securities in the eligible markets with the lowest profitability and highest relative price within their country's small cap universe, after the exclusion of utilities and companies with either negative or missing relative price data. Profitability is defined as operating income before depreciation and amortization minus interest expense divided by book equity. The index monthly returns are computed as the simple average of the monthly returns of four sub-indices, each one reconstituted once a year at the end of each quarter of the year. Countries currently included are Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Hong Kong, Ireland, Italy, Japan, Netherlands, New Zealand, Norway, Singapore, Spain, Sweden, Switzerland, and United Kingdom. Exclusions: REITs and Investment Companies Source: Bloomberg.

Dimensional Emerging Markets Small Cap Growth Low Profitability Index was created by Dimensional in April 2019 and is compiled by Dimensional. January 1994–present: Consists of small cap securities in the eligible markets with the lowest profitability and highest relative price within their country's small cap universe, after the exclusion of utilities and companies with either negative or missing relative price data. Profitability is defined as operating income before depreciation and amortization minus interest expense divided by book equity. The index monthly returns are computed as the simple average of the monthly returns of four sub-indices, each one reconstituted once a year at the end of each quarter of the year. Countries currently included are Brazil, Chile, China, Colombia, Czech Republic, Hungary, India, Indonesia, Malaysia, Mexico, Peru, Philippines, Poland, South Africa, South Korea, Taiwan, Thailand, and Turkey. Exclusions: REITs and Investment Companies Source: Bloomberg.

Dimensional US Small High Asset Growth Index was created by Dimensional in December 2019 and is compiled by Dimensional. January 1975–present: Consists of small cap securities in the eligible markets with the highest asset growth within their country's small cap universe. Asset growth is defined as change in total assets from the prior fiscal year to current fiscal year. The Eligible Market is composed of securities of US companies traded on the NYSE, NYSE MKT (formerly AMEX), and Nasdaq Global Market. Exclusions: Non-US companies, REITs, UITs, and Investment Companies. Profitability is defined as operating income before depreciation and amortization minus interest expense divided by book equity. Source: CRSP and Compustat. The index monthly returns are computed as the simple average of the monthly returns of 12 subindices, each one reconstituted once a year at the end of each month of the year.

Dimensional International Small High Asset Growth Index was created by Dimensional in November 2019 and is compiled by Dimensional. January 1990 - Present: Consists of small cap securities in the eligible markets with the highest asset growth within their country's small cap universe. Asset growth is defined as change in total assets from the prior fiscal year to current fiscal year. The index monthly returns are computed as the simple average of the monthly returns of four sub-indices, each one reconstituted once a year at the end of each quarter of the year. Countries currently included are Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Hong Kong, Ireland, Italy, Japan, Netherlands, New Zealand, Norway, Singapore, Spain, Sweden, Switzerland, and United Kingdom. Exclusions: REITs and Investment Companies Source: Bloomberg

Dimensional Emerging Markets Small High Asset Growth Index was created by Dimensional in November 2019 and is compiled by Dimensional. January 1990–present: Consists of small cap securities in the eligible markets with the highest asset growth within their country's small cap universe. Asset growth is defined as change in total assets from the prior fiscal year to current fiscal year. The index monthly returns are computed as the simple average of the monthly returns of four sub-indices, each one reconstituted once a year at the end of each quarter of the year. Countries currently included are Argentina, Brazil, Chile, China, Colombia, Czech Republic, Hungary, India, Indonesia, Malaysia, Mexico, Peru, Philippines, Poland, South Africa, South Korea, Taiwan, Thailand, and Turkey. Exclusions: REITs and Investment Companies Source: Bloomberg.

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The Risk Exhaustion Regime Continues

By: Paul Moghtader and Jason Williams, Lazard Asset Management

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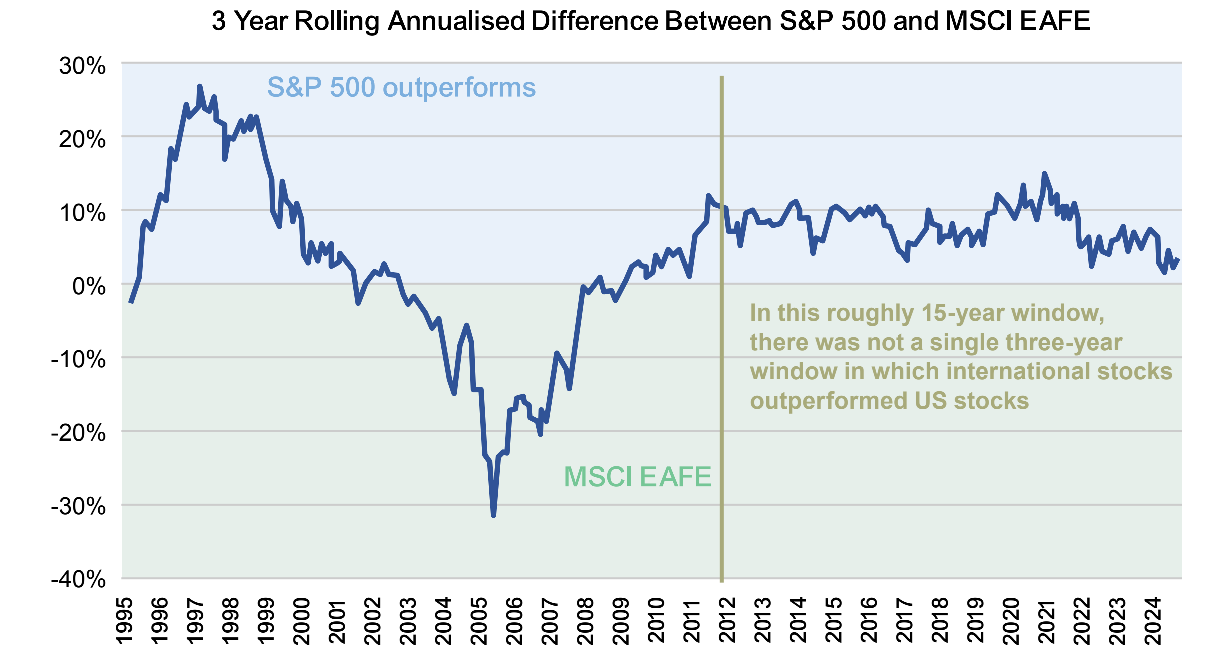
More than five years ago, the global pandemic ushered in a new era of risk exhaustion:[1] an environment in which heightened macroeconomic uncertainty, volatile inflation, and fluctuating interest rates combined to make risk assessment significantly more challenging. 2025 marked a continuation of this regime, particularly in the United States, where a series of macroeconomic and geopolitical shocks called well-established, seemingly unbreakable performance patterns into question.

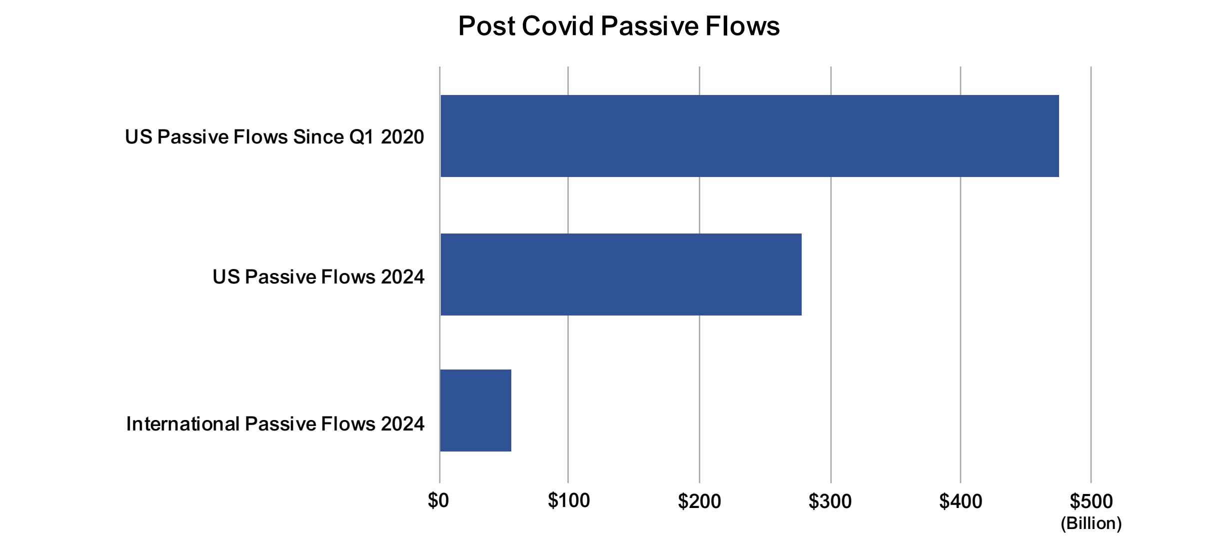
For the better part of two decades, US outperformance was the defining theme of developed markets. From 2009 to 2024, the S&P 500 outperformed EAFE by 8.1% on average each year—a notable departure from prior decades where the two regions delivered comparable annualized returns of approximately 9%. Even more remarkable was the consistency over time: from 2009 to 2024, there were only three years where US stocks underperformed international stocks (2015, 2017, 2022) and in each case, that underperformance was less than 3%.[2] The three-year rolling difference between the S&P 500 and MSCI EAFE shows that at any given month-end in that fifteen-year window, a three-year buy-and-hold of overweighting US stocks and underweighting international stocks would have resulted in three years of mostly-significant outperformance (Exhibit 1). By 2024, the term "American Exceptionalism" had become common shorthand for the seemingly unstoppable rise in US stock indices[3] and the lure of steady double-digit market returns created an extraordinary appetite for passive US products (Exhibit 2). Complacent faith in US growth had become so mainstream that t-shirts sporting the phrase "VOO and Chill"—meaning invest in Vanguard's S&P 500 ETF and sit back while steady, reliable returns accumulate[4]—could be found at Amazon and Walmart.[5]

Exhibit 1: Fifteen Years of Consistent US Outperformance...



Source: MSCI, S&P 500 | As of 24 September 2025

Exhibit 2: ... Created Record Demand for Passive US Products

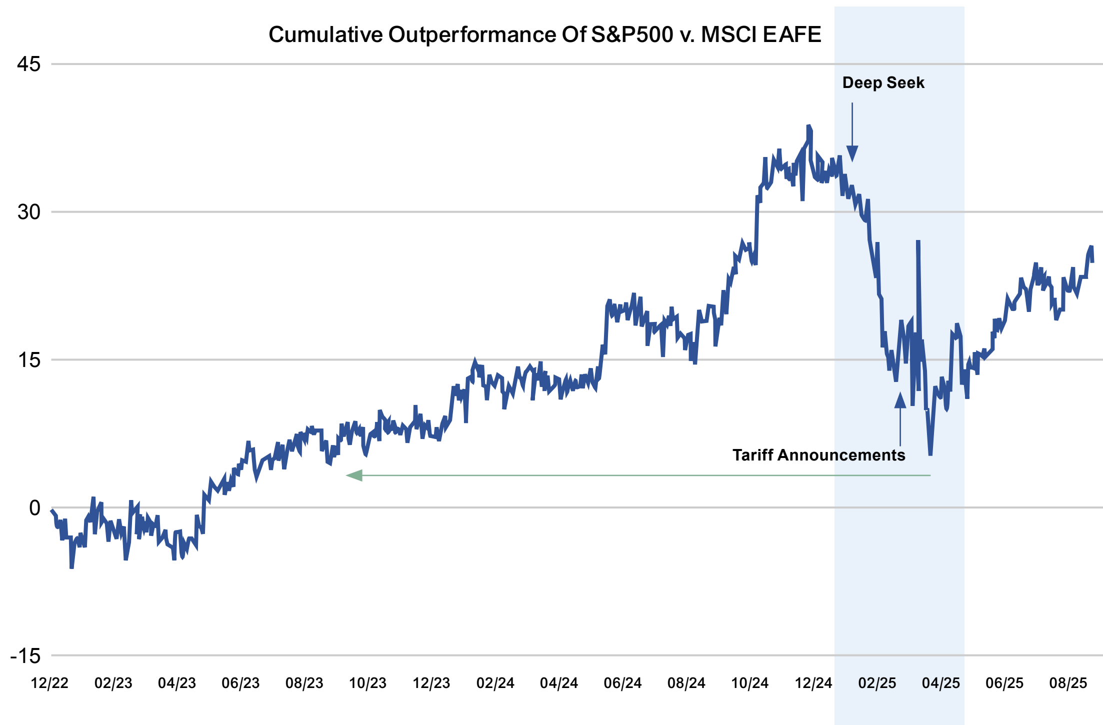


Source: eVestment | As of January 2025

But in early 2025, the DeepSeek announcement and US tariff uncertainty caused sudden and sharp market movements that we believe represent an important shift in investor sentiment (Exhibit 3).

In January, the dominance of big US tech—which had driven much of the S&P 500's outperformance up to that point—was called into question when Chinese startup DeepSeek announced it was making significant strides in AI at a fraction of the cost to US competitors. In a single day, the share price of NVIDIA, one of the largest Magnificent Seven tech stocks, declined 17% and the Nasdaq lost 3%; in a week, the S&P 500 declined 1.5%. Within a month, the Philadelphia Semiconductor Index (SOX), which tracks the 30 largest American semiconductor companies, unwound almost all of the outperformance it had enjoyed since the end of 2022. More volatility followed in the second quarter, when the 2 April announcement of sweeping tariffs on US trading partners raised concerns about the impact on particular trading partners, companies, and sectors. Within two days, the S&P 500 declined 10%—and though markets recovered in the weeks that followed (due in part to a temporary tariff pause), the sharp drop shows the dislocation that can occur when the impacts of government decisions are unclear.

Exhibit 3: 2025 Has Seen a Sharp Reversal of US Outperformance



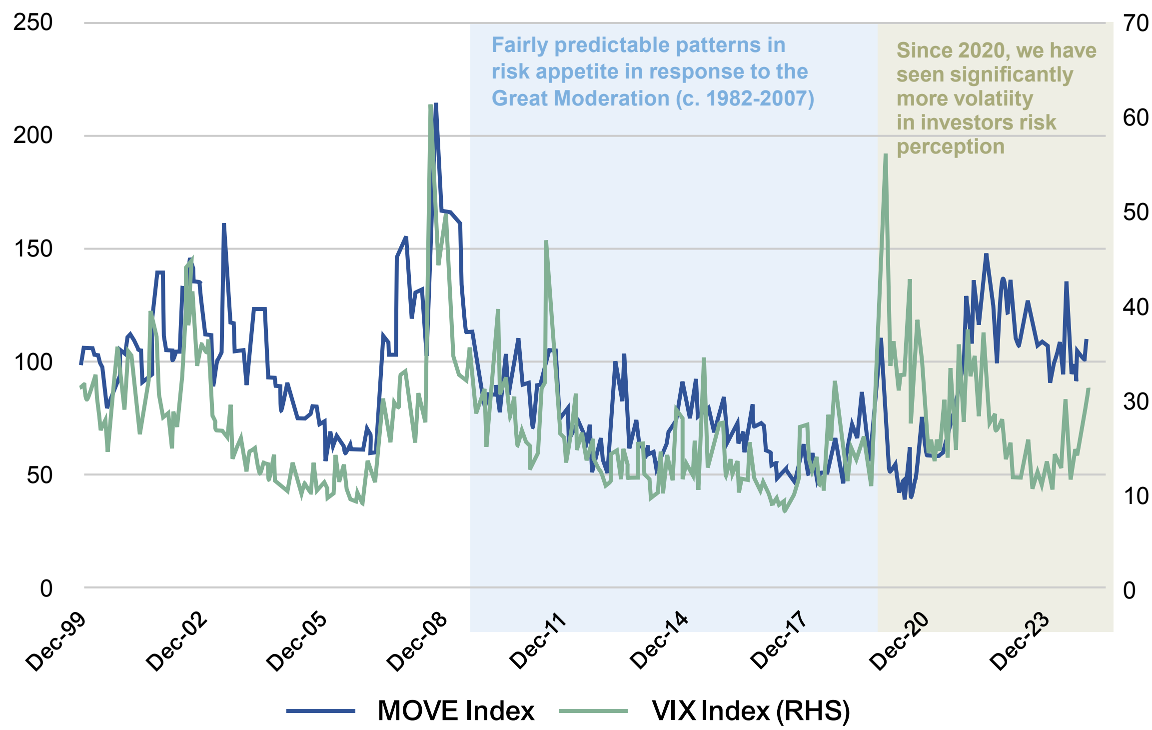
As of 24 September 2025 | Source: MSCI, S&P 500

Much of this volatility has subsided since. But we believe the DeepSeek sell-off marked one of the most meaningful changes in investor appetite for US assets in roughly 15 years. Similarly, macro-driven volatility is not new—but in our view, geopolitical uncertainty is a more recent feature behind the rocky performance of the 2020s.

We also believe the speed and scale of this volatility compounded the sense of uncertainty reflected in two key measures of investor sentiment: the ICE BofA MOVE Index (a measure of expected volatility in government bond yields) and the VIX Index (a measure of expected volatility of the S&P 500, often called the "fear index), both of which have spent most of the risk exhaustion period at higher levels than in the 2010s—a period defined by falling interest rates, stable inflation, and low macroeconomic uncertainty (Exhibit 4).

Looking ahead to 2026, we believe previously established performance drivers will be reevaluated as macroeconomic and geopolitical uncertainty become the new normal.

Exhibit 4: Risk Aversion and Uncertainty Continue



Source: ICE BofA MOVE Index, Cboe Volatility Index (VIX) | As of 30 April 2025

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Disclosures:

Important Information

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Endnotes:

1 Risk Exhaustion: Navigating the New Regime (Lazard, 2023)

2 FactSet as of 30 June 2025.

3 Has the Era of "American Exceptionalism" Ended? (Haver Analytics, March 2025) and How the Reversal of the 'American Exceptionalism' Trade Is Rippling Around the Globe (Wall Street Journal, March 2025)

4 'VOO and Chill': Should Investors Rely on Just the S&P 500? (US News, May 2025)

5 VOO and Chill T-Shirt (Amazon); VOO and Chill T-Shirt (Walmart)

Pension Industry Careers: Job Listings, Hiring, and Retirement Announcements

Brought to you by NCPERS

Building Portfolio Resilience: Why Today's Approach Needs a Rethink

By: Remi Olu-Pitan, Schroders

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For decades, diversification strategies focused on the two traditional asset classes: stocks and bonds. The use of these assets evolved significantly, but they remained core building blocks. Two critical factors had to remain in place, however, for this diversification approach to keep working: a low correlation between the two asset classes and limited volatility for bonds, given the reliance on them as a source of stability. Neither factor is in place today.

The era of simplistic portfolio construction – with its reliance upon asset class assumptions that no longer hold true – is over. Creating resilience within portfolios requires a new approach.

Why Traditional Diversification Falls Short

In the "safety-first" period after World War II, investors considered capital preservation their top priority, and portfolios were weighted heavily toward fixed income. As the long-term growth that equities could deliver became increasingly apparent in subsequent decades, the 60/40 approach to diversification emerged. Even as investors pursued the higher long-term gains stocks offered with a 60% allocation to equities, keeping portfolios 40% invested in fixed income proved a reliable means to achieve stability.

Since 2022, however, bonds' returns have been much less predictable and that has made them less dependable as a source of stability. At the same time, stock and bond markets are moving together more often, particularly during periods of heightened inflation, rapid changes in interest rates and geopolitical tensions. A dramatic example of the potential risks this creates came in 2022 when the 60/40 portfolio lost nearly 18%, its worst performance since the Great Depression. Clearly, a new approach to constructing resilient portfolios is necessary.

What's Behind These Changes?

The old assumptions about diversification no longer hold true because of several long-term trends and resulting market conditions that could extend into 2026 and beyond.

- **Increasing government debt**: Political reluctance to address the issues of mounting government debt, which has soared in developed economies, has created uncertainty in markets that were once considered secure and reliable.
- **Aging populations**: In most developed and several emerging markets, aging populations and shrinking workforces have exacerbated government debt challenges.
- **A "higher for longer" interest-rate environment**: Even without the potentially inflationary U.S. tariff proposals laid out by the Trump administration, several factors could keep inflation high. These include tight labor markets and lingering supply chain constraints. Even if central banks continue to lower rates, lingering inflation will likely prevent short-term rates from returning to the near-zero levels seen for a prolonged period after the Global Financial Crisis.

These factors have combined to reshape both equity and bond markets, reducing the effectiveness of the diversification strategies that previously delivered reliable returns.

Adapting Portfolio Construction for the Current Era

To build more resilient portfolios, we believe investors need to embrace three key principles:

Rethink the role of bonds. Bonds' primary function is now to generate income, rather than provide downside protection. Investors could benefit from adding less traditional income sources, such as private debt and mortgage-backed securities, which can perform well in rising interest rate environments and have less correlation with public markets.

Recognize active management is essential. Passive investing alone is unlikely to succeed in this environment. When the drivers of market returns shift from broad macroeconomic trends to specific company and industry fundamentals, finding the most promising securities (as active managers do) becomes more critical than simply obtaining the broad market exposure passive strategies provide.

Broaden diversification to include alternative asset classes. To achieve meaningful diversification, investors should look beyond traditional asset classes and incorporate alternatives such as private equity, private debt, and real assets (the latter includes commodities, infrastructure, and real estate investments). These alternative asset classes can provide enhanced diversification because the drivers of their returns are quite different from the factors that influence publicly traded stocks and bonds. These nontraditional markets can carry additional risks. Private markets, for example, are often less liquid. It is important for investors to thoroughly understand the reward and risk profile of any alternatives investments they consider.

Time to embrace a broader set of tools

Ongoing volatility, rising correlations between asset classes and profound economic changes call for a more robust approach to diversification today. By embracing a broader set of tools, investors can better position their portfolios to weather volatility and capitalize on opportunities for more reliable returns, even as the financial landscape continues to evolve. ◆

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A Case for Risk Budgeting

By: Lauren Gellhaus, Wilshire

Photo Illustration © 2025, istock.com

Though markets shift, institutional investors' main goal remains: Deliver strong risk-adjusted returns that meet or exceed set targets. The amount of risk taken depends on factors like funding status, contribution rates, governance, and liquidity needs. Assessing performance requires managing this risk, not just meeting return targets. Risk budgeting is a tool used to manage total portfolio risk.

What is Risk Budgeting?

Risk budgeting allocates investments based on their risk characteristics, seeking to efficiently deploy "active risk" (fund tracking error vs. policy benchmark) across the total portfolio. An effective risk budget factors in the organization's risk tolerance and identifies acceptable and unacceptable risks. Staff can then define how much and what types of active risk are desirable and implement strategies with the goal of generating excess returns (alpha) efficiently. Metrics like the information ratio and Sharpe Ratio help evaluate the efficiency of alpha generation.

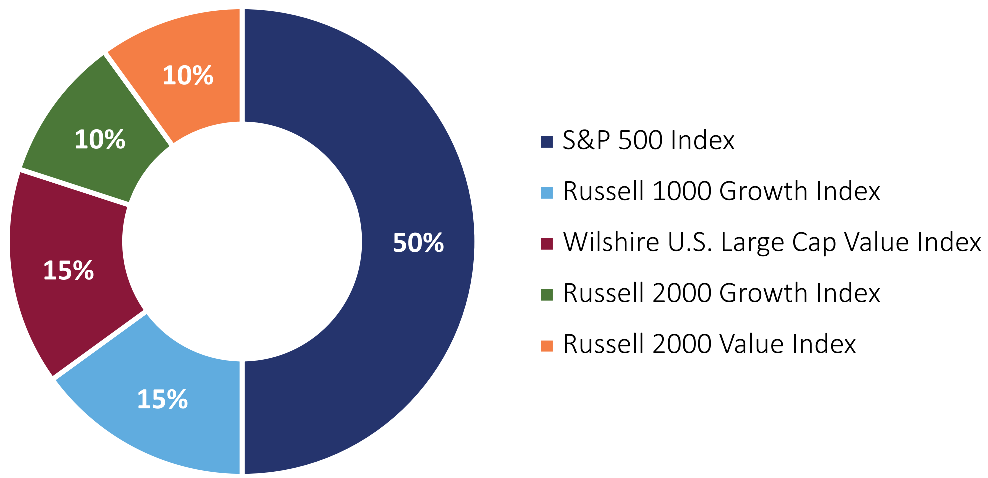
Benefits

Risk budgeting provides: a framework for using risk to potentially enhance returns, accountability for strategy implementation, and clearer attribution of performance drivers. This approach helps reduce unintended exposures and focuses efforts on areas with higher chances of achieving alpha, though it does not guarantee improved outcomes.

Benchmark Mismatch

A common portfolio risk is benchmark mismatch, which arises when the policy benchmark and the benchmarks for underlying strategies differ. This mismatch can create tracking error and unintended risks. For instance, as is the case within the below example, using one index as the policy benchmark while allocating assets differently among large- and small-cap managers can generate active risk.

Example U.S. Equity Portfolio: Policy Benchmark = FT Wilshire 5000 Index℠

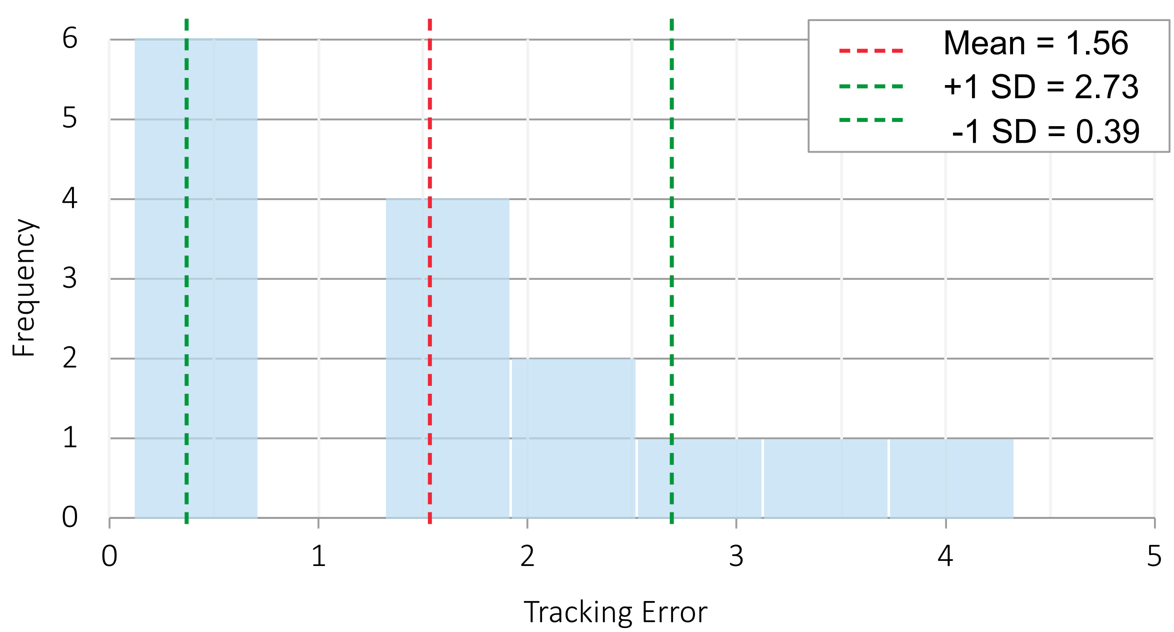


For illustrative and discussion purposes only.

While benchmark mismatch is often viewed as unintentional risk, investors may use structural tilts purposefully. For example, investors may choose to take directional tilts toward specific sectors or regions.

In a recent analysis of 15 plans (as of 3Q24), average tracking error from benchmark mismatch was 1.5%, with size, style, and industry as the primary drivers. Sector exposures, especially information technology, also contributed.

Range Tracking Error



Source: Wilshire. For illustrative and discussion purposes only. Past performance or tracking error metrics are not indicative of future results.

Conclusion

Ultimately, risk is an inherent part of investing. Managing, rather than avoiding, risk enables investors to pursue their objectives. Risk budgeting offers a structured framework to align portfolio risk with organizational goals and tolerance, helping investors make more informed, disciplined decisions.

You can find the full paper (long version) here at the [Wilshire website](#). ◆

Lauren Gellhaus, CAIA, *Vice President, serves on Wilshire's Client Solutions Team and is the chair of the Firm's ESG and Diversity Committee. She is a senior consultant, working primarily with public pension plans and she specializes in sustainability.*

Disclosures:

Compressed Growth Differentials Could Favor Non-US Equities

By: Alaina Anderson, William Blair

Photo Illustration © 2025, istock.com

We believe several forces—tariffs that weigh on U.S. household income, shifts in fiscal and economic policy abroad, and evolving macroeconomic conditions—could compress growth differentials between the United States, Europe, Japan, and China.

Force No. 1: Tariffs

U.S. households are likely to bear the brunt of tariff-driven price increases, eroding purchasing power and curbing consumption. As tariffs broaden, domestic demand should contract more sharply than abroad, even as some non-U.S. markets benefit from offsetting tailwinds. The "Liberation Day" tariffs have pushed the effective U.S. tariff rate to levels last seen in the early 1900s, raising the risk of slower U.S. growth, stickier inflation, delayed rate cuts, and a weaker dollar. At the same time, retaliation and new trade barriers abroad will aim to block goods redirected from the United States, reinforcing a global turn toward protectionism and accelerating the fragmentation of global trade.

Force No. 2: Shifts in Fiscal and Economic Policy Abroad

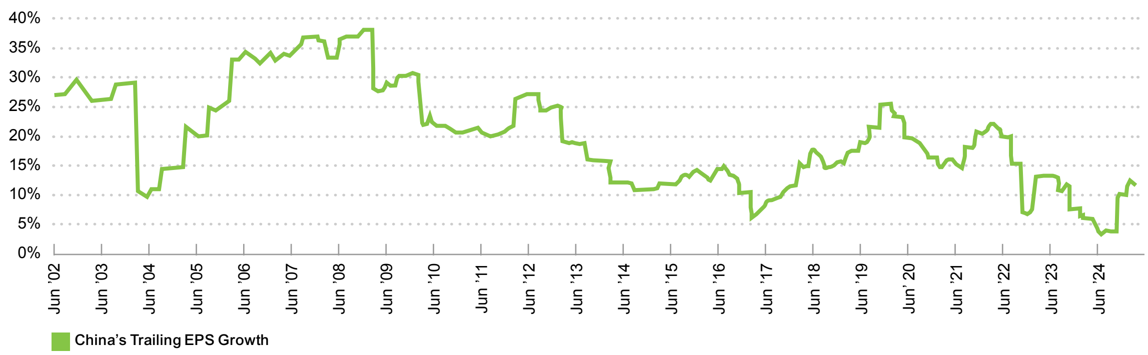
Both Europe and China are recalibrating their growth strategies, offering potential opportunities for globally diversified investors.

European policymakers now frame weak growth as a security risk, spurring a shift from an export-led model toward stimulating domestic demand and attracting capital. Germany's suspension of its debt brake underscores this pivot, while policies encouraging joint ventures with Chinese firms could redirect capacity into Europe and contain inflation. At the same time, a weaker U.S. dollar has amplified losses on U.S. exposure, increasing the appeal of repatriating capital. These shifts are beginning to narrow the growth gap with the United States.

Beijing is addressing fiscal drag through local government support, bank recapitalizations, selective property aid, and targeted income programs—measures expected to lift GDP growth in 2025—while also pushing for greater self-sufficiency and industrial upgrading across autos, semiconductors, and consumer electronics. Beyond exports, domestic capacity is expanding: China now produces 400 billion semiconductors annually, its tech firms are gaining global market share, and U.S. reindustrialization could even create opportunities for Chinese companies to build capacity stateside. Earnings and profitability metrics have improved sharply since 2023, underscoring resilience in China's growth outlook and the strengthening leadership of its technology sector.

China's Trailing EPS Growth Has Improved Post-COVID

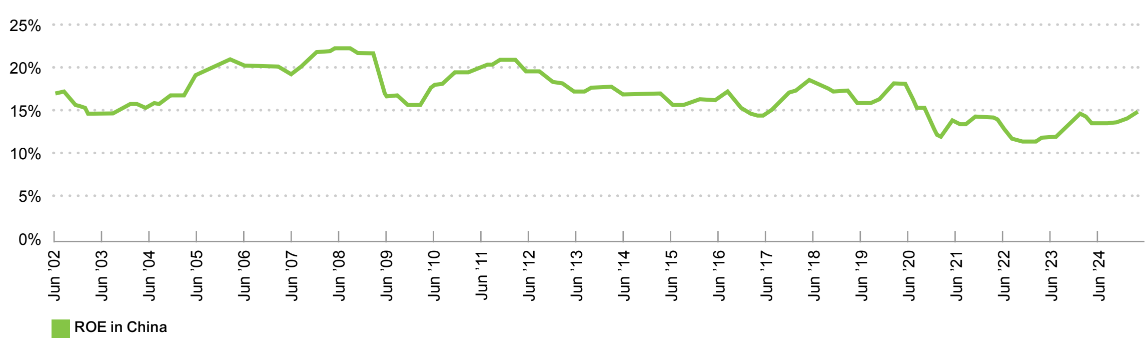
Trailing three-year EPS growth in the MSCI ACWI IMI shows a recent improvement in China, with Chinese earnings growth rebounding from recent lows and closing the gap with U.S. and non-U.S. peers.



Sources: Bedrock and William Blair, as of 4/30/25. Shows trailing EPS growth (three-year compound annual growth rate, or CAGR) exposure for Chinese securities in the MSCI ACWI IMI. A direct investment in an unmanaged index is not possible.

ROE in China Has Improved Since Bottoming in 2023

ROE in China within the MSCI ACWI IMI has been steadily recovering since its low point in 2023, reflecting improving corporate profitability relative to non-U.S. and U.S. markets.

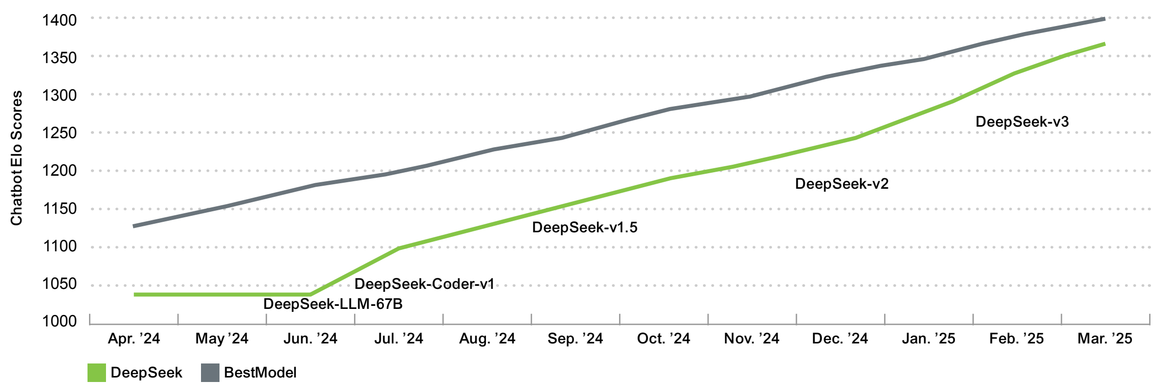


Sources: Bedrock and William Blair, as of 4/30/25. Shows ROE exposure for Chinese securities within the MSCI ACWI IMI. A direct investment in an unmanaged index is not possible.

Innovation is another driver. The launch of DeepSeek's low-cost AI technology disrupted markets reliant on capital-intensive models, sparking a sharp de-rating in global semiconductor and hyperscaler stocks. Beyond AI, China leads in 57 of 64 critical technologies, up from just three in the mid-2000s.

DeepSeek Closing the Gap in Performance (Chatbot Elo Scores)

DeepSeek's performance advanced steadily from mid-2024 to early 2025, with each major version release driving a notable Elo score increase. By March 2025, it had nearly matched the top-rated model in the Chatbot Arena rankings.



Sources: Chatbot Arena and William Blair, as of June 2024. Chatbot Arena Elo scores are a relative measure of performance for large language models (LLMs) based on head-to-head comparisons.

Both Europe and China are signaling stronger growth commitments through policy and innovation. For investors, the result may be new opportunities as earnings trajectories improve, capital flows shift, and technological leadership becomes more geographically dispersed.

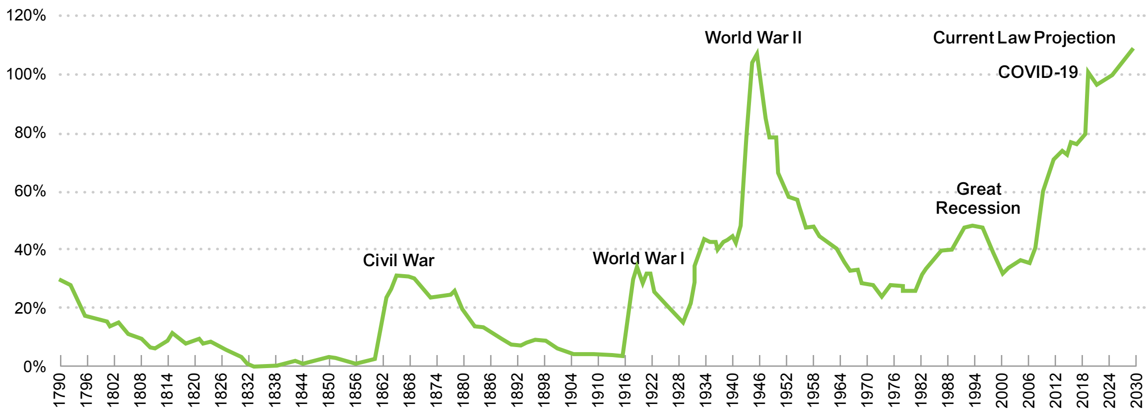
Force No. 3: Evolving Macroeconomic Conditions

Fiscal slippage in the United States, weakening demand for Treasurys, a softer U.S. dollar, and diverging inflation trends between the United States and Europe are reshaping the relative appeal of U.S. versus non-U.S. assets.

Combined with softening U.S. growth, a deteriorating fiscal outlook has eroded foreign investor confidence in U.S. assets, which is increasingly visible in the behavior of U.S. Treasurys and the U.S. dollar. As shown in the chart below, federal debt as a share of GDP is already at historic highs and is projected to climb further—surpassing World War II levels.

U.S. Federal Debt as a Share of GDP

U.S. federal debt as a share of GDP has surged to historic highs following the COVID-19 pandemic and is projected to rise even further-surpassing World War II levels-under current law. Proposed budget scenarios could drive it even higher.



Sources: Congressional Budget Office and William Blair, as of 6/5/25.

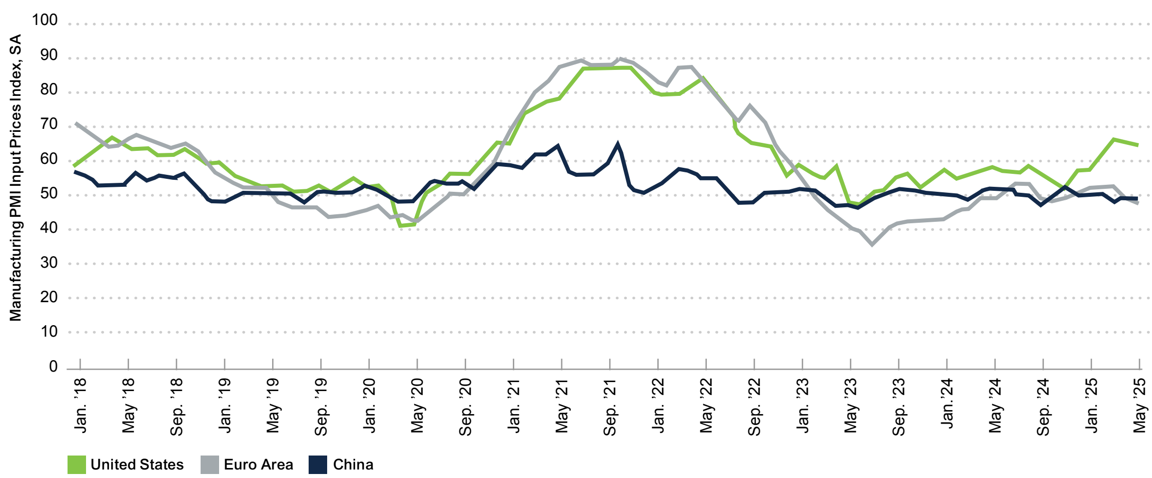
The steepening of the yield curve reflects not only fiscal worries but also waning demand for long-dated Treasurys and the recent Moody's downgrade. These dynamics suggest Treasurys may be losing their traditional safe-haven status, raising the likelihood of higher U.S. borrowing costs.

At the same time, America's sharp post-COVID fiscal deterioration and unpredictable trade policies point to a U.S. dollar that may have peaked. For U.S. investors, dollar weakness could provide a tailwind to non-U.S. equity returns.

Inflation adds another layer of divergence. Eurozone inflation has eased, while U.S. inflation remains sticky and could be aggravated by tariffs. This dynamic complicates the Federal Reserve's policy stance, while the European Central Bank may be positioned to remain more accommodative. Purchasing manager index (PMI) input prices reinforce this picture: euro-area costs fell sharply after the 2021–2022 shocks and have stayed subdued, whereas U.S. input prices have been climbing since late 2024.

Input Prices Increase in the United States

Manufacturing input prices surged in both the U.S. and euro area in 2021 and 2022, followed by a sharp decline, while China's input prices remained comparatively stable throughout the period. More recently, U.S. input prices have begun to rise again, diverging from the euro area and China, where cost pressures remain muted.



Source: S&P Global and William Blair, as of 5/1/25. SA refers to seasonally adjusted.

As a result of these forces, we believe the valuation per unit of growth equation looks increasingly favorable for markets outside the United States, potentially supporting greater capital flows into non-U.S. equities.

This article is excerpted and condensed from a William Blair blog.

***Alaina Anderson, CFA**, partner, is a portfolio manager on William Blair's global equity team.*

UPCOMING EVENTS

January 2026

Legislative Conference & Policy Day

January 26-28
Washington, DC

March 2026

Communications & Member Services Summit

March 2-4
San Diego, CA

May 2026

NCPERS Accredited Fiduciary (NAF) Program

May 16-17
Las Vegas, NV

Trustee Educational Seminar (TEDS)

May 16-17
Las Vegas, NV

May 2026

Annual Conference & Exhibition (ACE)

May 17-20
Las Vegas, NV

June 2026

Chief Officers Summit

June 15-17
Newport Beach, CA

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