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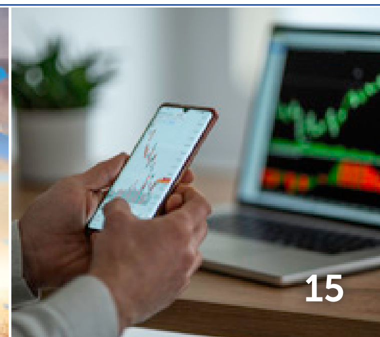

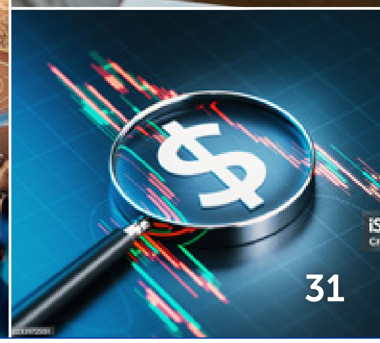

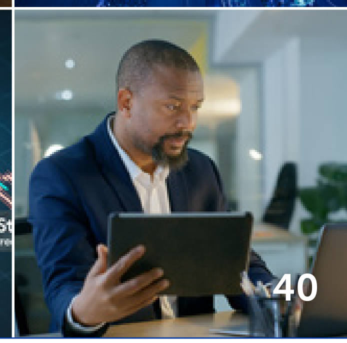

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WE ARE ALL ABOUT PEOPLE

"We are an Association that cares deeply about each other and our mission to be of service to other people."

Coming off the 2025 Fall Conference it really stuck me again how SACRS is all about people. Our conferences have long offered incredible benefits to our system members and administrators, and in fall 2023, we began to cast an even wider net beyond ourselves at our conferences when we started the Community Hero Award program. With this program we can recognize the communities that play host to our conferences by selecting a charitable organization that is making a big difference in the lives of many locals. This year, we expanded our support to also include a non-profit located in a community where we may not hold a conference. You can see our fall 2025 awardees on pages 20 and 36. And yes, you can still donate!

We are an Association that cares deeply about each other and our mission to be of service to other people. Everything we do is to ensure that the golden years of over 500,000 Californians remain golden. This is no small feat given the times we are in and all that has transpired over recent years. I believe our Association plays a vital role in providing education and networking opportunities. Please join me in extending our thanks to the Board and all the volunteers that offer their time and talents to various SACRS committees that direct our actions and accomplishments. If you are interested in becoming more involved in 2026, just reach out to me. I can help!

Sulema H. Peterson

***Sulema H. Peterson**, SACRS Executive Director, State Association of County Retirement Systems*

HELLO SACRS COMMUNITY!

> *"You are the stewards of our retirement security for our members who serve our counties with integrity and service to all."*

Let's be honest—FOMO is real when you miss out on our SACRS Conferences. This year's fall agenda was packed with substance, strategy, and stories that matter. If you joined us, you were in the room where it all happened! If not, here's a recap of all that we experienced:

- **General Sessions That Hit Home -** From global headlines to market trends, we went deep. From hearing from a former Four-Star US Army General on today's shifting geopolitical landscape to gaining insights from a Chief Market Strategist on the potential for a US recession. These are the conversations shaping tomorrow.
- **Affordable Housing Panel -** We explored how fiduciary responsibility and community investment go hand in hand. We took a virtual tour of a property in Orange County and discovered how systems are making a real impact.
- **Trustees, you were not just in the room—you were the room!** We invited seasoned trustees whose governance journeys have laid the groundwork for fiduciary leadership.
- **System Staff, We Got You Too -** Auditors to attorneys, CIOs to affiliates – you are the backbone of our systems. We heard bold ideas, innovative strategies, and best practices to keep our pension systems running with seamless efficiency and sound investments.
- **Breakout Sessions Built for Real Talk -** Focused, candid, and designed for open dialogue. These sessions offered places to bring questions and curiosity. We learned how San Joquin and Orange CERS are using RPA to transform public pension systems into precision operations.
- **Affiliate Breakout -** We offered a great opportunity to explore public and private panel discussions on building authentic relationships between trustees, investment teams, and affiliates. It's all about exchanging long-term financial strategies that work.
- **New This Fall: Orientation Breakfast -** First-time attendees and new members were treated to an energizing breakfast exclusively for them to network and learn about eye-opening activities to kickstart their conference experience and get the most out of their time in Huntington Beach.

And there was so much more!

We know not everyone could make it to Huntington Beach—but don't miss the next one! Mark your calendars now for **Spring 2026 in Olympic Valley, May 12 - May 15**.

To every trustee reading this: **your role is foundational**. Whether you're in the boardroom or at a conference, we encourage you to:

- Engage deeply in the moment
- Ask the hard questions - curiosity fuels growth
- Build relationships with fellow trustees and affiliates
- Encourage your staff to join the conversation and network
- And above all, share your insights generously

You are the stewards of our retirement security for our members who serve our counties with integrity and service to all. Your leadership shapes our futures and I am honored to serve alongside you.

Adele

***Adele Lopez Tagaloa**, SACRS President & Orange County Employees' Retirement System Trustee*


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"Much like an iceberg, the most obvious risks — investing in companies based in authoritarian nations — are just the tip of the iceberg."

AVOIDING THE AUTHORITARIAN ICEBERG:

Democracies Create Stronger, More Resilient Portfolios

By Drew Miyawak, Westwood Holdings Group

The link between democracy and long-term investment performance is becoming increasingly clear. As global democracy faces a troubling decline, investors must proactively account for the risks posed by exposure within their portfolios. Much like an iceberg, the most obvious risks — investing in companies based in authoritarian nations — are just the tip of the iceberg. The larger, hidden risks lie beneath the surface, in the form of indirect exposure to countries that can undermine portfolio stability.

“This unexpected blow to a global blue-chip company illustrates how indirect exposure can create material financial risk — even for investors who believed they had minimal investment in these markets.”

Democracy’s Link to Stronger Economies

Research, including insights from Nobel Prize-winning studies, shows that countries transitioning from autocracy to democracy experience, on average, a 20% increase in gross domestic product (GDP) over time. Democratic nations tend to foster better business environments, stronger legal frameworks and greater investor protections, all of which contribute to higher corporate performance and economic growth. Investors over-exposed to authoritarian markets, however, may face greater risk, weaker corporate governance and opaque regulatory systems that can rapidly change the investment ability.

The Hidden Risks of Investing in Autocratic or Less Free Countries

Many investors recognize the visible risks of direct holdings in companies based in autocratic countries like China or Russia. However, what’s often overlooked is the larger, submerged portion of the iceberg: indirect exposure.

Take Russia as a recent example. Before international sanctions, many investors held direct stakes in Russian equities that were frozen and eventually removed at zero value from indexes when geopolitical events rendered Russia un-investable almost overnight. Even those without direct exposure faced significant losses, as companies with revenue streams or supply chains tied to Russia were hit hard. McDonald’s, for instance, had nearly 900 franchises in Russia before abruptly shutting them down due to sanctions. This unexpected blow to a global blue-chip company illustrates how indirect exposure can create material financial risk — even for investors who believed they had minimal investment in these markets.

Why Investors Should Be Paying Attention Now

Recent reports from V-Dem and Freedom House highlight an alarming trend: Democracy is retreating worldwide. According to Freedom House, global freedom declined for the 19th consecutive year in 2024. Sixty countries experienced deterioration in their political rights and civil liberties, and only 34 saw improvements. This is not an isolated trend. Political shifts can quickly turn once-stable investment targets into high-risk markets. If a country becomes un-investable due to sanctions, economic collapse or government intervention, investors may find themselves stranded with devalued assets and no clear exit strategy. The 2022 Russia sanctions serve as a prime example; investors holding Russian equities were left with frozen or worthless assets without sufficient time to react.

While some investors attempt to manage this risk by bluntly excluding autocratic nations, a more effective approach is needed. As discussed in a recent *Barron’s* op-ed by Westwood’s Greg Behar, simply removing countries like China from an index does not eliminate risk — it often increases exposure to other authoritarian regimes. A more thoughtful solution reduces direct and indirect exposure to these markets while simultaneously enhancing exposure to democratic countries that have a commitment to secure government, due process and free press and markets.

Managing Direct and Indirect Exposure for Profile Stability

Many investors unknowingly leave their portfolios exposed to sudden market shocks by underestimating their ties to authoritarian markets. Even stocks listed in

“By adopting a more strategic approach — one that considers both direct and indirect risks posed by authoritarian influence — investors can enhance portfolio stability, while benefiting from the economic resilience of democratic nations.”

> *If a country becomes un-investable due to sanctions, economic collapse or government intervention, investors may find themselves stranded with devalued assets and no clear exit strategy.*

free-market economies can carry indirect risks through connections to these regimes. By adopting a more strategic approach — one that considers both direct and indirect risks posed by authoritarian influence — investors can enhance portfolio stability while benefiting from the economic resilience of democratic nations. A thoughtful approach to investing in democracies should consider:

- Selective country exclusions – Avoiding markets lacking basic civil liberties and democratic rights.
- Indirect exposure analysis – Identifying and managing risks in companies with revenue or supply chains tied to the removed countries.
- A diversified, rules-based strategy – Ensuring portfolio alignment with controls for beta, sector and tracking error.

By recognizing that investment risks extend beyond what's immediately visible, investors can take a more proactive approach — avoiding not only the tip of the iceberg but also steering past the unseen risks that can sink a portfolio.

__Drew Miyawaki__ is the Senior Vice President and Director of Managed Investment Solutions at Westwood Holdings Group. Prior to his current role, he served as the Equity Trading Head at Legal & General Investment Management America. Drew holds a Behavioral Science (BSc) degree from Drew University.

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SPORTS INVESTING:
AN ATHLETE-CENTRIC APPROACH

By Greta Ulvad and Peter Iannicelli, EnTrust Global

"The sports, media, and entertainment ("SME") industry has experienced remarkable growth, propelled in part by skyrocketing demand for sports and sports-adjacent sectors."

The following article discusses investment opportunities within the sports, media, and entertainment industry, providing an overview of the growing global sports market and, in particular, the compelling, athlete-centric opportunity set available to investors.

> *"As a result of these powerful trends, the global sports market has demonstrated consistent revenue growth, building to what is now a nearly $500 billion market."*

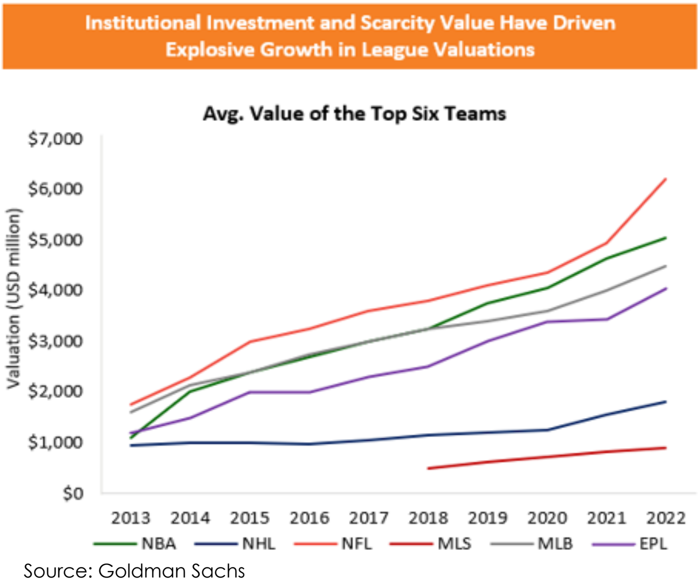
The sports, media, and entertainment ("SME") industry has experienced remarkable growth, propelled in part by skyrocketing demand for sports and sports-adjacent sectors. The global sports industry reflects a massive and growing market, supported by positive secular trends that include increasingly accessible content facilitated by streaming and other platforms, growing consumer spend on live experiences, and rising viewership and fan engagement both inside and outside of the stadium (e.g., e-sports and interactive digital features). As a result of these powerful trends, the global sports market has demonstrated consistent revenue growth, building to what is now a nearly $500 billion market. (See Figure 1)

The global appeal and cultural relevance of sports that has grown over the past 10+ years has driven institutional demand for access to sports opportunities. The ability for institutional capital to invest directly into certain of the largest sports leagues has helped boost valuations and spike demand across sports-related transactions generally. (See Figure 2) Institutional allocations to sports have grown due to its attractive features: its uncorrelated nature, the scarcity of franchise assets, and the valuable media rights and real estate/infrastructure-related opportunities associated with leagues and teams. Institutional investors' demand for sports-related opportunities is expected to continue; in a recent survey of 507 global sports leaders, over 83% of participants expect institutional allocations to sports to grow over the next 3-5 years.[1]

FIGURE 1

Source: Houlihan Lokey

FIGURE 2



Source: Goldman Sachs

“Driven by the proliferation of social media and diversifying ways to consume athlete-centric products, the phenomenon of sports ‘fandom’ is transitioning from teams to athletes, with focus on the name on the ‘back of the jersey’ versus the logo ‘on the front’.”

The momentum in demand for sports reaches far beyond areas traditionally associated with the industry, and sports “fandom” is a cultural phenomenon that is widely recognized by a broad range of consumer-facing companies, from the sportswear market to food/beverage companies that can capitalize on fandom through sponsorships and other marketing activations. Driven by the proliferation of social media and diversifying ways to consume athlete-centric products, the phenomenon of sports “fandom” is transitioning from teams to athletes, with focus on the name on the “back of the jersey” versus the logo “on the front”. Athletes are now recognized as multifaceted entrepreneurs, creators, influencers, and cultural icons. To be sure, fans are engaging with athlete content at a significantly greater level than with the teams for which they play. (See Figure 3) The traditional paradigm of athletes as mere performers has been replaced by one in which athletes are the value drivers behind sports. This includes record demand for athlete-related products, with the global trading cards and memorabilia market – which is dominated by athlete-centered collectibles – expected to grow at a ~22% CAGR to hit an astonishing $271 billion in revenues by 2034.[2] The popularity of individual athletes is impossible to ignore: Inter Miami merchandise sales increased 50x when superstar Lionel Messi joined the team in 2023.[3] And since making her professional debut in 2024, WNBA game attendance has been shown to increase 105% when Caitlin Clark is playing.[4]

FIGURE 3

As of September 2025.

“Inter Miami merchandise sales increased 50x when superstar Lionel Messi joined the team in 2023.”

> **"There is a compelling investment opportunity to target the SME market by tapping into the influence of the athletes that underpin the sports industry."**

There is a compelling investment opportunity to target the SME market by tapping into the influence of the athletes that underpin the sports industry. As cultural phenomena with the power to influence, access to athletes and the ability to capitalize on their name, image and likeness ("NIL") through sponsorship and licensing deals can meaningfully increase company value. Indeed, 67% of women's sports fans make a point to support brands that sponsor their favorite teams or athletes.[5] These dynamics are not going unrecognized by advertisers; costs of advertising during the most recent WNBA playoff grew by over 100%.[6] Today, athlete-driven brands, content, and businesses are experiencing unprecedented momentum, creating prime opportunities for rapid growth and scalable investment. With the evolution of direct-to-consumer platforms, digital media, and athlete-controlled IP, athletes and their strategic partners are now able to commercialize sports in ways that were once exclusive to franchise owners and leagues. And the omni-channel capabilities are increasingly important; more than 90% of Gen Z and millennial fans surveyed use social media to consume sports-related content (e.g., live events, game clips, and news)[7], while overall 68% of US sports fans report watching sports live on TV or through an online streaming service.[8] There are ample investment opportunities where athlete IP/NIL, influence, and marketing power are central to value creation. These opportunities span some of the most dynamic and fastest-growing verticals in the industry, including media, merchandising, collectibles, live events, human performance solutions, sports betting/fantasy, data analytics, and artificial intelligence.

RESOURCES

1 *Source: PwC*
2 *Source: Sports Illustrated (citing Market Decipher report).*
3 *Source: Behind Sport.*
4 *Source: Behind Sport.*
5 *Source: Sportico*
6 *Source: Horizon Sports & Experiences*
7 *Source: Deloitte*
8 *Source: S&P Global*

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PORTABLE ALPHA:

SOLVING THE MAGNIFICENT PROBLEM

By Graham Robertson, Eva Sanchez Martin, Harry Moore, Otto van Hemert, **Man AHL**
and Edward Cole, Jonathan Smith, **Man Group**

> *“Separating an investor’s value-add, the ‘alpha’, from a market factor, the ‘beta’, can help to move the battleground away from stocks towards areas where an investor possibly has a greater edge.”*

> *In a nutshell, portable alpha strategies divide an investment into a beta component, representing market exposure of some sort, and an uncorrelated 'alpha' component. The 'portable' element originates from this separation; the investor is not constrained by the asset class of the beta component and is free to 'port' the alpha wherever they see fit.*

The rise of the Magnificent Seven[1] has proved a major headache for stock pickers. The largest stocks, primarily dominating one sector, are already overweight in most indices simply because of index design. How does one beat that?

In this article we, at Man Group, illustrate how a portable alpha framework can help to tackle the Magnificent Seven problem through diversification. Separating an investor's value-add, the 'alpha', from a market factor, the 'beta', can help to move the battleground away from stocks towards areas where an investor possibly has a greater edge. We examine some of the consequences of selecting the "alpha" component, and outline the potential implications.

Spoiler alert: we can stand up to the Magnificent Seven and survive to tell the tale.

THE MAGNIFICENT PROBLEM

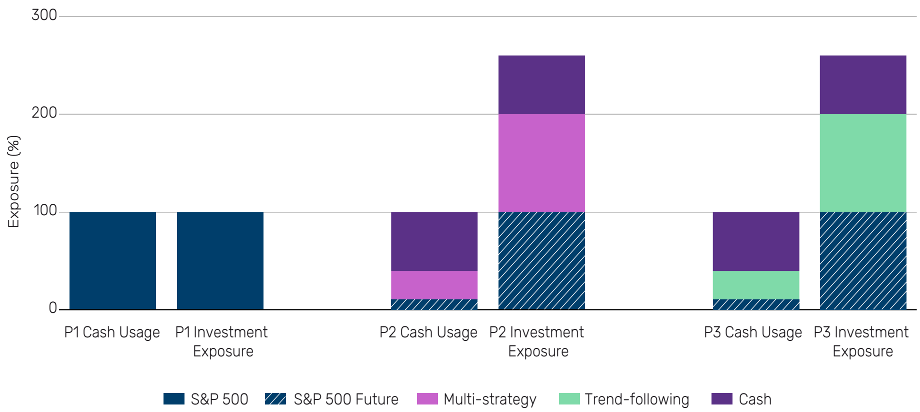
In our recent article, "If It Moves, Monetise It!" we argued that by combining a stocks portfolio with a trend-following strategy it is possible to double returns without introducing more risk. This is a prime example of a "portable alpha" strategy.

In a nutshell, portable alpha strategies divide an investment into a beta component, representing market exposure of some sort, and an uncorrelated "alpha" component. The "portable" element originates from this separation; the investor is not constrained by the asset class of the beta component and is free to "port" the alpha wherever they see fit.

The rise of the Magnificent Seven, and the myriad challenges their dominance poses to fund managers, provide a timely context to explore the application of portable alpha strategies. A stock-picker's role can be viewed as comprising a beta component,

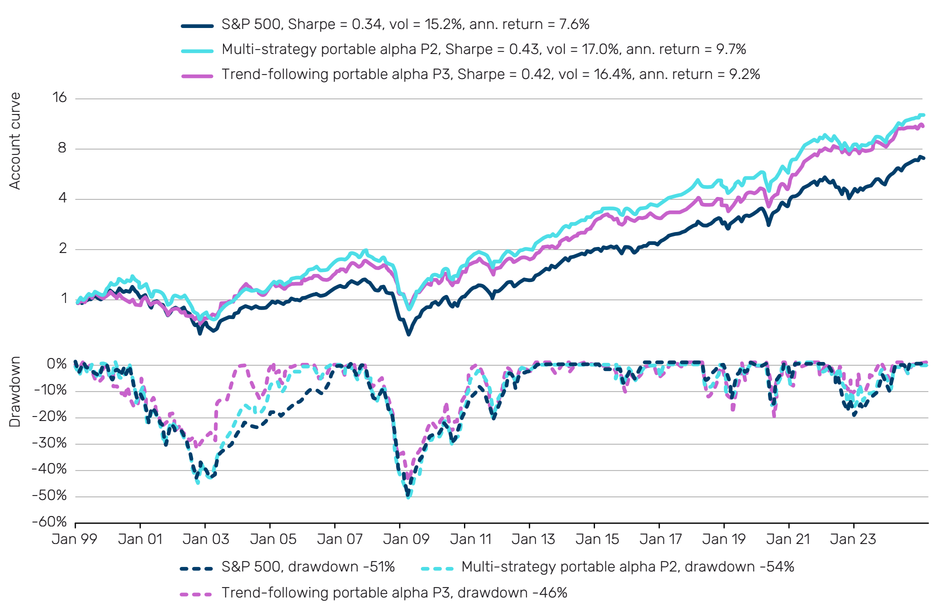
> *In 2024, outperformance, or positive alpha, required an overweight in the largest stocks, concentrated in one sector, aka the Magnificent Seven – an approach a risk manager might not be happy with.*

Figure 1 | Notional and exposure profiles for P1, a vanilla equity portfolio, and P2 & P3, two portable alpha portfolios featuring multi-strategy and trend-following approaches respectively. Each has equivalent equity exposure



Source: Man Group database, as of 31 December 2024. Illustrative examples, for information purposes only. See notes on "Hypothetical Results" and "Simulated Performance" at the end of this document.

Figure 2 | Performance (top), drawdown (bottom) of our vanilla equity portfolio P1 (green), with our two portable alpha portfolios featuring the equivalent equity exposure, as per Figure 1



Source: Man Group database, HFR, Barclay Hedge. Date range 1 January 1998 to 31 December 2024. Illustrative examples, for information purposes only. See notes on "Hypothetical Results" and "Simulated Performance" at the end of this document.

> *"A frequent complaint about portable alpha strategies is that they increase tracking error versus the original beta portfolio."*

the index, and a series of over- and underweights – the "alpha", in this case. Framed this way, the beta component can be easily replicated by an index future or total return swap, generating exposure in a cheap and efficient manner. Owing to the efficiencies of trading on margin, this frees up the majority of the investment for the alpha component.

In 2024, outperformance, or positive alpha, required an overweight in the largest stocks, concentrated in one sector, aka the Magnificent Seven – an approach a risk manager might not be happy with. Further, selecting a small number of expensive stocks cannot be the key to success for stock pickers in the long term. This is likely the reason that many of our recent client conversations have been about improving performance in light of significant underperformance of active equity portfolios in 2024.

HOW CAN PORTABLE ALPHA HELP?

By separating alpha from beta, we can diversify the alpha source. Specifically, in the case of the Magnificent Seven, portable alpha facilitates alpha sources from outside of equities, thereby enabling us to move away from stock picking. In this regard, we examine alpha in the form of an allocation to multi-strategy and trend-following strategies.

In Figure 1 we examine three portfolios, one of which is a vanilla equities investment, and two simulated portable alpha versions featuring the same equities exposure. We choose the S&P 500 Index as our benchmark as it characterises the Magnificent Seven problem.

- Portfolio 1 (P1): Our vanilla investment, the S&P 500 Index
- Portfolio 2 (P2): S&P 500 Index future + multi-strategy hedge fund[2]
- Portfolio 3 (P3): S&P 500 Index future + trend-following strategy[3]

We assume that the margin on the S&P 500 Index future is 10%, and the margin on each alternatives allocation is 25%. We will touch on the significance of margin shortly.

The account curve and drawdown profiles for all three portfolios are shown in Figure 2, and statistics are in Table 1. We assume 25 basis point (bps) per annum trading costs on the beta component.

We see that the portable alpha solutions generate higher returns over time despite having the same beta component, the 100% S&P 500 allocation. In simple terms, this is because we have two dollars invested for every one dollar in our traditional portfolio, and our 'alpha' components, multi-strategy and trend-following, both generate positive returns over time. Further, the volatility of our solutions are not materially higher than the original 100% S&P 500 portfolio. This, of course, is because of the diversification provided by our alpha strategies. Combine these two points and we can understand the improved Sharpe ratios of the portable alpha solutions over the original portfolio.

Outside of the movies, references to the Magnificent Seven as we know them today began in Q2 2023. Table 1 shows that performance of our portable alpha strategies are comparable to those of the S&P 500 since the inception of the Magnificent Seven, and also over full year of 2024.

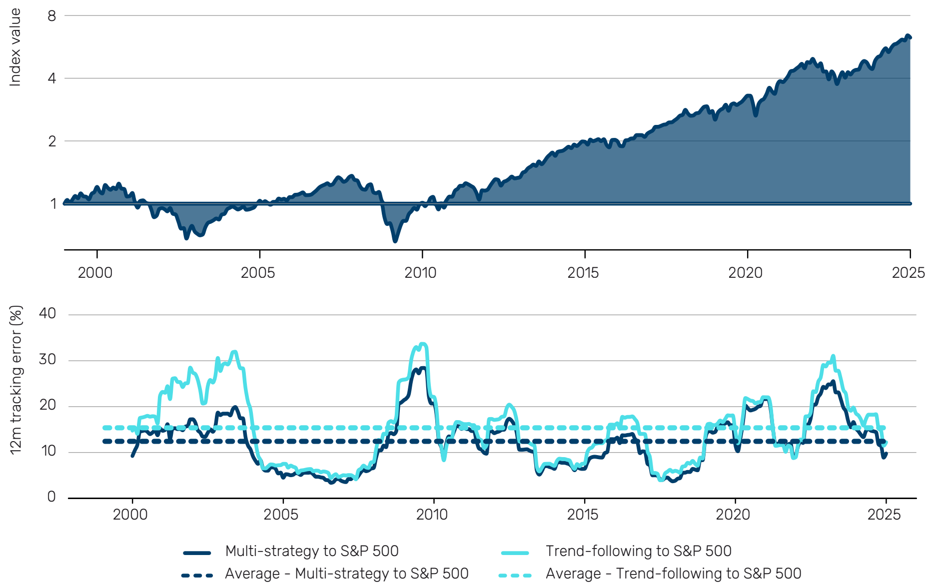
Drawdown profiles, in the lower panel of Figure 2, are a little more nuanced. Our multistrategy portable alpha portfolio has a marginally worse drawdown than the S&P 500's (-54% versus -51%). The trend-following solution, however, has a smaller drawdown (-46%) because of trend's famous 'crisis alpha' property which, in this case, translates into 'may offer performance when the S&P doesn't'. The value of having trend-following sitting alongside conventional portfolios is something that we have written about on numerous occasions (see: Trend-Following: What's Not To Like).

Table 1 | Performance of portable alpha components, and portfolios of Figure 1

	P1: S&P 500	Multi strategy	Trend-following	P2: S&P 500 & Multi strategy	P3: S&P 500 & Trend-following
Ann. return	7.6%	4.9%	4.0%	9.7%	9.2%
Vol	15.2%	3.9%	8.0%	17.0%	16.4%
Sharpe	0.34	0.65	0.21	0.43	0.42
Max Drawdown	-51%	-6%	-16%	-54%	-46%
Return Q1'24-Q4'24	24%	7%	4%	26%	23%
Return Q2'23-Q4'24	46%	11%	7%	46%	41%

Source: Man Group database, HFR, Barclay Hedge. Date range 1 January 1998 to 31 December 2024. Illustrative examples, for information purposes only. See notes on "Hypothetical Results" and "Simulated Performance" at the end of this document.

Figure 3 | S&P 500 (top panel), and tracking error of multi-strategy (blue) and trendfollowing (yellow) to S&P 500 (lower panel)



Source: Man Group, MSCI and Bloomberg; between 1 January 1987 to 31 December 2024. Illustrative examples, for information purposes only. See notes on "Hypothetical Results" and "Simulated Performance" at the end of this document.

POTENTIAL DRAWBACKS

Tracking error

So far, so good. A frequent complaint about portable alpha strategies is that they increase tracking error versus the original beta portfolio. We quantify this in Figure 3 by examining the tracking error of our multi-strategy and trend-following alpha allocations to the S&P 500.

The tracking error of our multi-strategy index to the S&P 500 on a rolling 12-month basis is around 12% on average, at its lowest (~4%) during equity market rallies such as those leading up to the Global Financial Crisis in 2008, but peaks during drawdowns in the equity index. As we see from Figure 3, however, this peak tracking error is largest when the portable alpha portfolio outperforms. This effect is amplified when we use the trendfollowing index instead of multi-strategy; during equity drawdowns tracking error increases more, but again this is due to outperformance, when trend-following's crisis alpha property kicks in.

Cash efficiency and liquidity considerations

In the preamble to Figure 1, we outlined our margin assumptions. Portable alpha, as a framework, is predicated on cash efficiency and the use of derivatives.

Most beta components can be replicated cheaply and cash efficiently with a derivative -- in Figure 1 this is an S&P 500 future -- leaving room to fund the alpha component. The cash efficiency of the alpha component is also important. If margin on the beta component is 10%, say, we have 90% left to fund our alpha component, so we do require some degree of cash-efficiency if we are to fund an 100% alpha exposure. More often than not, however, our alpha component is also cash efficient. Trend-following, for example, tends to use futures markets to gain their exposure and typically requires only around 25% margin.

Liquidity plays a significant role too. Sod's Law dictates that margin requirements are most likely to rise when markets are volatile, which is often when the alpha component is needed most. Ideally, if enough cash buffer is factored into the portable alpha solution, there should be no issues. However, a worse scenario might occur if the alpha component is sufficiently illiquid that it can't be sold down in the event of a margin call, leading to the enforced selling of the beta component. We discussed this in a previous note. Investors need to know whether a chosen alpha strategy will pass this liquidity test. Ideally the strategy has 'been there and done that'.

SURVIVING THE MAGNIFICENT SEVEN

In the original movie, only three of the seven survived. We are not about to make any bold predictions as to the fate of the current incarnation, nor about what might eventually take their place. What we will say is similar threats to stock pickers will likely emerge in the future.

We have shown how portable alpha strategies can potentially solve the problem that the Magnificent Seven currently poses to stock pickers, but the concept holds broadly. Diversification and cash efficiency are key. We have concentrated here on different aspects of diversification, and some implications of this choice. Cash efficiency, related to margin as discussed above, is another potential dimension, which impacts the choice of beta, plus how much leverage could potentially be deployed in the alpha component, a topic we will explore in greater depth in future notes.

RESOURCES

1. *Apple, Microsoft, Alphabet, Amazon, Nvidia, Meta, and Tesla.*
2. *Represented by 40% HFRI Equity Mkt Neutral, 40% HFRI Macro Systematic Diversified, 20% HFRI Relative Value Multi Strategy.*
3. *Represented by BTOP50 Index of 20 predominantly trend-following managers ('BTOP50').*

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“In the pension industry, we often see SMEs who specialize in particular functions, like DROP, divorces or disability management.”

What Makes a Great Project SME?

By Laurie Mitchell, Tegrit

Subject matter experts (SMEs) exist in almost all organizations and are an amazing resource for both knowledge and organizational lore. They are the go-to authority about a particular topic – and they didn’t become an SME by accident. They developed deep knowledge of the subject through formal education, self-guided learning and most often through long experience. In the pension industry, we often see SMEs who specialize in particular functions, like DROP, divorces or disability management.

Oftentimes the go-to selection for a project SME is the longest tenured employee. Organizations select these employees because of their deep knowledge, but also to reward an outstanding employee with a special project. While some of these employees are great SMEs, for others, it might not be work they enjoy or aren’t necessarily good at. It can be helpful to place early or mid-career staff in those roles so that lessons learned persist beyond deployment. While less-experienced staff may not have “perfect” knowledge, they are smart, adaptable, understand the business and perhaps most importantly, know where to go to get knowledge they don’t already have.

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 lean on your SME to deliver.

- Explain the as-is process and *why* actions are done the way they are. When your SMEs know the what and the why, they know if a process can be changed. This speeds up decision making.
- Participate in the requirements review and analysis. This means attending many meetings.
- Help design new processes and document new procedures.
- Read, review and approve system design documents. This needs quiet time dedicated to reading documents and providing meaningful feedback.
- Possibly lead the internal team through UAT. This requires good relationships with other staff members.
- Possibly assist with staff and employer training.

So, what makes a great project SME who can tackle these tasks? The team at Tegrit has worked with many SMEs and we have found the ideal SME characteristics that will enhance your culture and advance your project.

> *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.*

CURIOUS

Curious people look at challenges and collaborate to find solutions. They ask Why, and when they get that answer, ask Why again, and again. They seek to find the complete answer – not just the quick one. Truly curious people also check their own biases and perceptions, helping them treat new ideas fairly.

ARICULATE

Articulate people start with great listening skills and respond well either verbally or in writing (sometimes both). Having a deep understanding of how a process or system works is most helpful when the SME can share that understanding succinctly in a way that advances the work. 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.

COLLABORAIVE

A collaborative SME is open to others' ideas, actively seeks new information and works toward better solutions. They work well with a team of people toward 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 as needed 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.

CRIICAL THINKER

Pension organizations often have business analysts (or other staff) who support processes and data management. But 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 to make sound decisions. Good critical thinkers can interpret, analyze, infer, explain and evaluate new information and new situations *without* getting caught in analysis paralysis. If you can find one or two SMEs with critical thinking skills, your project will benefit significantly.

OBJECIVE

A great SME relies on well-researched facts and good data to make decisions. They use data and details from a variety of trusted sources to drill past the surface to a deeper understanding of what's happening.

REALISIC

A great SME is realistic about what they can achieve in the timeline, doesn't overpromise, prioritizes effectively and asks for help when needed. The person who regularly overextends themselves (i.e., overextends voluntarily, not by assignment), will burn out and you'll end up replacing them. SMEs have a primary job; when they are advising or being consulted as an SME - that's in addition to their regular duties. Being able to balance primary job functions with SME activities is key for a great SME.

I polled some of my colleagues at Tegrit who have worked on complex projects. Here are some of their most treasured 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 just love the person who can live in the What If with me. That person who can envision something different/better. When an SME has vision and can think beyond right now, the outcome is often exponentially better.
- ***Kyle, principal business analyst:*** I appreciate someone who can explain clearly why an existing process is handled the way it is.
- ***James, lead business analyst:*** Give me energy and enthusiasm for the new system and people willing to find answers to new questions.
- ***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 store.

Laurie Mitchell *has worked in the pension industry since 2003 when she joined the Michigan Office of Retirement Services. There she served in many roles, including leading portions of their pension replacement project, and served eight years as their Customer Service Director. After retiring, she joined Tegrit where she serves as a Senior Business Consultant focusing on marketing and RFP management.*

> *If you can find one or two SMEs with critical thinking skills, your project will benefit significantly.*

AS I SEE IT

Gurvir S. Grewal
Global Research Analyst,
William Blair

AI: THE CHALLENGES FOR INVESTORS

“AI stands as the latest chapter in the storied history of general-purpose technologies; each breakthrough having laid the foundation for a transformative techno-economic revolution.”

In part one of our new series, AI Alpha, we explored the sweeping potential of artificial intelligence (AI) as a transformative force. But alongside that opportunity lies a more complicated reality. In part two, we examine the structural challenges, strategic trade-offs, and competitive pressures that we believe will shape how AI ultimately delivers economic payoff. Understanding AI as a general-purpose technology helps clarify both its disruptive power and the obstacles that may delay or dilute returns.

"AI, in itself, offers no immediate return; it is only through the creation of complementary products—be they digital applications, autonomous vehicles, or humanoid robots—that its full potential can be realized."

General-Purpose Technologies: Unseen Engines, Uncertain Returns

AI stands as the latest chapter in the storied history of general-purpose technologies; each breakthrough having laid the foundation for a transformative techno-economic revolution. For example, the printing press revolutionized the mass production of texts, profoundly influencing education, religion, science, and politics; the steam engine powered factories, trains, and mining operations, enabling mass production and transforming transportation; electricity powered industrial machinery, household appliances, and modern communications, reshaping production, consumption, and interaction; and computers and the internet transformed commerce, communication, and innovation by processing and transmitting information. Each of these technologies redefined society by providing versatile platforms for mass production, dissemination, and connectivity.

Today, AI's general-purpose capability stems from its ability to translate various types of data into numerical representations and compute similarities between them, thereby enabling its application in a wide array of settings. By leveraging vast datasets and sophisticated algorithms to extract hidden patterns and drive decision-making—is emerging as a general-purpose technology poised to redefine economic structures, spur innovation across sectors, and reshape societal functions.

Zero ROI

Left to themselves, general-purpose technologies command no tangible return on investment. As Paul David[1] elucidates in his analysis of technological transformations, two principles are paramount. First, the evolution of techno-economic regimes built around these technologies often spans decades—returns eventually emerge, though after a long gestation period. Second, general-purpose technologies require a suite of complementary products, infrastructure, training, and organizational changes to realize their full economic value.

This second point underscores the inherent complexity of broad technology adoption. Providers of the technology therefore invest in nurturing complementary innovations, sometimes developing them in-house. Early electric utility companies, such as Edison Electric Company (General Electric's precursor) and Westinghouse Electric recognized that raw electricity was of little use until harnessed by consumer products that, in turn, drove demand. Today, Nvidia CEO Jensen Huang follows this time-tested playbook, understanding that graphics processing units (GPUs) have limited value without complementary software. In AI's layered ecosystem, GPUs train AI models that must be integrated into further complementary applications.

AI, in itself, offers no immediate return; it is only through the creation of complementary products—be they digital applications, autonomous vehicles, or humanoid robots—that its full potential can be realized. ChatGPT may have served as AI's light bulb, but as we progress into our Information Age, inventors are still racing to create the toasters, washing machines, and refrigerators of the AI era.

A self-reinforcing flywheel is at work here: each leap in AI spurs inventive responses that, in turn, accelerate further technological advances. I believe the promise of AI will unfold gradually, contingent on the maturation of complementary products and broader societal shifts, including labor reorganization and even political recalibrations in response to changing employment landscapes.

Investors must recognize that the journey toward AI's trillions of dollars in impact is both intricate and protracted—a transformation unfolding as gradually as the evolution from a solitary light to a fully furnished home complete with all its essential appliances. Yet this steady progression often clashes with a market that rapidly reprices assets based on shifting narratives, a dynamic tension that poses constant challenges.

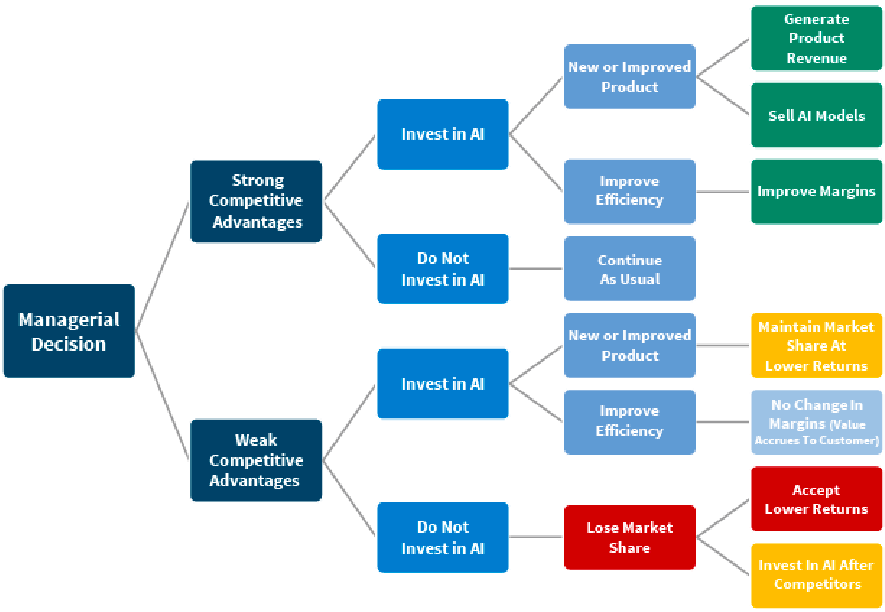
Darwin, Fermat, and Pascal: Why AI May Not Lead to Profitability

In 1859, Charles Darwin observed, *"It is not the strongest of the species that survives, nor the most intelligent, but the one most responsive to change."*[2] And in 1994, another Charles, Mr. Munger, echoed that spirit of navigating complexity with a different lens; he noted: *"The Fermat/Pascal system is dramatically consonant with the way that the world works. And it's a fundamental truth. So you simply have to have the technique ... One of the advantages of a fellow like Buffett, whom I've worked with all these years, is that he automatically thinks in terms of decision trees and the elementary math of permutations and combinations."*[3] Both point to the same reality: survival and success depend on the ability to assess risk, adapt, and act. And I believe AI's potential impact must be viewed through that lens.

"Investors must recognize that the journey toward AI's trillions of dollars in impact is both intricate and protracted—a transformation unfolding as gradually as the evolution from a solitary light to a fully furnished home complete with all its essential appliances."

"Although AI may reduce total expenses when its cost savings exceed the investment, whether this translates into higher margins depends on the elasticity of demand and the relentless force of competitive pressures."

Decision Tree of Outcomes Facing Managers With Regard to AI Investments.



Source: William Blair, as of June 2025. For Illustrative purposes only.

In contrast, in more fiercely contested markets, companies with weak competitive advantages lack the luxury of dominance. Here, competitors rapidly anticipate and match improvements, forcing managers to invest in AI merely to stay in the game—even if such investments do not translate directly into increased revenue or profitability. Although AI may reduce total expenses when its cost savings exceed the investment, whether this translates into higher margins depends on the elasticity of demand and the relentless force of competitive pressures. Like rising blinds in poker, every player must commit more resources just to remain competitive, often passing the benefits onto customers rather than the bottom line. I believe most businesses will find themselves trapped in this competitive arena, where substantial AI expenditures, despite their promise, ultimately vanish from the financial statements, a stark reminder that in many competitive environments, survival demands economic sacrifices at the altar of innovation.

AI's potential impact is vast. We are in the Information Age that has been evolving for more than 50 years. The true effect of AI will depend on the businesses that integrate it, the innovators who build its return on investment (ROI) within digital ecosystems, and the managers navigating complex strategic choices with outcomes that may ultimately lie beyond their control.

If a business saves or generates an extra $1 million through AI, the question remains: does that benefit translate directly to its bottom line, or is it passed on to consumers through competitive pressures? Investors who assume every dollar will boost profitability may be disappointed if market dynamics force these gains to accrue elsewhere. AI will likely be a strategic investment rather than an economic investment for many businesses as they invest in AI not for immediate revenue or cost savings but simply to remain competitive. The decision tree below reflects some of the decision paths facing businesses.

As the chart above illustrates, managers face a branching decision tree when considering AI investments. Where a company has a strong competitive advantage, the arithmetic is straightforward—AI can drive additional revenue and/or improved margins, potentially reinforcing existing advantages and delivering what shareholders anticipate. In these scenarios, firms may benefit from enhanced products and lower costs, allowing them to capture a greater share of value.

These competitive market dynamics reflect the broad magic of capitalism at work—where better products emerge at lower prices and the relentless force of competition curtails profit margins beyond any simple ROI calculus. Just as peacocks incur costs for their elaborate displays or as Costco invests in wages and quality rather than skimming profit, businesses may adopt AI to signal strength, secure market position, or simply ensure survival—regardless of immediate returns.

A new general-purpose technology such as transformer-based AI reconfigures the digital ecosystem, echoing the upheavals Karl Marx highlighted in political and economic ecosystems triggered by inventions such as gunpowder or the printing press. Managers must weigh competition, customer power, and internal dynamics, all while accepting that shareholders might not be at the front of the queue for AI's spoils.

Game theory problems, as illustrated by the decision-tree managers face—such as prisoner's dilemma (without cooperation investment takes place out of self-interest), Pascal's wager (uncertain downside makes investment the safer bet), or dollar auction (a zero-sum race forces escalating costs)—underscore the short-term rational yet sometimes long-term suboptimal paths companies may follow. No single forecast or model can capture every nuance of these strategic choices, but prudent investors must build in a margin of safety and weigh broader

> *The history of investing in technological change reveals an intriguing asymmetry: it is often easier to pick the losers than the winners.*

strategic considerations when making their forecasts. Indeed, the landscape has shifted, and those who fail to adapt, whether business manager or investors, invite their own undoing.

Asymmetries for Public Investors: AI Winners and Losers

The history of investing in technological change reveals an intriguing asymmetry: it is often easier to pick the losers than the winners. As Alasdair Nairn's *Engines that Move the Markets* illustrates, when railroads disrupted canals, it was easier to see that canal valuations would collapse than to pinpoint which railroad would ultimately prevail; similarly, the shift from horses to automobiles clearly signaled the obsolescence of equine transport, even if singling out Ford's Model T as the definitive winner proved challenging. In the dot-com era, while it was difficult to predict Amazon's rise, it was unmistakable that traditional brick-and-mortar retail would falter, and in the same vein, the transitions from video rental stores to Netflix and from traditional taxi services to Uber reveal that, though identifying the specific victor is challenging, an entire legacy industry could erode away.

This pattern arises because incumbents, built on outdated technological foundations, are not merely competing against a single firm but against a shifting technological frontier that continuously elevates the standard. AI is a general-purpose technology whose impact will ultimately depend on the complementary applications and products that evolve alongside it. Yet which specific company will prevail as the technology matures and new business models emerge remains a much greater unknown particularly in the digital realm, where the dynamism and complexity of business models is more pronounced than in the physical world.

Success ultimately depends on a multidimensional framework: product-market fit, competitive strength, and the ability to capture value rather than simply pass it to consumers. It is difficult to pinpoint the exact winners in every sector, yet in traditional areas—be it software, transportation, or online advertising—the competitive advantages of incumbent players must be reassessed. In such a competitive and evolving environment, investor success hinges not only on identifying the few winners but, more critically, on evading the far greater number of likely losers.

Today, another asymmetry confronts public-market investors with the rise of private capital. Unlike in the dot-com bubble—when companies predominantly raised funds through public markets, leading to volatile share prices—modern firms tend to remain private for longer, favoring venture capital and private equity. As a result, many AI-native companies, which are poised to drive the next technological paradigm, remain out of reach for public investors. While many AI-native startups remain out of reach, public investors who develop a nuanced understanding of how AI reshapes established businesses—by identifying which incumbents possess the culture, management, and competitive edge to potentially leverage these technologies—may still find rewarding opportunities.

Final Word

Overall, AI's evolution as a general-purpose technology confirms that true economic transformation unfolds only when innovative complementary products and societal shifts come into play—a process both gradual and inevitable. While the promise of trillions in value drives innovation, the journey is fraught with uncertainty, competitive pressures, and structural shifts that challenge conventional ROI measures; further complicating matters is the intangible nature of AI, which, unlike physical assets, forces investors to rely on faith as much as evidence. As the digital age inexorably marches forward, adaptation is necessary for survival.

EDITOR'S NOTE: This is part two in the AI Alpha series. Read part one in SACRS Summer 2025 edition: *As I See It: The AI Opportunity: Investing Billions, Impacting Trillions* on page 20.

RESOURCES

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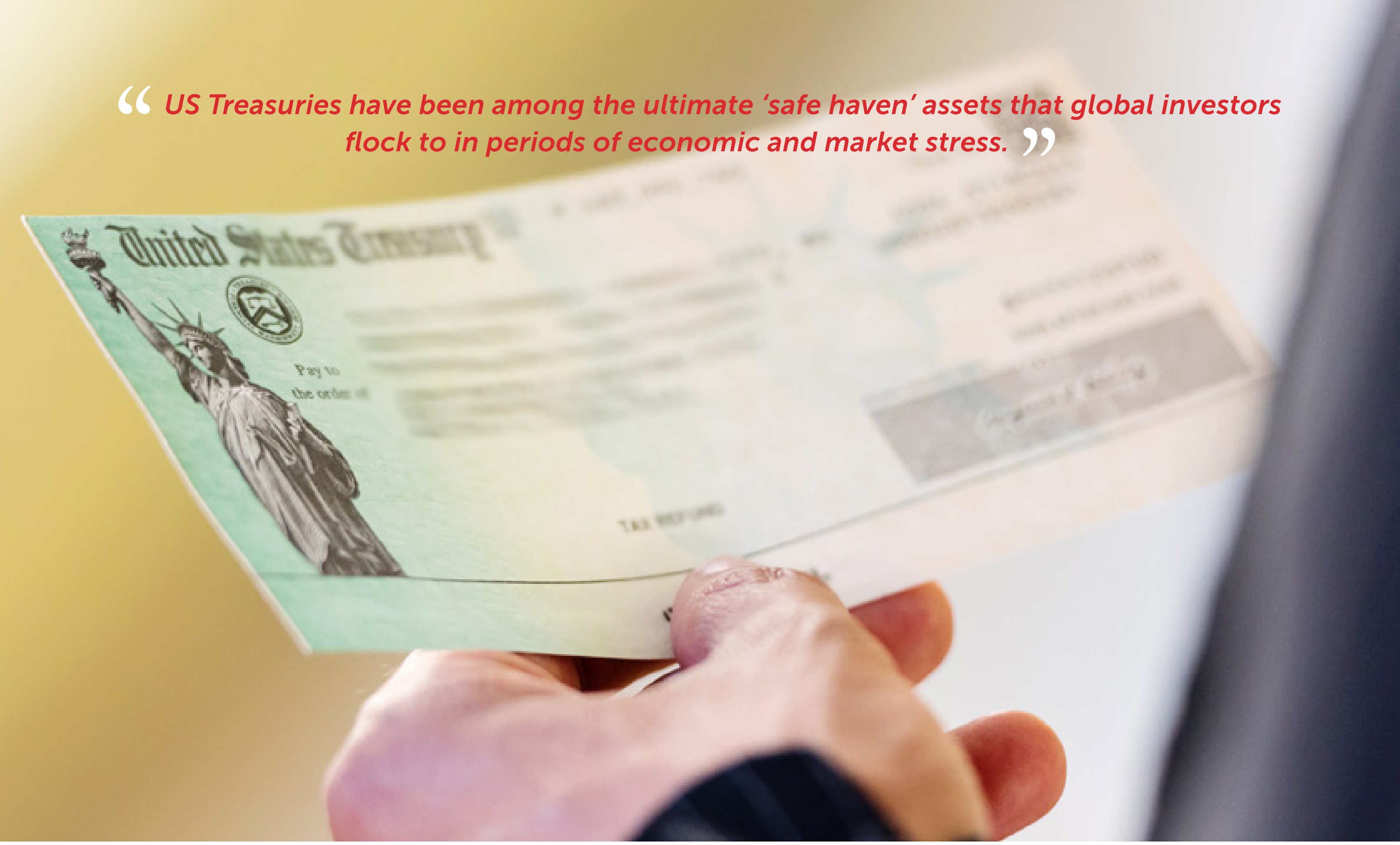


“US Treasuries have been among the ultimate ‘safe haven’ assets that global investors flock to in periods of economic and market stress.”

WHY RISING TREASURY YIELDS AND EFFORTS TO TACKLE US HEALTHCARE COSTS ARE JOINED AT THE HIP

By Charles French, Impax Asset Management

KEY POINTS

- Investors have traditionally sought shelter in US Treasuries and the healthcare sector, but both are no longer behaving as 'safe haven' assets.
- The US fiscal trajectory, exacerbated by demographic trends, is driving a re-evaluation of US government debt and contributing to elevated yields.
- Healthcare spending is an obvious target for fiscal tightening efforts and some parts of the sector look vulnerable to tighter scrutiny and regulation.
- Impax believes equities investors need to take a particularly selective approach to healthcare and carefully consider the role of Treasuries in portfolios.

> When times are tough, investors have traditionally sought shelter in US Treasuries.

For decades, US government bonds and healthcare stocks have been cornerstones of defensive portfolios.

US Treasuries have been among the ultimate 'safe haven' assets that global investors flock to in periods of economic and market stress. Their perceived security is grounded in the US government's credit quality and US economic clout.

The healthcare sector, meanwhile, has generally been considered firmer territory for equities investors when global stock markets have been rocky. After all, demand for medicine and care is relatively inelastic and is prioritised over discretionary spending.

In 2025, though, these assets have both behaved contrary to historical patterns, unravelling investors' assumptions with both these asset classes performing poorly in the aftermath of Trumps' tariff announcements and the sharp sell-off seen in global risk assets. Their shift towards being seen as riskier assets largely stems from the same root cause: the poor fiscal health of an ageing and heavily indebted US society.

We believe equities investors need to now take a particularly selective approach to healthcare. The role of Treasuries in portfolios should also be reconsidered very carefully.

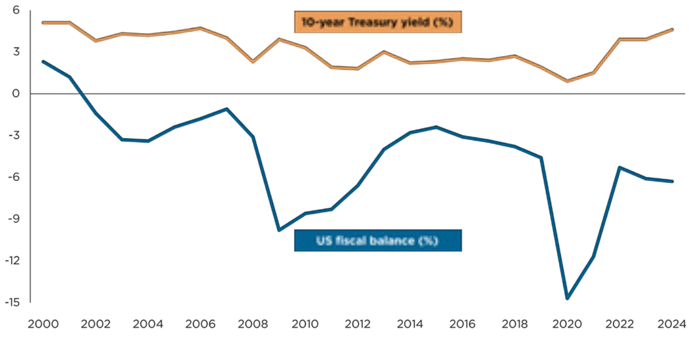
Treasury markets have caught up with reality

When times are tough, investors have traditionally sought shelter in US Treasuries. During the global financial crisis in late 2008, for example, 10-year Treasury yields fell from 4% to almost 2%.[1] Similarly, they plunged below 1% during the height of the COVID-19 pandemic.[2]

Yet when President Trump announced sweeping import tariffs in April 2025, 10-year Treasury yields rose sharply from 4.0% to 4.5% in a two-week period.[3] This signals a profound shift: investors now view Treasuries through the lens of fiscal risk after many years of nonchalantly tolerating runaway government spending.

Rising US deficit, rising Treasure yields

US federal fiscal balance (% GDP) vs market yield on 10-yr US Treasures (%, end year)



Source: Federal Reserve Bank of St. Louis, June 2025.

The US fiscal trajectory is, frankly, unsustainable. The Congressional Budget Office projects government deficits averaging 5.8% of GDP over the coming decade, driven in part by the cost of servicing a national debt that surpassed 100% of GDP this year.[4] Indeed, net interest expenses (equating to 3.1% of GDP in 2024) now exceed defence spending for the first time.[5] Proposed tax cuts threaten to exacerbate the deficit and borrowing costs.

The longer-term fiscal picture is further compromised by demographics. By 2050, 22% of Americans are projected to be over 65, up from 17.7% today.[6] An ageing population will reduce the worker-to-retiree ratio (even before proposed shifts in immigration policy) and rising social security and healthcare costs under the government-funded Medicare insurance system will strain budgets.

In this context, it should be unsurprising that investors are re-evaluating US government debt which lost its last 'AAA' credit rating this May.[7] It should also be unsurprising that those focused on addressing the drivers of US fiscal ill-health, policymakers included, have honed in on the US$5tn a year US healthcare sector as a target.[8]

> Overall, the US accounts for roughly two-fifths of global healthcare spending.

We believe that investors should take a more selective approach to investing in the healthcare sector, identifying individual opportunities based on whether they deliver genuine innovation for patients or can address healthcare system cost inflation.

Healthcare is now in the firing line

A combination of demographics, medical advances and rising labor costs have continued to push up the share of national incomes spent on delivering healthcare. Across the OECD, healthcare spending growth outpaced broader economic growth by an average of 2.2 percentage points a year between 2007 and 2021.[9]

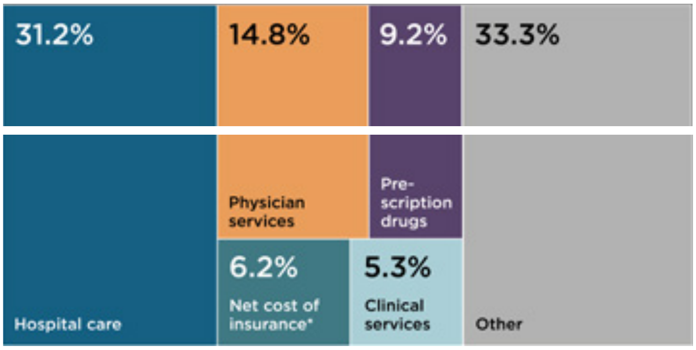
The US is an exception only in that this trend has been supercharged. Today, healthcare system costs account for almost 17% of US GDP, almost twice the OECD average of 9%.[10] Overall, the US accounts for roughly two-fifths of global healthcare spending.[11]

While the sector has historically continued to grow irrespective of the economic cycle, lending it defensive qualities for investors, US policy change is now disrupting this narrative. The landmark 'One Big Beautiful Bill Act' calls for substantial funding cuts or new requirements for Medicaid and Medicare.

Drug prices, which are higher in the US, have been singled out by the Trump administration for government intervention.[12] In May, Trump ordered pharmaceutical companies to voluntarily align all US prescription drug prices with other markets or face unspecified punishment. Drug prices account for barely 10% of overall US healthcare spending, though, which isn't out of step with other developed markets.[13]

Where US$5tn goes each year

US healthcare spending in 2023, selected breakdown



Source: American Medical Association, April 2025: Trends in health care spending.
* Net cost of health insurance: The difference between what insurers incur in premiums and the amount paid in benefits, including administrative costs, additions to reserves, rate credits and dividends, premium taxes and fees, and net underwriting gains or losses.

Political ire is increasingly turning to the intermediaries that play an outsized role within the US healthcare sector: pharmacy benefit managers (PBMs). These middlemen negotiate drug prices with manufacturers on behalf of distributors and create the drug formulations that insurers adopt. PBMs collectively receive an estimated US$300bn-plus in rebates each year from the pharmaceutical industry.[14]

These PBM models look vulnerable to tighter scrutiny and regulation in the current political and fiscal context, with investor pessimism reflected in recent market movements.

A selective approach to investing in healthcare

We believe that investors should take a more selective approach to investing in the healthcare sector, identifying individual opportunities based on whether they deliver genuine innovation for patients or can address healthcare system cost inflation.

Taking innovation, first. A price will likely be extracted from the pharmaceutical industry by the Trump administration – more drug prices will likely be capped either through regulation or voluntarily – but we believe genuine innovation that improves and extends life will continue to be rewarded commercially in the US. The Inflation Reduction Act, for instance, exempts large-molecule drugs that offer 'substantial clinical improvements' from new price caps until 13 years after they are approved.[15]

We see the prospects of pharma companies in the US therefore being determined by whether their therapies are transformative in the way that GLP-1 drugs are proving to be in addressing obesity and potentially other illnesses. Groundbreaking 'advanced therapies' that use gene therapy, cell therapy or tissue engineering to treat diseases or injuries also stand to command premium pricing. For those that can only convert their research and development spending into 'me-too' drugs (as has all too commonly been the case), however, the outlook looks less buoyant.

Second, we see compelling investment opportunities where companies can reduce the cost of delivering healthcare in the US. Given that labor accounts for roughly 60% of US hospital costs, products and services that can reduce the labor-intensity of delivering high-quality treatment should benefit from strong underlying demand.[16]

Alongside transformational innovations in medical technology, such as robotic arms that can be used to offer minimally-invasive surgery to more patients and at lower cost, are emerging software solutions that help healthcare providers better manage and interpret data, improving operational efficiency and driving better patient outcomes.

> *"As long-held assumptions are being challenged, investors must adapt and take a more discriminating approach to assets that no longer look like 'safe havens'."*

Navigating the grand shift in Treasuries' status

As we wrote in early 2025, we believe the market could be mispricing the long-term risks embedded in US Treasuries, long a bedrock of stability and foundation stone of global multi-asset portfolios.

Investors should not expect a return to ultra-low US Treasury yields. There are structural reasons underpinning elevated yields, not least the bountiful supply of debt: the US government needs to roll over US$7.9tn in maturing debt this year, and a further US$3.9tn in 2026.[17]

The US is not alone in facing the twin challenge of outsized fiscal deficits and spiralling healthcare spending; it is a phenomenon evident in most developed economies and signals higher government yields will be an ongoing feature across global bond markets.

Equities investors meanwhile cannot remain aloof of elevated US Treasury yields: they are a standard 'risk free' reference point for valuing equities, for now at least. Higher government bond yields should also theoretically feed through to lower equity market valuations.

The targeting of the US healthcare sector illustrates how, in the current fiscal context, equities investors also need to be wary of policy responses to tackle structural deficits. As long-held assumptions are being challenged, investors must adapt and take a more discriminating approach to assets that no longer look like 'safe havens'.

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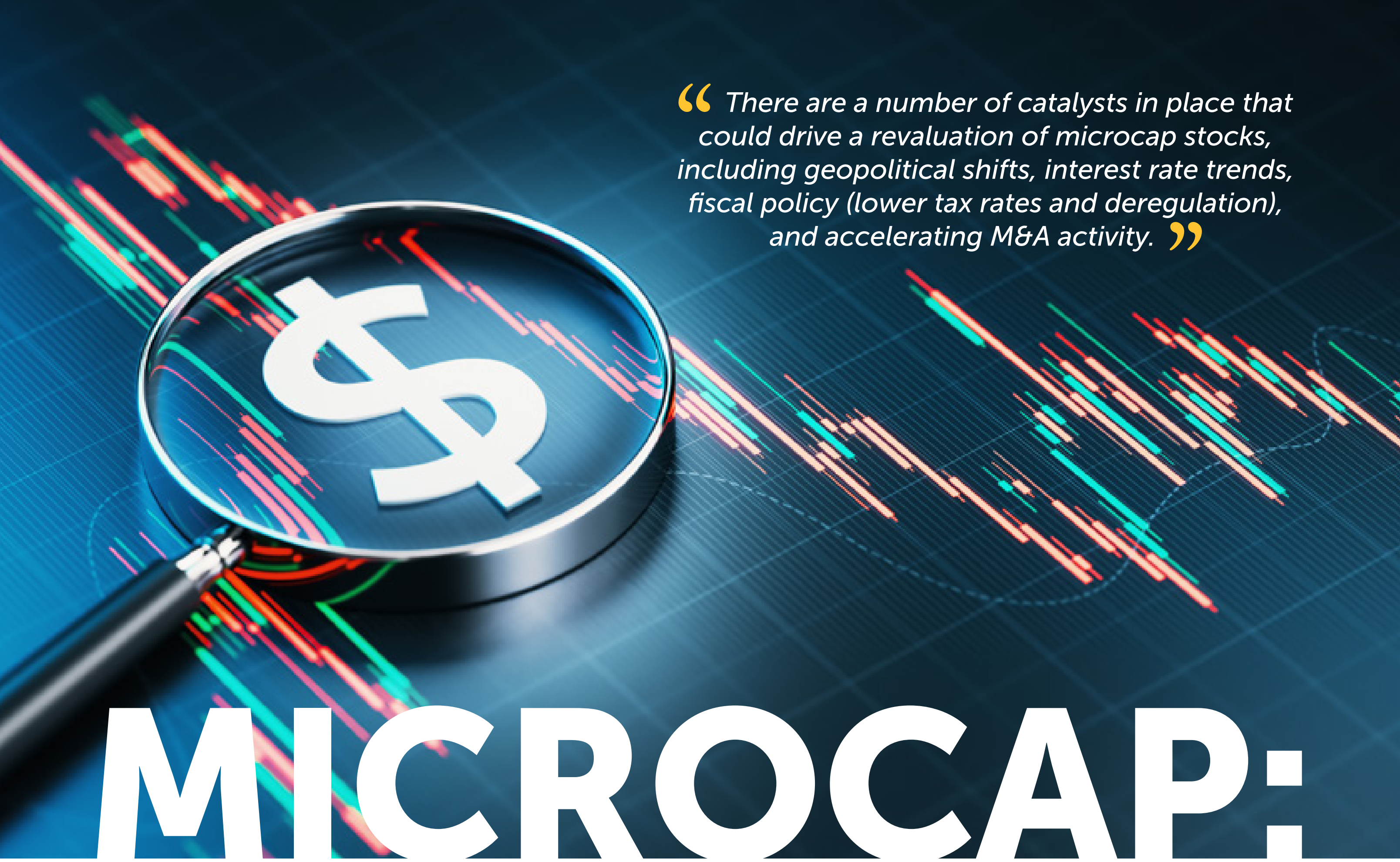
2000 W. Briggsmore Ave., Modesto, CA 95350 | (209) 526-1476
www.centerforhumanservices.org



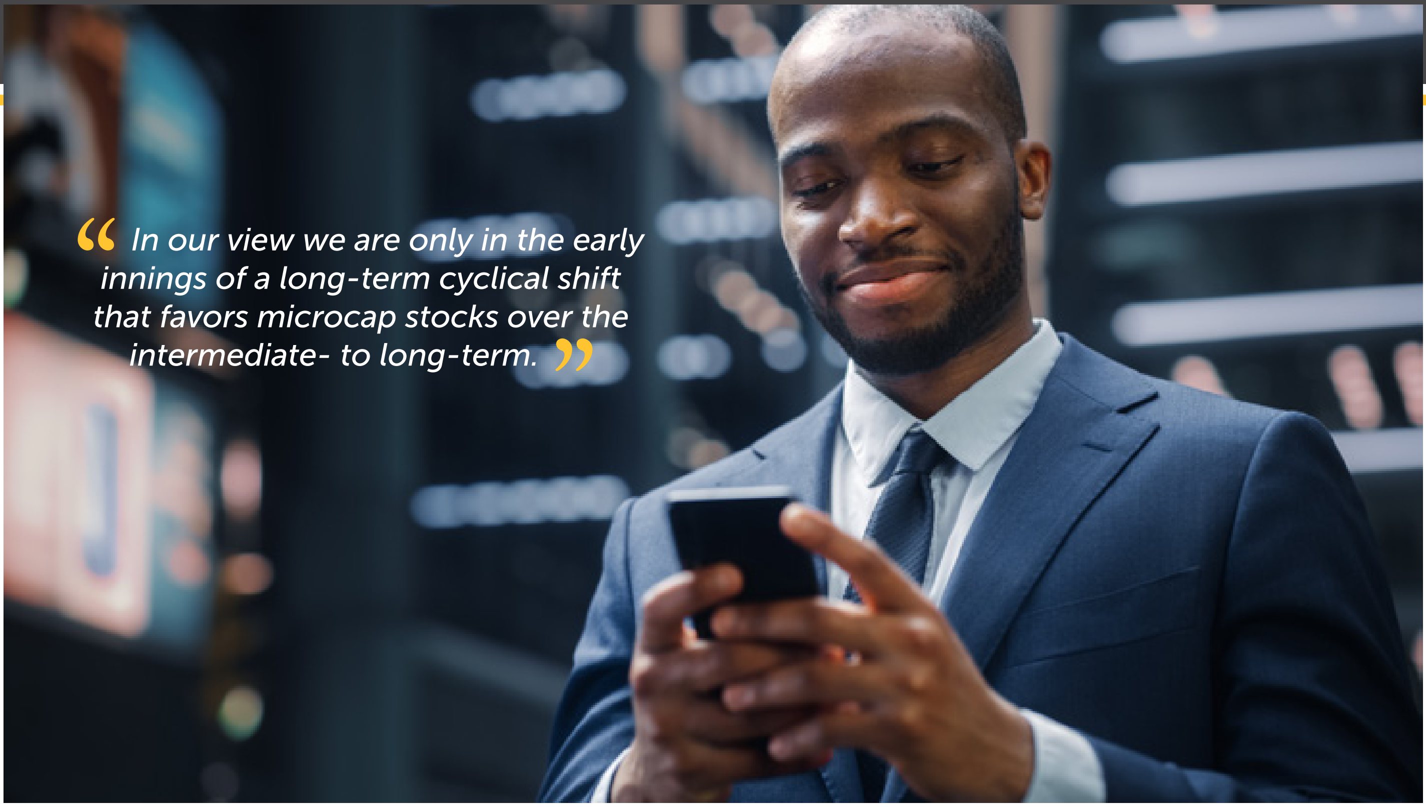
> There are a number of catalysts in place that could drive a revaluation of microcap stocks, including geopolitical shifts, interest rate trends, fiscal policy (lower tax rates and deregulation), and accelerating M&A activity.

MICROCAP:

A Closer Look at a Neglected Asset Class

By Dennis Jensen and Matt Neiman, Acuitas Investments

Microcap stocks reside in an often-neglected area of US equity markets despite offering uniquely attractive return opportunities. Microcap stocks get little attention from institutional investors for a simple reason; creating a product to invest in microcap stocks would require too much effort relative to the revenue they could generate. The same is true for sell-side coverage – large brokers can't generate enough trading volume to make it worth covering microcap stocks. Ironically, this creates a conundrum of incentives, as there is an inverse relationship between revenue potential for the business versus returns for clients. The result is large institutions rarely compete in microcap, resulting in larger mispricings and greater potential for skilled investors to generate attractive returns.



Interestingly, despite microcap managers consistently delivering strong excess returns, the inefficiency has increased over the last decade as megacap growth stocks have dominated investors' attention and assets flowed out of smaller stocks. However, we at Acuitas Investments have recently noticed a surge in small and microcap searches. It seems the tide is turning, with investors recognizing the risk from the concentration of major indexes in a handful of stocks, as well as the generationally wide valuation gaps between large and microcap stocks. Additionally, investors who are concerned about their private market allocations are seeking alternatives. Lastly, there are a number of catalysts in place that could drive a revaluation of microcap stocks, including geopolitical shifts, interest rate trends, fiscal policy (lower tax rates and deregulation), and accelerating M&A activity.

To be clear, institutional investors should consider microcap equity allocations due to the long-term structural opportunity for excess returns - skilled investment managers can generate more attractive returns due to the lack of competition. Active microcap managers have delivered the most attractive alpha, and we expect the structural advantages for microcap managers to continue well into the future. The question of timeliness is a topic for another article, but suffice it to say that we believe it is an unusually good time to add a dedicated microcap allocation due to the attractive valuations and positive catalysts. In our view we are only in the early innings of a long-term cyclical shift that favors microcap stocks over the intermediate- to long-term.

Defining Microcap

(Microcap Stocks ≠ Penny Stocks)

To more clearly define the universe, Russell Investments created the Russell Microcap Index in 2006. The Index consists of stocks ranked 2,001 to 4,000 by market cap, with investability screens to ensure the Index only includes stocks that are viable investments for institutional investors. The Index excludes over-the-counter stocks, pink sheet stocks, stocks below $30 million in market cap, and those trading below $1.00. Despite this, some investors have confused microcap stocks with 'penny' stocks, conjuring up images of securities that are illiquid, don't trade on a recognized exchange, are unregulated, and are susceptible to market manipulation and fraud. With Russell's methodology, penny stocks are excluded from the Microcap Index and are not part of most active managers' portfolios.

Exhibit 1 shows key characteristics of the Index, which as of June 30, 2025 consisted of 1,556 stocks. Notably, microcap stocks are cheaper than large and small cap regardless of the valuation metric considered. This lower valuation points to the undiscovered nature of microcap companies, as well as recent underperformance versus large cap. Additionally, sales growth tends to be higher, and there are more unprofitable or early stage, lower margin companies. Last, microcap companies tend to finance operations without using as much long-term debt as larger cap firms, sometimes relying more on shorter-term financing.

"Overall, microcap stocks tend to be earlier stage, higher-growth potential companies that trade at lower valuations."

Overall, microcap stocks tend to be earlier stage, higher-growth potential companies that trade at lower valuations. On average, margins are lower, as high sales growth has not yet translated to the same degree of earnings as in large cap – in part because some microcap companies are less mature or have fewer economies of scale. These characteristics foster a rich environment for active stock pickers who are willing to conduct thoughtful and comprehensive research to separate the winners from the losers, but highlight the importance of active management.

EXHIBIT 1: Characteristics of Microcap vs. Small and Large Cap, as of 6/30/2025

	Russell Microcap	Russell 2000	Russell 1000
Avg. Mkt Cap ($b)	0.74	3.44	1,039
P/Bk	1.5	1.8	4.6
P/E (ex-neg earners)	14.3	17.3	26.6
Sales Growth - (3y)	18.1	16.5	14.6
Est. EPS Growth - (5y)	8.3	12.4	12.1
LT Debt to Cap	29.1	32.9	37.1

Source: Acuitas Investments, FTSE Russell, FactSet

“One thing most microcap companies have in common – they may be relatively small compared to the largest publicly traded companies, but they are still sizeable companies within the broad economy, often having revenues and assets in the hundreds of millions.”

Diverse by Industry, Visibility, and Life Cycle

The microcap universe contains a wide array of companies, diverse by industry, life cycle, and visibility. For example, five sectors (consumer discretionary, technology, industrials, health care, and financials) each make up over 10% of the Russell Microcap Index. These cover a wide spectrum of the United States economy and have complementary characteristics such as exposure to different stages of the economic cycle and diverse revenue drivers. Additionally, they vary from well-known to obscure, with popular restaurant chains alongside companies that operate niche businesses that few people have heard of. One thing most microcap companies have in common – they may be relatively small compared to the largest publicly traded companies, but they are still sizeable companies within the broad economy, often having revenues and assets in the hundreds of millions.

Microcap stocks tend to fall into one of several categories: stable operators, fallen angels, emerging growth, or story stocks. *Stable operators* are perennial small companies, often operating in a specific niche. They may generate cash flow and have compelling competitive advantages within their space, but due to their business strategy or narrow addressable market, may not have high growth. *Fallen angels* are stocks that have declined in value due to fundamental issues, cyclical challenges or declining sentiment, despite past success. *Emerging growth* companies may have low current profitability, but possess unique products or competitive advantages that are expected to drive strong future growth. Lastly, *story stocks* typically trade on sentiment. They have generally become overheated and trade at extreme valuations for reasons not directly related to current fundamentals. SPACs and meme stocks are recent examples of story stocks. Regardless of the category, companies within the microcap universe represent a diverse economic landscape and have the potential to be great, or capital destroying, investments. Most important, the inefficiencies in the microcap market create opportunities for skilled investors to generate alpha by separating the winners from the losers.

Microcap and the Small Cap Effect

In 1992, Eugene Fama and Kenneth French published “The Cross-Section of Expected Stock Returns” in *The Journal of Finance*, which helped popularize investing that exploits small cap and value anomalies. An important point that is often overlooked is in the design of the paper’s study: *what Fama and French refer to as small cap is actually microcap by today’s conventional definitions.*

Unfortunately, widely used benchmarks such as the Russell 3000 Index or the S&P 500 Index have almost no exposure to the lower three deciles of the Fama-French data, meaning a portfolio benched to the Russell 3000 has a gap in what Fama-French considered small cap, leaving them without exposure in the highest alpha area of the market. Conversely, at the time of Russell’s last index reconstitution, 92.5% of the Russell Microcap Index aligned with the bottom three Fama French deciles, outlined in Exhibit 2.

EXHIBIT 2: Percentage of Fama-French Deciles Within Each Russell Index, as of 6/30/2025

Index's weight in each Fama-French Decile	Russell 1000 *Large Cap*	Russell Midcap *Mid Cap*	Russell 2000 *Small Cap*	Russell Microcap *Microcap*	Russell 3000 *All Cap*	Avg. Market Cap *$MM*
Fama-French Decile 1	79.4%	8.0%	0.0%	0.0%	76.0%	1,302,818
Fama-French Decile 2	10.8%	45.5%	0.0%	0.0%	10.4%	37,777
Fama-French Decile 3	5.7%	27.0%	0.9%	0.0%	5.5%	16,733
Fama-French Decile 4	2.6%	12.5%	7.7%	0.0%	2.9%	8,979
Fama-French Decile 5	1.1%	5.0%	19.2%	0.0%	1.8%	5,666
Fama-French Decile 6	0.3%	1.4%	25.2%	1.4%	1.4%	3,667
Fama-French Decile 7	0.1%	0.4%	20.7%	6.0%	1.0%	2,226
Fama-French Decile 8	0.0%	0.0%	14.4%	23.5%	0.6%	1,245
Fama-French Decile 9	0.0%	0.0%	8.1%	39.0%	0.3%	619
Fama-French Decile 10	0.0%	0.0%	3.7%	30.0%	0.2%	233

Source: Kenneth French data library, FTSE Russell, FactSet, Acuitas. Data is as of June 30, 2025.

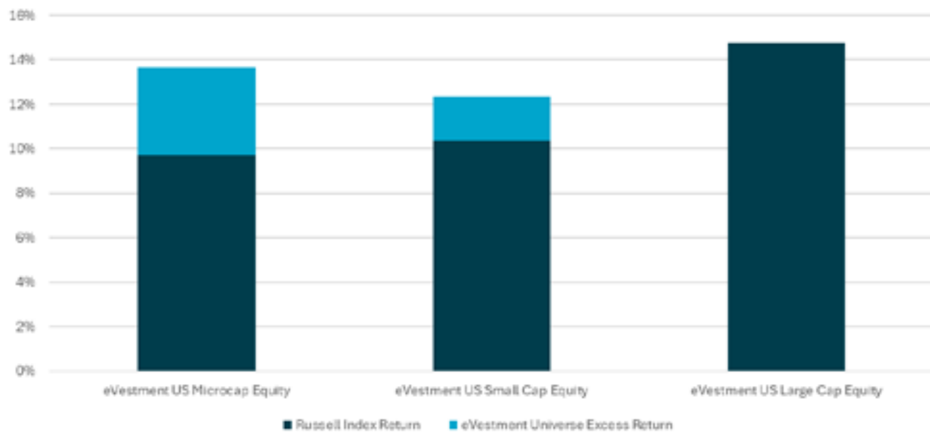
We are at the end of a cycle where microcap stocks have been severely out of favor, resulting in an anomalous period where microcap stocks have lost their long-term *passive* return advantage versus large cap. Notably, they have also reached extremely cheap levels versus the rest of the market. While we find the analysis of historical index data helpful, it is important to emphasize that we believe the most compelling case for microcap investing is the additional return available from skilled active managers outperforming the Index.

Active Opportunity in Microcap

The active management premium in microcap is demonstrated in Exhibit 3, which is perhaps the most compelling support for a microcap allocation. Despite large cap indexes dominating US equity returns over the last 15 years, the positive excess returns (light blue) generated by active microcap managers have closed the large vs. microcap gap almost entirely, while they outperformed active small cap managers meaningfully. It is this anomaly, the ability of active managers to deliver superior returns by focusing on less efficient areas of equity markets, that is the foundation of the case for investing in microcap stocks.

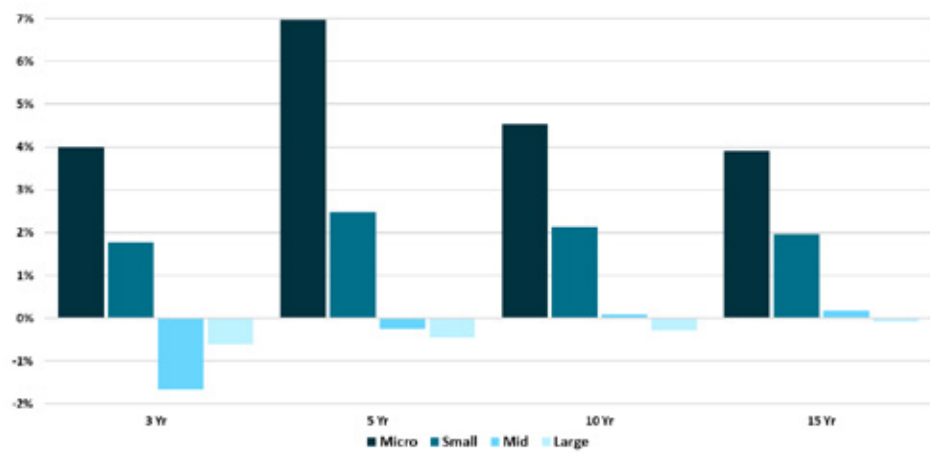
To reiterate, with millions of investors and dozens of Wall Street analysts covering every move of large companies, it is difficult to generate an informational or execution advantage. A larger proportion of microcap stocks are held by relatively unsophisticated part-time investors, retail investors, or company management. We like to use the baseball analogy of major league hitters against minor league pitchers, where the hitters (skilled professional investors) have a consistent, inherent advantage against the less-skilled pitchers (less sophisticated investors). For experienced institutional investors, good companies with improving fundamentals selling at attractive prices are easier to identify and exploit, resulting in superior returns. Exhibit 4 shows the magnitude of the outperformance by institutional microcap managers over additional periods.

EXHIBIT 3: eVestment Universe Average Total Returns (15 years ending 6/30/2025, gross of fee)



Source: Acuitas Investments, eVestment, FTSE Russell

EXHIBIT 4: Annualized Active Manager Excess Returns (Through 6/30/2025)



Source: Acuitas Investments, eVestment, as of 6/30/2025

EXHIBIT 5: Annualized Monthly Risk ending 6/30/2025

	Russell 1000 Index	Russell 2000 Index	Russell Microcap Index	Russell Micro vs Russell 1000	Russell Micro vs Russell 2000
25 Years	15.54%	20.21%	21.52%	5.98%	1.31%

Source: Acuitas Investments, eVestment.

> *"In addition to the attractive alpha available, exposure to microcap also provides structural and diversification benefits."*

One additional point, the lack of attention creates opportunity for a "discovery effect" to drive price appreciation. When microcap stocks perform well fundamentally, sell side analysts are more likely to initiate coverage which in turn triggers increased visibility and capital flows, leading to a rising stock price (rerating). Skilled microcap investors benefit by identifying these stocks before others

Diversification Benefits – Role in a Portfolio

In addition to the attractive alpha available, exposure to microcap also provides structural and diversification benefits. This is especially true as broad market indexes become increasingly concentrated in a small number of highly correlated stocks. Currently roughly 35% of the S&P 500 Index is in the Magnificent 7, which are heavily exposed to similar themes (technology and AI enthusiasm). Microcap companies provide an appealing counterbalance, and active microcap managers aren't forced to hold a large portion of their portfolio in a narrow set of stocks, allowing for risk management and more opportunities to deliver alpha through stock selection. Additionally, microcap companies' success is more idiosyncratic and stock specific. Being smaller and more nimble, microcap companies have greater opportunity to differentiate themselves through unique growth strategies, product innovation, strong leadership and disciplined financial management.

Notably, microcaps have at times been incorrectly perceived as risk outliers relative to small cap. Exhibit 5 shows the volatility of the respective indexes over the last 25 years. The variability of microcap returns has been only slightly above small cap stocks, while investors have been rewarded with better active returns.

Additionally, microcap stocks have less cross-sectional correlation and are less correlated with the rest of the market due to the idiosyncratic nature of the universe, resulting in greater diversification benefit. In short, adding a dedicated microcap exposure improves most investors' portfolios, filling a common gap, improving diversification, and improving returns.

EXHIBIT 6: Correlations of Quarterly Returns – 25 Years ending 6/30/2025

	Russell 1000 Index	Russell 2000 Index
Russell 2000 Index	0.92	
Russell Microcap Index	0.87	0.98

Source: Acuitas Investments, eVestment.

Beyond public equities, microcap allocations have become increasingly valuable to investors seeking alternatives to private equity (PE) allocations. Decades of flows into PE have flooded the space, increasing competition for deals, cutting into returns, and leading to challenges exiting positions. As a result, many large institutional investors are cutting their target weights and looking for other sources of return. Microcap is a common solution as a proxy for private equity, offering similar return benefits, including exposure to early growth stocks, incomparably better liquidity, greater transparency, less leverage and lower fees.

Summary

The microcap universe offers the most attractive long-term return potential and the greatest opportunity for skilled active managers to deliver attractive returns. As a result, the average institutional microcap product has delivered better alpha than any other group within US equity. This opportunity is driven by a lack of competition in microcap stocks by Wall Street and institutional investors. Additionally, due to most investors' adherence to cap-weighted benchmarks and the broad market's extreme concentration in just a handful of stocks, as well as microcap stocks' unique return pattern that is less correlated to the broad market, an investment in microcap is a diversifying addition to a broader equity portfolio. In aggregate, given the long-term return and diversification benefits, supported by the attractive cyclical opportunity in small cap, we believe adding dedicated microcap managers will improve investors' portfolios over the long run. Equally important, it is an unusually good time to make an allocation, with microcap positioned very well for the intermediate- and long-term.

***Dennis Jensen**, CFA is Co-Founder and Partner at Acuitas Investments and serves as the firm's Director of Research.*

***Matt Neiman**, CFA is a Partner at Acuitas Investments and serves as Portfolio Manager on US Microcap and Small Cap portfolios.*

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"For the first time since 2016 with the passage of Proposition 54 that implemented the 72-hour amendment rule, the Legislature had to pass a rule waiver to work past their September 15 deadline."

State Association of County Retirement Systems

LEGISLATIVE REPORT

Following their return from summer recess on August 18, lawmakers promptly began work on a bill package that included a redistricting plan aimed at shifting five Republican-held congressional seats to favor Democrats in the upcoming midterm elections. The package was approved, and one of the measures (Proposition 50) will appear on the ballot for voter approval during a special election scheduled for November 4, 2025. Backed by Governor Newsom, this initiative comes in response to President Trump's efforts to encourage Texas lawmakers to pursue redistricting measures favoring Republicans. The Legislature then turned its attention to the Appropriations Suspense File, where they heard 686 bills with 25 percent of the bills failing to advance. Some of the notable bills that were "held" in committee included a bill that would have streamlined permitting restrictions for high-speed rail, an exemption for classic cars from smog-check requirements and the legalization of psychedelic drugs.

The Legislature adjourned September 13 until January 2026 (barring no call for special session over the interim). They moved over 500+ bill and huge budget priorities in the last two weeks of the session. For the first time since 2016 with the passage of Proposition 54 that implemented the 72-hour amendment rule, the Legislature had to pass a rule waiver to work past their September 15 deadline. They sent 917 bills to the Governor's Desk, where he signed 794 into law and vetoed 123 - citing "significant fiscal implications" to the General Fund. Some of the bigger bills he signed were allowing denser housing project in high-transit areas, capping insulin prices processes, expanding CARE Courts and increasing oversight on chatbots.

SACRS IS TRACKING THE FOLLOWING BILLS

ACA 2 (Jackson) seeks to reinstate retirement for State Legislators. ACA 2 would establish a retirement system specifically for legislators elected or serving from November 1, 2010 onward. To qualify, legislators would be required to serve at least 10 years. If their service is less than 10 years, legislators could transfer their accumulated service credits to another public pension or retirement system they are a part of.

Status: This bill did not receive a hearing and is now a 2-year bill.

AB 259 (Rubio) was amended to extend the 2026 sunset on existing laws governing teleconferencing procedures for public meetings to 2030. This bill is sponsored the CA Special District's Association (CSDA).

Status: This bill is now a 2-year bill.

AB 288 (McKinnor) expands the jurisdiction of the Public Employment Relations Board (PERB) by authorizing certain workers to petition the PERB to protect and enforce their rights.

Status: This bill is now a 2-year bill.

AB 339 (Ortega) would require the governing body of a public agency to give a recognized employee organization (REO) no less than 45 days' written notice regarding contracts to perform services that are within the scope of work of job classifications represented by the REO.

Status: CHAPTERED

AB 340 (Ahrens) would prohibit a public agency employer from questioning any employee or employee representative regarding communications made in confidence between an employee and an employee representative in connection with representation relating to any matter within the scope of the recognized employee organization's representation.

Status: This bill is now a 2-year bill.

AB 409 (Arambula) would extend the 2026 sunset on existing laws governing teleconferencing procedures for California Community College student body associations and student-run community college organizations to 2030.

Status: This bill is now a 2-year bill.

AB 467 (Fong) would extend the sunset date from 2026 to 2030 (as opposed to 2031) for teleconferencing procedures for neighborhood councils, defined as an advisory body with the purpose to promote more citizen participation in government.

Status: This bill is now a 2-year bill.

AB 569 (Stefani) was amended to maintain the proposed authorization to negotiate contributions to supplemental Defined Benefit plans but also maintain consistency with the existing PEPRA prohibitions and limitations.

Status: This bill was held on the Appropriations Suspense File and is now a 2-year bill.

AB 814 (Schiavo) excludes from gross income, under the Personal Income Tax (PIT) Law, peace officer retirement pay and amounts received by the beneficiary of an annuity plan set up for the surviving spouse or dependent of a person that lost their life in service as a peace officer.

Status: This bill was held on the Assembly Appropriations Suspense File.

AB 1054 (Gipson) would establish the Deferred Retirement Option Program as a voluntary program within PERS for employees of State Bargaining Units 5 (Highway Patrol) and 8 (Firefighters). The bill would require these state bargaining units to bargain with the Department of Human Resources to implement the program. The bill would also require the program to result in a cost savings or be cost neutral. The bill would further require the department to work with the board of PERS to develop the program.

Status: This bill was not taken up in the Assembly PERS Committee and is now a 2-year bill.

AB 1323 (Chen) would increase the compensation rate for certain members of the Orange County Board of Retirement to not more than $320 per meeting.

Status: This bill did not receive a policy committee hearing and is now a 2-year bill.

AB 1383 (McKinnor) would establish new retirement formulas, for employees first hired on or after January 1, 2026, as 2.5% at age 55, 2.7% at age 55, or 3% at age 55. For new members hired on or after January 1, 2013, who are safety members, the bill would require employers to adjust the formulas for service performed on or after January 1, 2026, to offer one of the 3 formulas for safety members that is closest to the formula the employer provided pursuant to existing law. The bill would authorize a public employer and a recognized employee organization to negotiate a prospective increase to the retirement benefit formulas for members and new members, consistent with the formulas permitted under the act. This bill would authorize an employer and its employees to agree in a memorandum of understanding to be subject to a higher safety plan or a lower safety plan, subject to certain requirements, including that the memorandum of understanding is collectively bargained in accordance with applicable laws.

Status: This bill was held on the Assembly Suspense File and is now a 2-year bill.

AB 1439 (Garcia) would prohibit the board of a public pension or retirement system from making any additional or new investments of public employee pension or retirement funds in development projects in California or providing financing for those projects with public employee pension or retirement funds unless those projects include labor standards protections.

Status: This bill did not receive a policy committee hearing and is now a 2-year bill.

SB 239 (Arreguín) allows flexibility for remote meetings of local advisory bodies ("subsidiary bodies" in the language of the bill). Specifically, this bill would allow the subsidiary body of a local agency to teleconference their meetings without having to make all locations publicly available and would require the subsidiary body to post the agenda at each physical meeting location. The bill also sunsets these provisions in 2030.

Status: The bill was moved in the inactive file. The sponsors of this bill are now working with Senator Durazo on SB 707 as the consensus measure.

SB 301 (Grayson) would, beginning on or after January 1, 2026, prohibit a city or district that contracts with a retirement system under the CERL from amending their contract with the system in a manner that provides for the exclusion of some, but not all, employees.

Status: CHAPTERED

SB 443 (Rubio) authorizes, on or after January 1, 2026, the Pajaro Regional Flood Management Agency (PRFMA) to offer an employee the pre-Public Employee Pension Reform Act of 2013 (PEPRA) defined benefit (DB) retirement plan or formula if the employee was already subject to that retirement plan or formula as an employee of the member agency (a "pre-PEPRA" employee). Similarly, the bill authorizes a non-founding member agency of a JPA formed on or after January 1, 2013, to offer a pre- PEPRA DB retirement plan or formula to an employee within 180 days of the agency becoming a member of the JPA.

Status: CHAPTERED

SB 470 (Laird) would delete the 2026 sunset on existing laws governing teleconferencing procedures for state agencies relative to the Bagley-Keene Open Meeting Act and extend the sunset provision to 2030.

Status: CHAPTERED

SB 707 (Durazo) would add additional teleconferencing meeting requirements for certain local governments until 2030 to allow members of the public to attend a public meeting via a two-way teleconferencing option. The bill would also require additional alternative language noticing requirements, among other requirements. The bill has been limited to cities and counties with a population of 30,000 or more as well as the Special Districts that have an internet website and meet any of the following conditions:

- The boundaries of the special district include the entirety of a county with a population of 600,000 or more, and the special district has over 200 full-time equivalent employees.
- The special district has over 1,000 full-time equivalent employees.
- The special district has annual revenues, based on the most recent Financial Transaction Report data published by the California State Controller, that exceed $400 million, adjusted annually for inflation, as specified, and the special district employs over 200 full-time equivalent employees.

Status: CHAPTERED

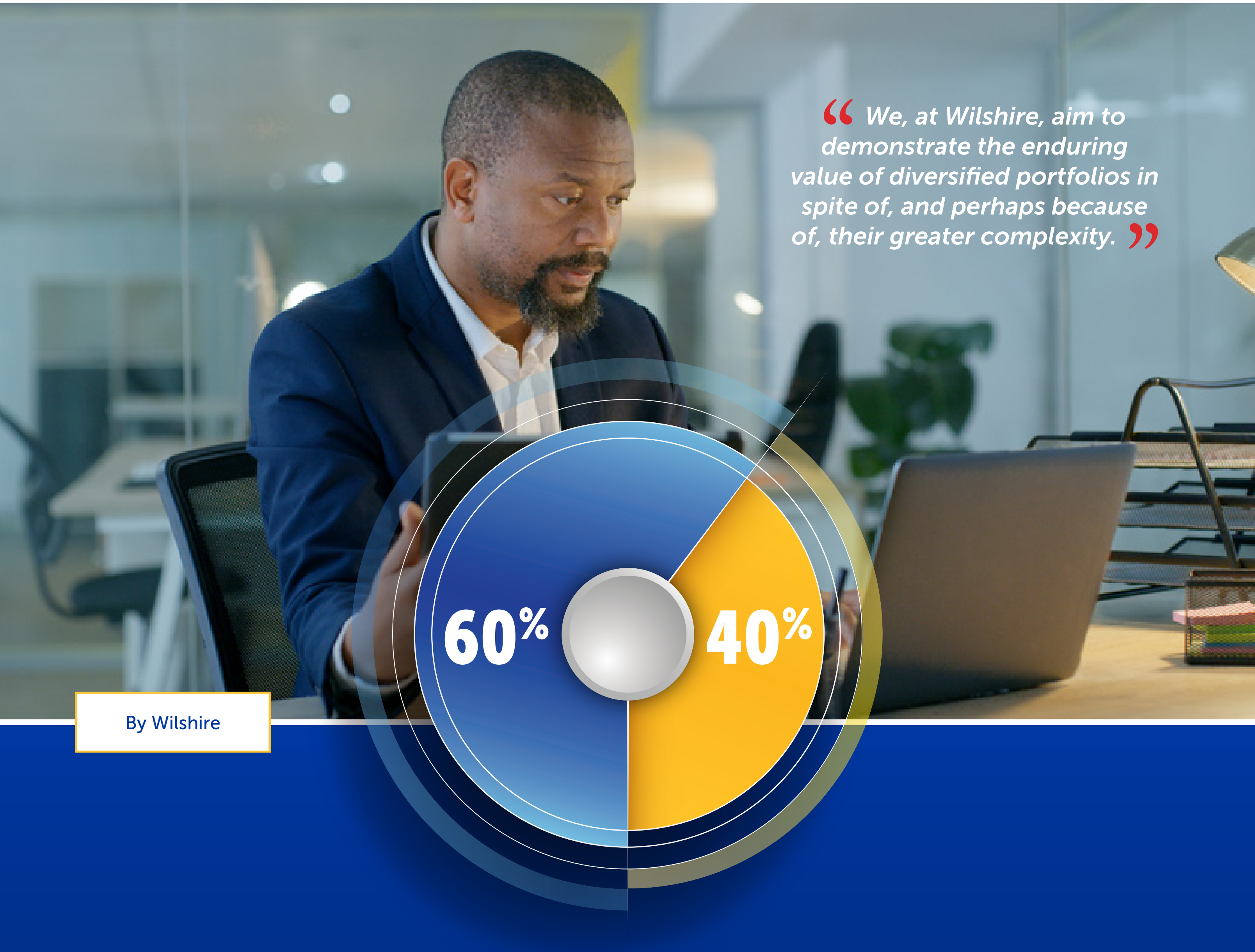
SB 853 (Committee Omnibus Bill) includes clarifying changes to the CERL:

- Clarifies that for members subject to PEPRA, the retirement association shall compute absences using the member's pensionable compensation at the beginning of the member's absence.
- Clarifies that where a member's service through reclassification, has been converted from general to safety member service, service converted after PEPRA's effective date is subject to PEPRA's prohibition of retroactive benefits. Thus, clarifies that conversion shall apply only to service after the operative date of the reclassification and not to all prior service.
- Clarifies how CERL employers should report retired annuitants to their retirement association.

Status: CHAPTERED

*As a former Capitol staffer and an advocate, **Laurie Johnson** has almost 30 years of legislative experience. Laurie spent five years working in the state Capitol as Legislative Director for several members of legislative leadership where she focused on local government, water, and utilities. For the past eleven years, she has been a contract lobbyist and in 2022, she started her own firm LJ Consulting & Advocacy, specializing in local government and environmental policy and partnered with many of her former clients, including, but not limited to, five local agencies, housing developers, a large Northern California tribe, as well as a County.*

*President and Founder of Public House Consulting, **Cara Martinson**, is a seasoned government affairs professional with two decades of lobbying and consulting experience in the private, public and non-profit sectors of government. Prior to founding Public House Consulting in 2022, Cara served as the Senior Director of Regulatory and Political Affairs for a Fortune 200 national renewable energy company where she managed the legislative and regulatory portfolio for ten western states. Cara also spent 13 years leading local government interests at the California State Capitol, representing counties at the California State Association of Counties (CSAC) on a myriad of local government issues.*



> “We, at Wilshire, aim to demonstrate the enduring value of diversified portfolios in spite of, and perhaps because of, their greater complexity.”

By Wilshire

COMPLEXITY vs SIMPLICITY
Affirming the Power of Diverse Portfolios

The classic “60/40 portfolio,” a foundational investment strategy consisting of 60% equities and 40% bonds, is commonly used as a simple portfolio proxy versus multi-asset portfolios with greater breadth of asset classes. Given recent strong performance of the 60/40 portfolio, investors are questioning the multi-asset portfolio’s value given its greater complexity in implementation and often higher fees relative to the 60/40. We, at Wilshire, aim to demonstrate the enduring value of diversified portfolios in spite of, and perhaps because of, their greater complexity.

The 60/40 portfolio returned 11.12% for the calendar year 2024, while a more diversified policy portfolio, typical of an institutional investor's asset allocation, returned 9.57%. As the US equity market led asset class performance in 2024, it comes as no surprise that 60/40 portfolios which have large allocations to public equities performed well in the most recent period. Furthermore, smaller plans (i.e., less than $1 billion in AUM) generally outperformed their larger counterparts in 2024 in part due to their simpler asset allocations, marked by higher allocations to public equities. For example, as of December 31, 2024, the median public plan with assets less than $1 billion returned 10.66% for the one-year annualized period, compared to 9.92% for plans with assets greater than $1 billion according to Wilshire Trust Universe Comparison Service® (Wilshire TUCS®). Given the return advantage of the 60/40 portfolio in 2024 and its relative ease of implementation, it is reasonable to ask if a simplified portfolio is a preferred solution versus a more complex policy portfolio that includes a broader set of asset classes.

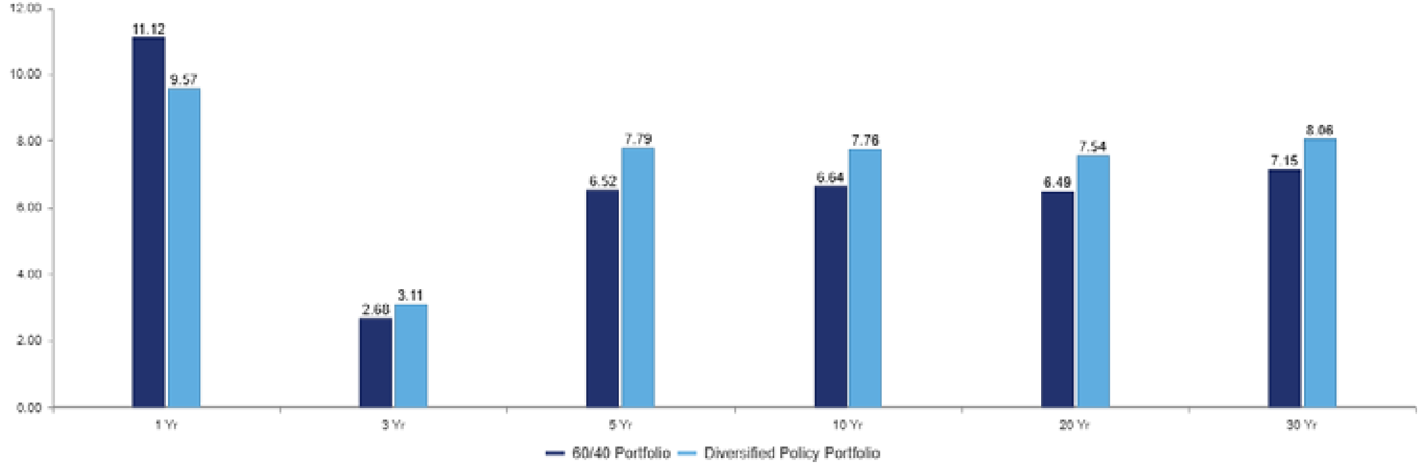
Prioritizing Long-Term Goals over Short-Term Trends

When comparing returns, short-term periods (such as the 1-year ending December 31, 2024) must be evaluated within the context of the long-term trend as asset class performance tends to rotate over time. Overemphasizing the importance of recent performance, driven by tailwinds that may no longer be prevalent going forward, may be misleading and cause investors to erroneously assume that past returns are indicative of future performance. Exhibit 1 shows that, over the longer term, returns of the diversified portfolio have been superior when compared to the 60/40 portfolio. However, the 60/40 portfolio did have significantly stronger returns over the most recent year given the exceptional performance of public equity markets.

Moreover, historical return analysis is time-period and economic regime specific. A different measurement date may show quite different results. For example, Exhibit 2 compares returns of the 60/40 portfolio and the diversified policy portfolio as of December 31, 2022. Without the benefit of the exceptional public equity performance in 2023 and 2024, the diversified portfolio outperformed the 60/40 portfolio in all periods analyzed. The extent of outperformance by the diversified portfolio ranged from approximately 100-600 basis points on an annualized basis.

Over the past two decades, earnings growth, valuation expansion and ample liquidity from accommodative monetary policy drove unprecedented returns in the

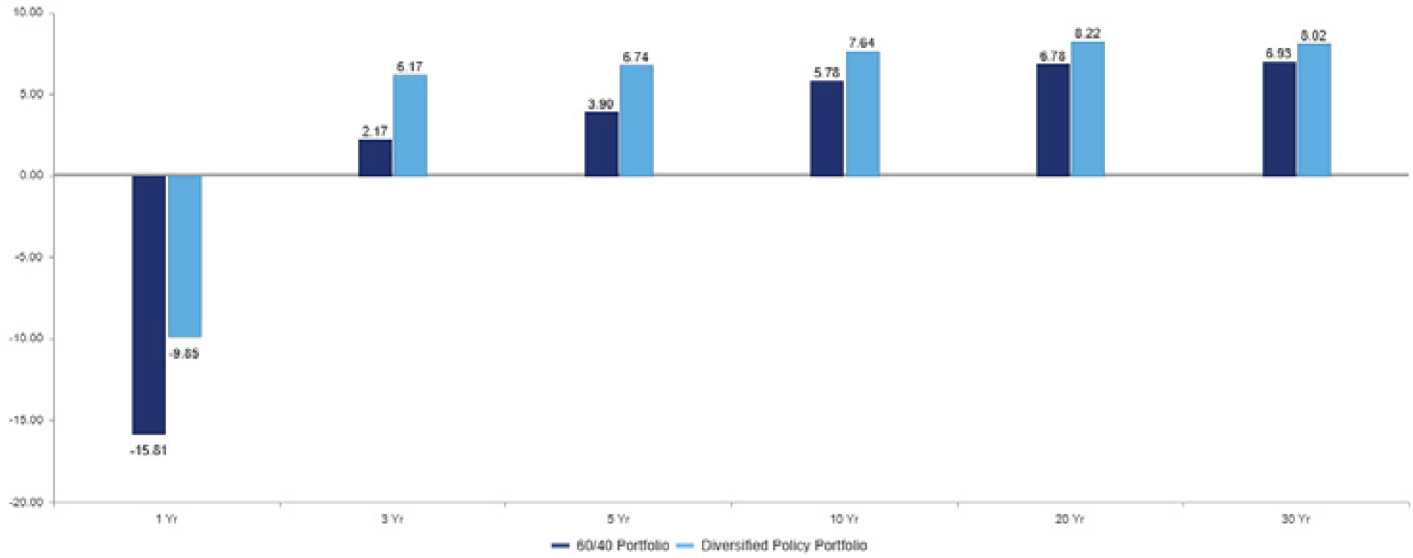
EXHIBIT 1: **Return Discrete Periods as of December 31, 2024**



Source: Wilshire Compass. The 60/40 Portfolio is defined as 60% the MSCI All Country World Index (ACWI) Index and 40% the Bloombergn US Aggregate Bond Index. The Diversified Policy Portfolio is outlined in Appendix A. For illustrative and discussion purposes only.

"If we are on the precipice of regime change, the well-diversified portfolio may be a better forward-looking option than a two-asset portfolio."

EXHIBIT 2: **Return Discrete Periods as of December 31, 2022**

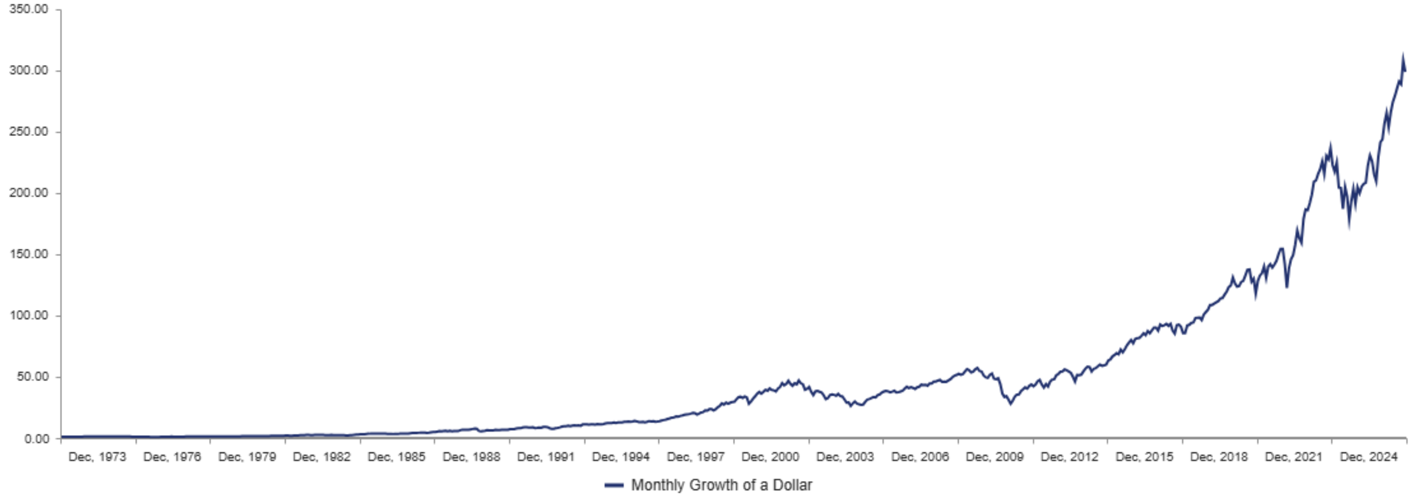


Source: Wilshire Compass. The 60/40 Portfolio is defined as 60% the MSCI All Country World Index (ACWI) Index and 40% the Bloomberg US Aggregate Bond Index. The Diversified Policy Portfolio is outlined in Appendix A. For illustrative and discussion purposes only.

US public equity markets as demonstrated in Exhibit 3. More recently (2023-2024), artificial intelligence-fueled exuberance has drastically increased expectations for productivity and profitability in the technology sector, leading to market performance that is very narrowly concentrated. Furthermore, in spite of 2025 volatility, valuations remain elevated with markets pricing in still robust earnings projections. Are these dynamics repeatable and sustainable or should investors question whether the next ten to twenty years will produce results similar to the last decades? If we are on the precipice of regime change, the well-diversified portfolio may be a better forward-looking option than a two-asset portfolio.

Given the variability and time-period specificity of performance, evaluating the simpler 60/40 portfolio versus the more diversified policy portfolio requires a comprehensive review that goes beyond mere performance and includes a comparison of diversification, volatility, and forward-looking capital market assumptions for each portfolio type.

EXHIBIT 3: **FT Wilshire 5000 Index Growth of $1 Since Inception**



Source: Wilshire Compass. FT Wilshire 5000. For period 12/31/1970 – 12/31/2024. For illustrative and discussion purposes only.

60/40 vs. the Policy Portfolio: The Diversification Difference

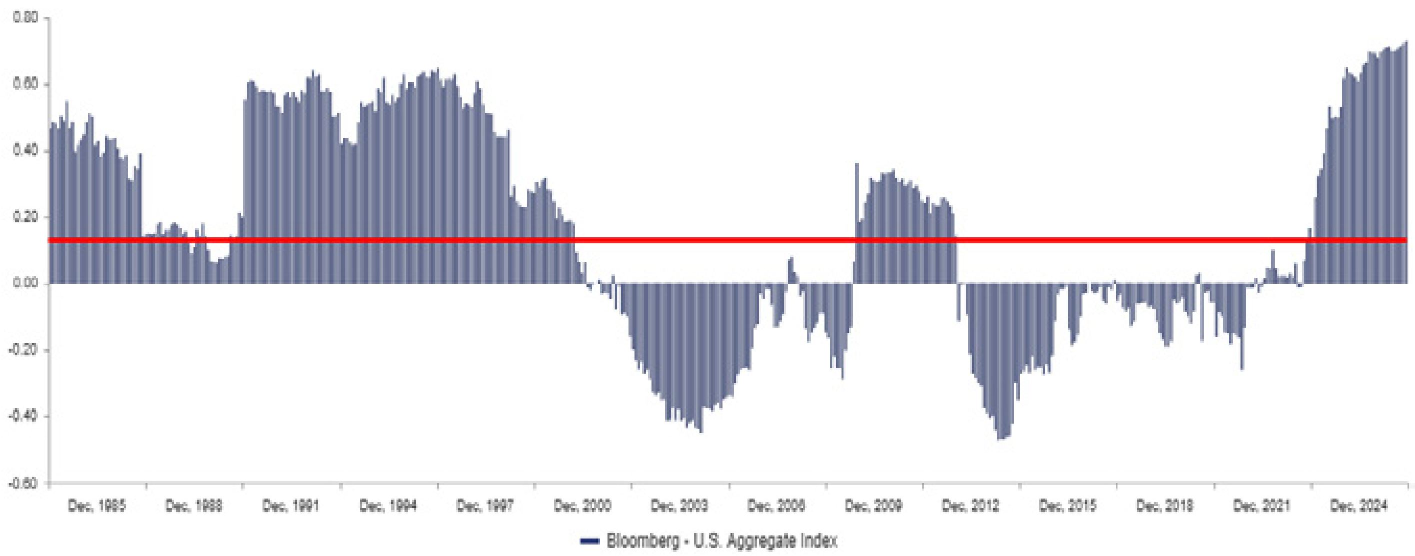
A 60/40 portfolio is considered diversified because equities and bonds typically move in opposite directions. Often, when stocks fall, bonds can rise, helping to cushion the overall portfolio's downside and reduce volatility during market fluctuations. Essentially the combination of equities and bonds act as a "hedge" against each other. As Exhibit 4 shows, the average correlation between equities and bonds over the last forty years is 0.15, indicating strong diversification effect over the long-term.

However, the long-term average correlation masks shorter-term periods of materially higher or lower correlations between stocks and bonds. Most recently, correlations between stocks and bonds have been elevated over the past few years. Most troubling was high correlations during the high inflationary period of 2022. Inflation is a headwind for both equities and fixed income. As shown in Exhibit 5, US equities and bonds are negatively correlated to inflation, meaning that as inflation increases, the returns of the traditional 60/40 portfolio will be challenged. For example, in 2022 when inflation peaked near 9%, the S&P 500 returned -18.1% and the Bloomberg Aggregate Bond Index returned -13.0%. By contrast, real assets like commodities, timberland, and private real estate are positively correlated to the US Consumer Price Index (CPI) and therefore returned 16.1%, 12.9%, and 7.5%, respectively in 2022.

Unlike the 60/40 portfolio, a diversified policy portfolio includes asset classes with positive correlation to inflation which can enhance portfolio returns relative to the two-asset portfolio. As shaded in Exhibit 6, the diversified portfolio materially outperformed in the mid-2000s and the early 2020s, both of which were periods of elevated inflation. Ultimately, the 60/40 portfolio lacks a breadth of diversity and is vulnerable in the face of inflation and the rising interest rate environment which often accompanies periods of inflation. However, the diversified policy portfolio includes allocations to real assets which offer a differentiated return pattern and additional diversification when the traditional pillars of equities and fixed income are highly correlated to the downside.

While elevated inflation in the mid-2000s and 2022 offer vivid examples of the vulnerabilities of the 60/40 portfolio, inflation spikes tend to be infrequent. Data shows that the diversified portfolio can post superior returns to the 60/40 portfolio in a variety of economic environments including economic contractions and deflationary episodes. Overall, the diversified portfolio outperformed the 60/40 portfolio 79% of the observed quarterly rolling three-year periods over the last 30 years.

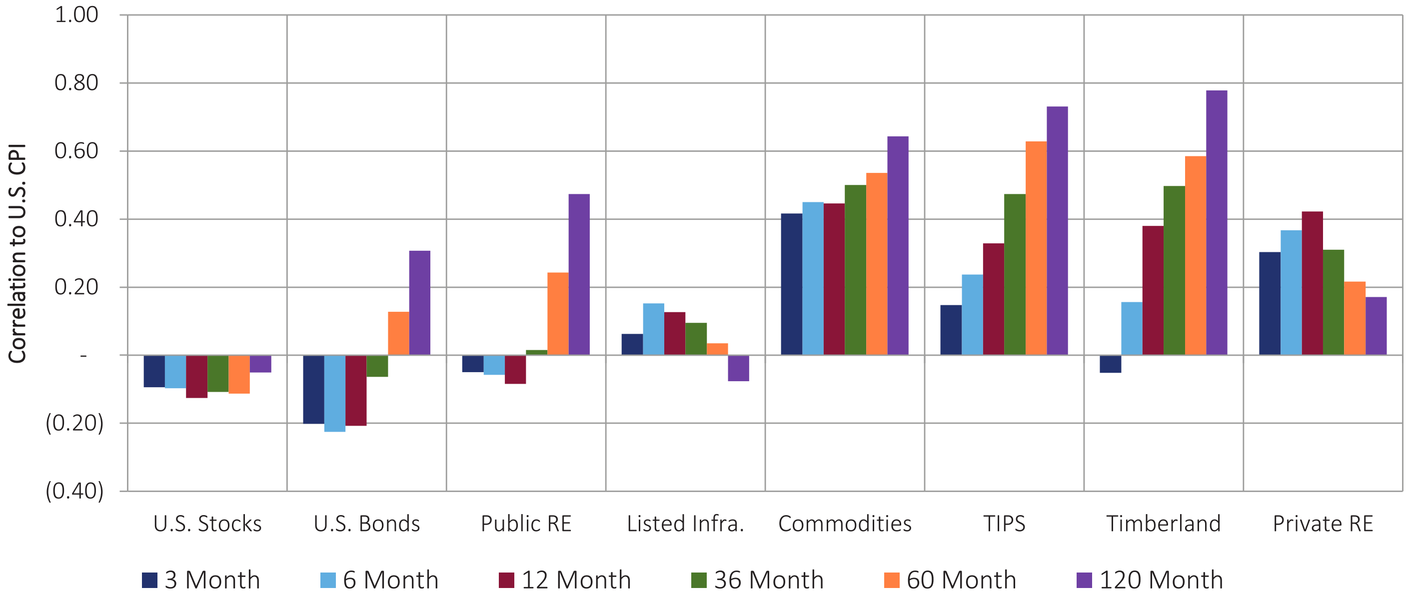
EXHIBIT 4: 36-Month Rolling Correlation Stocks vs. Bonds



Source: Wilshire Compass. For period 12/31/1984–12/31/2024. Stocks represented by the S&P 500 Index; bonds represented by the Bloomberg U.S. Aggregate Bond Index. For illustrative and discussion purposes only.

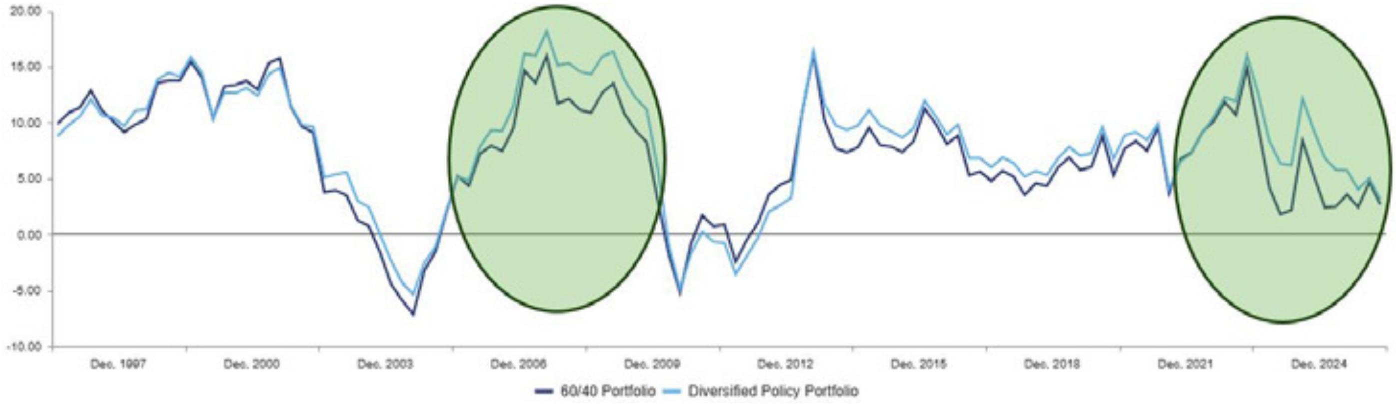
> *"The danger of an ex-post examination of returns is the temptation to extrapolate past results into the future."*

EXHIBIT 5: **Asset Class Correlations to Inflation**



Source: Wilshire Compass. For periods ending 12/31/2024. Inflation represented by the US CPI; US stocks: S&P 500 Index; US bonds: Bloomberg US Aggregate Bonds Index; public real estate: FTSE NAREIT All REITs Index; listed infrastructure: 2002-2005 S&P Global Infrastructure Index, FTSE Global Core Infrastructure 50/50 Index; commodities: S&P GSCI; TIPS: 1971-1998 simulated index returns, 1999-2024 Bloomberg US TIPS Index; timberland: NCREIF Timberland Index; private real estate: NCREIF Property Index. For illustrative and discussion purposes only.

EXHIBIT 6: **12-Quarter Rolling Returns**

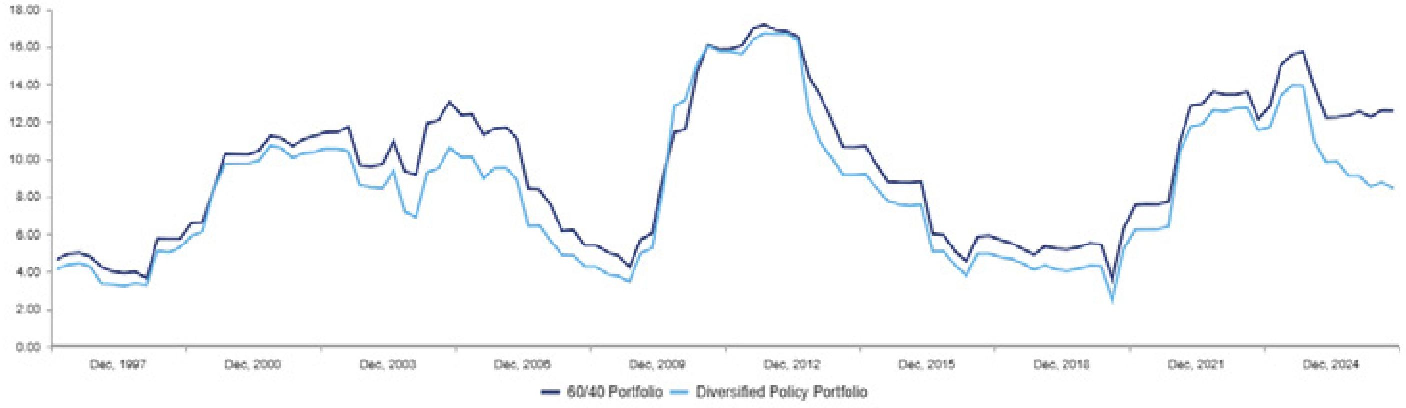


Source: Wilshire Compass. For period 12/31/1994 – 12/31/2024. The 60/40 Portfolio is defined as 60% the MSCI All Country World Index (ACWI) Index and 40% the Bloomberg US Aggregate Bond Index. The Diversified Policy Portfolio is outlined in Appendix A. For illustrative and discussion purposes only.

60/40 vs. the Policy Portfolio: Volatility Comparison

Exhibit 7 turns our attention to volatility, the second dimension of performance. In evaluating the rolling observed three-year standard deviations (risk) of the 60/40 and diversified portfolios, it appears that over the last 20-plus years the two portfolios have provided investors with similar patterns of volatility. However, the diversified portfolio has consistently provided users with lower absolute risk levels compared to the two-asset class 60/40 portfolio. All else being equal, if the diversification of asset classes does lead to a lower risk portfolio, then the path to achieving returns may be smoother with a diversified portfolio than with the 60/40 portfolio. A lower volatility experience decreases the likelihood of contributions, selling risk assets at depressed prices or other extraordinary measures required to shore-up the portfolio during a significant downturn that could materialize with a higher volatility portfolio.

EXHIBIT 7: 12-Quarter Rolling Standard Deviation



Source: Wilshire Compass. For period 12/31/1994 – 12/31/2024. The 60/40 Portfolio is defined as 60% the MSCI All Country World Index (ACWI) Index and 40% the Bloomberg US Aggregate Bond Index. The Diversified Policy Portfolio is outlined in Appendix A. For illustrative and discussion purposes only.

60/40 vs. the Policy Portfolio: What Might the Future Hold?

Focusing on historical returns makes diversification seem unnecessary. With the benefit of perfect hindsight, it is easy to look back on results and choose the handful of assets that outperformed. The danger of an ex-post examination of returns is the temptation to extrapolate past results into the future. However, as every compliance department reminds us: Past performance is no guarantee of future results. Regrettably, we cannot predict the future with certainty, however history and financial models can be guides to the directionality of future returns.

Wilshire has been formulating long-term return, risk, and correlation assumptions since the early 1980s. "Long-term" is defined as a 10-year time horizon. The forecasting process is quantitatively robust and combines historical data with forward-looking analysis.[1] We believe that high valuations and market concentration have combined to lead to significantly lower equity return expectations over the next 10 years versus the last 10 years. Moreover, elevated levels of public debt and deficits threaten higher interest rates which are headwinds to fixed income markets. Please see Appendix B for a broad suite of capital market assumptions, but critically, global equities and core bonds are forecasted to return 4.90% and 5.20%, respectively. This results in a 10-year return expectation for the 60/40 portfolio of 5.32% as of December 31, 2024.[2]

For many investors, the 60/40 portfolio return expectation of 5.32% will be unsatisfactory. Fortunately, the broader opportunity set of asset classes offers both more attractive returns and diversification which can improve portfolio efficiency and dampen volatility. For example, non-US equities, non-core bonds, private assets, and a basket of real assets including real estate, infrastructure and commodities are projected to offer premiums to both US equities and core fixed income. The table in Exhibit 8 details the array of asset classes that might be included in a typical diversified policy portfolio and the constraints used to generate the efficient frontier shown in Exhibit 9.

Looking at the table in Exhibit 8, we note that a diversified policy portfolio with a similar risk level as the 60/40 portfolio increases the expected returns by 74 basis points and improves portfolio efficiency by boosting return per unit of risk from 0.49 to 0.56. Moreover, we can broaden the comparison by running a series of optimizations. Exhibit 9 presents two efficient frontiers. Efficient Frontier 1 (EF1) is an optimization of the array of asset classes shown in the table in Exhibit VIII. Efficient Frontier 2 (EF2) optimizes only the two asset classes of global equities and core bonds. From this analysis we see that at every risk level, a diversified policy portfolio (mapped on EF1) is expected to offer higher returns than the two-asset reference portfolio of similar risk (mapped on EF2). The box in Exhibit 9 highlights the return expectations of the 60/40 portfolio and the higher return expectations for the diversified portfolio of the same expected risk from the table in Exhibit 8. As a point of comparison, we also plot a 70/30 portfolio with an even larger return premium for the diversified portfolio of the same expected risk. Importantly, these return expectations represent market returns or "beta" only. To the extent that active managers can add excess returns over their benchmarks, the total portfolio expected returns may be higher than shown in Exhibits 8 and 9.

60/40 vs. the Policy

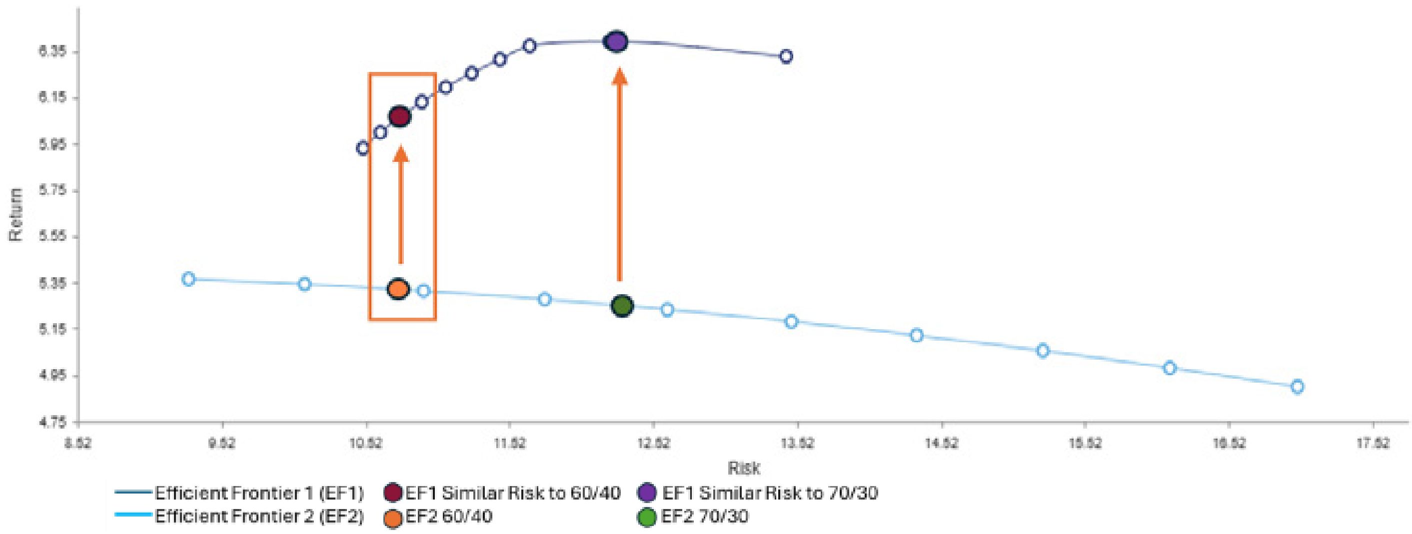
> *"While we cannot know the future with certainty, the years since 2022 have ushered in a macroeconomic environment marked by higher inflation, interest rates, valuations, and debt levels, all of which are future headwinds for the performance of equities and core bonds."*

EXHIBIT 8: Asset Classes in Typical Diversified Policy Portfolio

Asset Class	60/40 Portfolio	Diversified Portfolio	Constraints of a Diversified Portfolio[3]
Global Equity	60.0%	39.0%	Global Equity ≥ 15.0%
Private Equity		4.0%	Maximum = 15.0%
Core Bonds	40.0%	25.0%	15% ≤ Core Bonds ≤ 25%
Private Credit		10.0%	Maximum = 10.0%
Real Assets[4]		20.0%	Maximum = 20.0%
Cash		2.0%	Maximum = 2.0%
10-Year Expected Return	5.32%	6.06%	
10-Year Expected Risk	10.76%	10.75%	
Return/Risk	0.49	0.56	
Change in Return		+0.74%	
Change in Risk		-0.01%	
Change in Return/Risk		+0.07	

For illustrative and discussion purposes only.

EXHIBIT 9: Efficient Frontiers



Source: Wilshire. For illustrative and discussion purposes only.

Portfolio: Conclusions

To summarize, while returns for a 60/40 portfolio may offer episodic short-term return advantages, a diversified policy portfolio has produced superior return and risk over the long term. Furthermore, a diversified portfolio:

- Protects against time periods where the correlations between equities and fixed income are elevated
- May offer superior inflation protection
- May have lower risk/standard deviation over time versus the 60/40 portfolio
- Expands the efficient frontier, offering portfolios with higher returns at every given risk level

The last few decades have been an extraordinary time for investors with asset prices fueled by earnings growth, margin expansion, low inflation, and fiscal and monetary stimulus. Strength in the public equity markets has led to impressive performance for the 60/40 portfolio. However, we encourage investors to guard against recency bias and resist the urge to re-allocate and concentrate portfolios in favor of yesterday's winners. We advise that investors stay the course and remain diversified for both return and risk advantages. And yet, while diversification has many merits, we concede that a truly diversified portfolio can be painful because, with perfect hindsight, we could have always held more of the assets that provided the highest returns. Optimal portfolio construction requires a long-term view through various past and expected future market environments. It also requires humility. As John Templeton asserted: "Diversification is a safety factor that is essential because we should be humble enough to admit we can be wrong."

While we cannot know the future with certainty, the years since 2022 have ushered in a macroeconomic environment marked by higher inflation, interest rates, valuations, and debt levels, all of which are future headwinds for the performance of equities and core bonds. Going forward, the investment landscape is likely marked by a need for greater diversification to enhance returns, dampen volatility, and protect against an array of macroeconomic factors. As such, we affirm the power of diversified portfolios to optimize the efficiency of portfolios.

Appendix A

The following table outlines the progression of a hypothetical investor's asset allocation. In order to build a long-term history of returns and given limited return history for some benchmarks representing nascent asset classes, the asset allocation has evolved. For example, in this hypothetical portfolio, public and private equity is assumed to be a 55% allocation since inception (December 1991), but from 1991-2000, the allocation was 100% public equities, and private equities were not introduced until 2001. Other data points to note include:

- The fixed income allocation is assumed at 25% of the overall portfolio from inception to current with 20% allocated to public fixed income markets (represented by the Bloomberg US Universal Bond Index) and 5% allocated to private fixed income markets.
- The real assets allocation is assumed at 20% of the overall portfolio with 10% allocated to private real estate (represented by the NCREIF ODCE Index) and 10% allocated to a public diversified real asset basket. The public diversified real asset basket is initially defined as 50% real estate securities and 50% commodities. Over time, the public diversified real asset basket is supplemented by specific allocations to TIPS and infrastructure as those benchmarks became available.

	Diversified Policy Portfolio	Interval 1 12/31/1991-12/31/2000	Interval 2 12/31/2000-9/30/2006	Interval 3 9/30/2006-Current
Equities	**55%**			
MSCI - MSCI - AC World Index ($Gross)		55%	40%	40%
Preqin - Preqin - All Private Equity Index		0%	15%	15%
Fixed Income	**25%**			
Bloomberg - U.S. Universal Bond Index		20%	20%	20%
Credit Suisse - Credit Suisse - Leveraged Loan Index[5]		5%	5%	5%
Real Assets	**20%**			
NCREIF - ODCE Index ($Net)		10%	10%	10%
Wilshire - REIT Index		5%	4%	3%
S&P - GSCI Total Index		5%	3%	3%
Bloomberg - U.S. TIPS Index		0%	3%	3%
S&P - Global Infrastructure Index		0%	0%	1%
Total		**100.00%**	**100.00%**	**100.00%**

For illustrative and discussion purposes only.

Appendix B

	Equity						Fixed Income							Real Assets					
	US Stock	Dev ex-US Stock	Emg Stock	Global ex-US Stock	Global Stock	Private Equity	Cash	Core Bond	LT Core Bond	TIPS	High Yield	Private Credit	Dev ex-US Bond (Hdg)	Real Estate US RES	Real Estate Global RES	Real Estate Private RE	Cmdty	Real Assets	US CPI
Compound Return (%)	4.35	5.35	5.60	5.70	4.90	6.25	3.60	5.20	5.35	4.70	6.35	7.75	3.00	5.70	5.85	6.40	4.85	6.85	2.35
Expected Risk (%)	17.00	18.00	26.00	19.05	17.00	29.65	0.75	4.75	9.90	6.00	10.00	12.75	4.00	17.50	16.55	13.95	16.00	12.60	1.75
Cash Yield (%)	1.25	3.00	2.50	2.85	1.80	0.00	3.60	5.65	5.70	5.05	9.80	4.85	4.25	3.95	3.95	2.85	3.60	3.70	0.00
Growth Exposure	8.00	8.00	8.00	8.00	8.00	14.00	0.00	-0.95	-2.55	-3.00	4.00	5.10	-1.00	6.00	6.00	3.50	0.00	2.75	0.00
Inflation Exposure	-3.00	-1.00	3.00	0.15	-1.95	-4.25	0.00	-2.60	-6.95	2.50	-1.00	-1.50	-3.00	1.00	1.65	1.00	12.00	5.15	1.00
Correlations																			
US Stock	1.00																		
Dev ex-US Stock (USD)	0.81	1.00																	
Emerging Mkt Stock	0.74	0.74	1.00																
Global ex-US Stock	0.84	0.95	0.89	1.00															
Global Stock	0.95	0.91	0.84	0.94	1.00														
Private Equity	0.72	0.63	0.61	0.67	0.73	1.00													
Cash Equivalents	-0.05	-0.09	-0.05	-0.08	-0.06	0.00	1.00												
Core Bond	0.28	0.13	0.00	0.08	0.20	0.30	0.18	1.00											
LT Core Bond	0.31	0.15	0.01	0.11	0.24	0.31	0.11	0.94	1.00										
TIPS	-0.05	0.00	0.15	0.06	-0.01	-0.03	0.20	0.60	0.48	1.00									
High Yield Bond	0.54	0.39	0.49	0.46	0.53	0.31	-0.10	0.24	0.32	0.05	1.00								
Private Credit	0.67	0.55	0.57	0.59	0.67	0.44	0.00	0.24	0.30	0.00	0.75	1.00							
Dev ex-US Bond (Hdg)	0.16	0.25	-0.01	0.16	0.17	0.26	0.10	0.67	0.65	0.39	0.26	0.22	1.00						
US RE Securities	0.57	0.47	0.44	0.49	0.56	0.49	-0.05	0.17	0.22	0.10	0.56	0.61	0.05	1.00					
Global RE Securities	0.63	0.56	0.54	0.59	0.64	0.55	-0.05	0.17	0.21	0.11	0.60	0.67	0.04	0.97	1.00				
Private Real Estate	0.55	0.45	0.45	0.49	0.54	0.50	-0.05	0.19	0.25	0.09	0.57	0.62	0.05	0.78	0.77	1.00			
Commodities	0.25	0.34	0.39	0.38	0.32	0.28	0.00	-0.03	-0.03	0.25	0.29	0.29	-0.10	0.25	0.28	0.25	1.00		
Real Assets	0.61	0.62	0.66	0.68	0.66	0.56	-0.03	0.24	0.26	0.32	0.64	0.69	0.05	0.78	0.83	0.76	0.62	1.00	
Inflation (CPI)	-0.10	-0.15	-0.13	-0.15	-0.13	-0.10	0.10	-0.12	-0.12	0.15	-0.08	0.00	-0.08	0.05	0.04	0.05	0.44	0.21	1.00

Wilshire *is a global investment solutions and analytics firm with more than $1.5 trillion in assets under advisement and $125 billion in assets under management as of June 30, 2025. For over 50 years, Wilshire has combined institutional expertise with technology, data, and innovation to help investors, financial intermediaries, and asset managers improve investment outcomes. The firm partners with 300+ institutional investors and financial intermediaries globally across wealth management, retirement, alternatives, and analytics.*

RESOURCES

1. *Please refer to Wilshire's annual "Asset Allocation Return & Risk Assumptions" report for more details on how Wilshire generates our capital market estimates.*
2. *The expected returns of the two-asset portfolio are higher than the expected results for either stocks or bonds due to rebalancing. Rebalancing means reallocating from a "winner" to a "loser" and locks-in profits of the outperforming asset class while buying the underperforming asset class at a relative discount. The greater the disparity between the assets' returns, the greater the rebalancing bonus.*
3. *Additional constraint: Maximum of 40% to illiquid investments (private equity, private credit, and half of the real asset bucket).*
4. *Real Assets are defined as 50% public real assets and 50% private real assets. Using Wilshire's proprietary capital market assumptions, public real assets assumptions consist of 30.0% global real estate securities, 8.5% global listed infrastructure, 1.5% midstream energy infrastructure, 45.0% Treasury Inflation Protected Securities (TIPS), 15.0% commercial mortgage-backea securities (CMBS), 36.0% commodities, 9.0% gold, and 45% leverage. Private real assets assumptions consist of 50.0% private real estate, 30% private infrastructure, 20% private energy/natural resources.*
5. *Credit Suisse Leveraged Loan Index for period 12/31/1991 – 11/30/2024, S&P UBS Leveraged Loan Index for period 12/1/2024 – 12/31/2024.*

"By 2040, the estimated infrastructure expenditure needed worldwide is $94 trillion, yet current spending projections fall short by about $18 trillion."

PRIVATE INFRASTRUCTURE DEBT:
A Growing Asset Class for Public Pension Investors

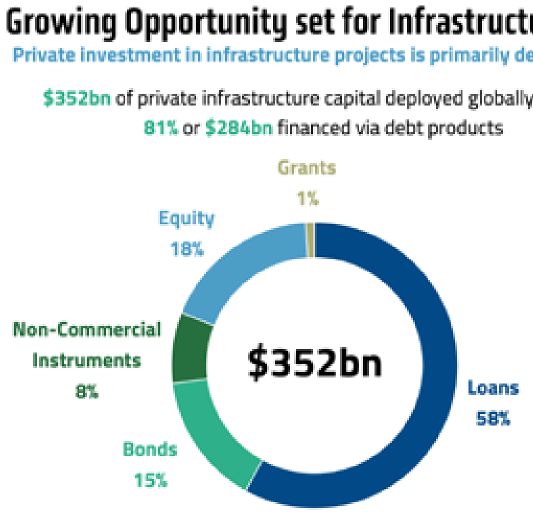
By Brian Collett, I Squared Capital

Private infrastructure debt is emerging as a potentially attractive investment opportunity for public pension investors seeking diversification, steady income, and downside mitigation. This asset class bridges the gap between the significant need for infrastructure funding and the limited capacity of traditional financial sources to meet this demand. This article explores the growth of private infrastructure debt, its potential benefits, and its role in portfolio construction for public pension investors.

Infrastructure debt usually involves secured lending, which offers higher protection compared to corporate debt.

Growing Demand and Supply-Demand Imbalance

The global infrastructure funding gap is substantial. By 2040, the estimated infrastructure expenditure needed worldwide is $94 trillion, yet current spending projections fall short by about $18 trillion. This shortfall highlights the growing opportunity for private infrastructure debt to fill the void left by traditional financing sources such as commercial banks and capital markets. Regulatory changes have tightened capital requirements for banks, reducing their capacity to finance infrastructure projects. As a result, private market participants have stepped in to address the imbalance, offering more flexible and tailored financing solutions.



Source: Global Infrastructure Hub: Infrastructure Monitor 2023.

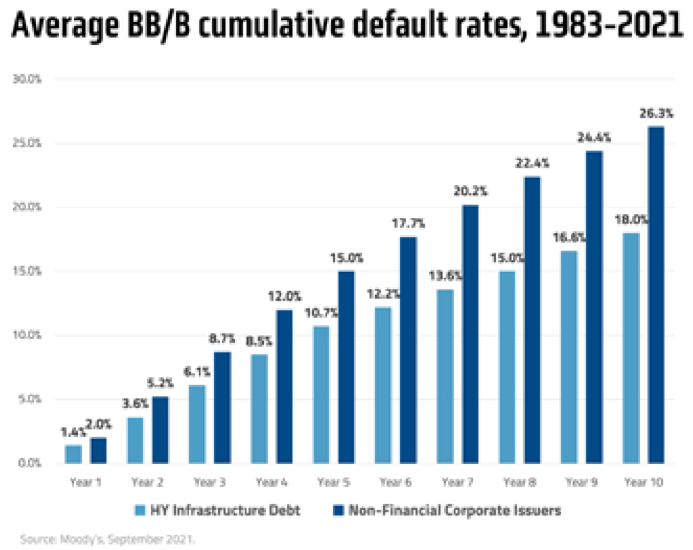
The graph above illustrates the significant opportunity set for Infrastructure debt with over $284 billion financed via debt in 2022. This underscores the growing recognition of infrastructure debt as a viable standalone investment vehicle, attracting a substantial amount of capital from investors seeking stable and reliable returns.

Key Characteristics and Benefits of Infrastructure Debt

Infrastructure assets are vital for social and economic development. They typically generate stable, long-term cash flows that are often inflation-linked, providing a natural hedge against inflation for investors. Additionally, infrastructure debt usually involves secured lending, which offers higher protection compared to corporate debt.

Reduced Risk and Downside Mitigation

Infrastructure projects generally operate under long-term contracts or regulated environments, seeking to ensuring revenue visibility and reducing volatility. This stability is attractive for investors looking for reliable returns. Historical data supports the lower risk profile of infrastructure debt compared to corporate debt, with infrastructure credit showing lower default and loss rates over the past decades.



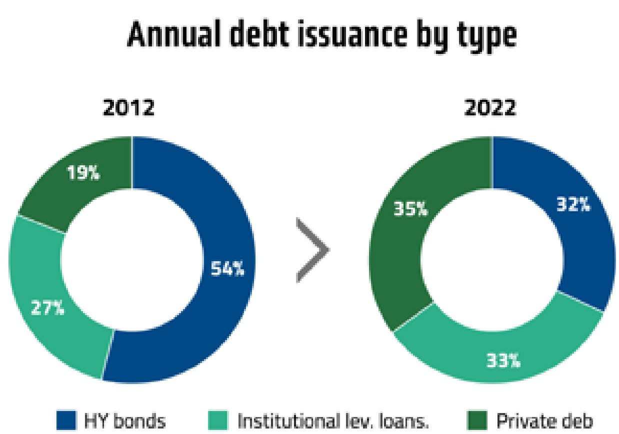
Source: Moody's, September 2021.

The graph above shows the significantly lower default rates for infrastructure debt compared to corporate debt over nearly four decades, reinforcing its lower risk profile.

Attractive Yields and Risk-Adjusted Returns

Despite lower risk, infrastructure debt can potentially offer competitive yields. This is particularly true for private infrastructure debt, which benefits from less competition compared to corporate direct lending. Investors can potentially achieve strong risk-adjusted returns, making infrastructure debt a valuable addition to diversified portfolios.

Despite lower risk, infrastructure debt can potentially offer competitive yields.



Source: IMF, Deutsche Bank, May 2023.

The comparison between 2012 and 2022 demonstrates the shift in debt issuance, with private debt surpassing high yield bonds and leveraged loans for the first time. In 2022, private debt issuance reached $500 billion, significantly outpacing high yield bonds and institutional leveraged loans, which stood at $350 billion and $450 billion, respectively.

The Role of Private Infrastructure Debt in Portfolio Construction

Private infrastructure debt can help enhance public pension portfolios by providing several key potential benefits:

1. **Incremental Downside Mitigation and Portfolio Resilience:** The essential nature of infrastructure assets means they are historically less sensitive to economic cycles, offering stability and resilience.
2. **Attractive Cash Yields:** Infrastructure debt investments typically generate higher yields compared to traditional fixed-income securities.
3. **Enhanced Diversification:** Adding infrastructure debt to a portfolio can improve diversification, helping to reduce overall portfolio risk.
4. **Improved Risk-Adjusted Returns:** The favorable risk-return profile of infrastructure debt can help enhance the overall performance of a portfolio.

Last Word

The infrastructure sector's evolution and the increasing role of private infrastructure debt present significant opportunities for public pension investors. The potential ability to provide inflation-linked income, downside mitigation, and attractive risk-adjusted returns makes private infrastructure debt a compelling addition to public pension portfolios. As traditional financing sources continue to face challenges, private infrastructure debt may play an increasingly vital role in funding essential infrastructure projects, helping to drive economic growth and stability.

__Brian Collett__, CFA, CAIA, currently serves as the Managing Director of Strategic Engagement at I Squared Capital. Previously, he was the Chief Investment Officer at Missouri Local Government Employees Retirement System (LAGERS), where he successfully managed a multi-billion-dollar portfolio. At LAGERS, Brian implemented innovative investment strategies and robust qualitative risk management practices. With over 25 years of experience in asset allocation and investment structuring, Brian has held significant positions at South Carolina Retirement System and Russell Investments.

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May 8-11

Everline Resort & Spa
Olympic Valley, CA

FALL 2029

November 13-16

Hyatt Regency Huntington Beach Resort & Spa
Huntington Beach, CA

SPRING 2030

May 14-17

Hyatt Regency Monterey
Monterey, CA

FALL 2030

November 12-15

Hilton Santa Barbara Beachfront Resort
Santa Barbara, CA

SACRS™