SUMMER 2025

SACRS

STATE ASSOCIATION *of* COUNTY RETIREMENT SYSTEMS

PRIVATE & LISTED INFRASTRUCTURE: THE CASE FOR A COMPLETE PORTFOLIO


REGISTER NOW
SACRS
FALL
NOV. 11-14, 2025
CONFERENCE
HYATT REGENCY HUNTINGTON BEACH RESORT AND SPA
HUNTINGTON BEACH, CA
TO REGISTER OR VIEW SPONSORSHIP OPPORTUNITIES VISIT SACRS.ORG

CONTENT

SUMMER 2025

The opinions expressed herein represent the current, good faith views of the author(s) at the time of publication. All SACRS Magazine articles are for general information only and should not be construed as investment advice or considered a recommendation to buy, sell, or hold any particular security.

SACRS

840 Richards Boulevard
Sacramento, California 95811
T: (916) 701-5158

SACRS.ORG

PLEASE RECYCLE THIS MAGAZINE

OUR PRINTER IS A CERTIFIED MEMBER OF THE FOREST STEWARDSHIP COUNCIL

> *Whether its trustee to trustee, affiliate to trustee, or affiliate to affiliate, networking sessions, while designed to be engaging and light, are vital to relationship building and broadening your SACRS community.*

NETWORKING: IT'S MORE THAN JUST HAVING FUN, IT'S BUILDING COMMUNITY!

Association networking functions at times can come under scrutiny. But looks can be deceiving. Yes, SACRS networking sessions are designed to be fun. Whether it's a morning wellness session or an evening social, the framework for the event contrasts with a keynote or training. Make no mistake, SACRS members benefit immeasurably by networking opportunities.

Let's look at this scenario: you are sitting in anticipation of a great SACRS keynote session. You have the perfect seat. As you wait, you turn and say hello to the person next to you. You find you have similar positions in your respective organizations and just when the conversation gets good, the keynote begins, and you turn your attention away. Now that could be the end of that, but because we have open networking events throughout the conference you can make plans to meet up for lunch or breakfast and continue the conversation. Same with our highly rated Modern Investment Theory & Practice for Retirement Systems at UC Berkeley recently held in July. The class time is comprehensive and knowledge-expanding, but the time spent in a smaller group outside the classroom is equally valuable.

I have seen this exchange over and over. SACRS members discovering each other or being introduced. From one event to the next, your SACRS community builds with each connection you make. Whether a trustee, staff or affiliate, networking sessions, while designed to be engaging and light, are vital to relationship building and broadening your SACRS community.

We are hard at work on the agenda for SACRS Fall Conference 2025. Registration is open, so make your plans to come to the coastal-chic Hyatt Regency Huntington Beach Resort and Spa November 11-14. Your time and focus on all conference events – educational and *networking* – will make these few days in Surf City well worth it!

Sulema H. Peterson

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

HELLO, SACRS MEMBERS!

"It is both an honor and a responsibility to serve alongside you—public servants who are committed to the financial well-being of over 750,000 current and future beneficiaries across California.

As president of this volunteer-driven organization, I'm humbled by the expertise, integrity, and heart each of you brings to our mission."

Thank you to all 20 county pension systems' board members for your unanimous support of our incoming Board of Directors—and for placing your trust in me as your 2025–2026 SACRS President. I'm honored and energized to serve alongside such a dedicated community of public servants.

When I began this journey nearly six years ago, I dove headfirst into trustee education—determined to understand investments, policy, legislation, and governance, and to build meaningful connections with fellow trustees, staff, and affiliates. My first SACRS/UC Berkeley Pension Investment Management Program was held online in 2020, and I still remember the excitement I felt. If only I had taken a screenshot of my Zoom face—smiling nonstop and scribbling notes like my life depended on it! That program introduced me to our Executive Director, Sulema Peterson, whose leadership, professionalism, and ability to pivot during COVID left a lasting impression. Her commitment to relevant content and seamless execution are values I deeply admire.

My first in-person SACRS conference exceeded every expectation. That experience solidified my desire to volunteer and contribute. I'm especially grateful to my mentor and past president, Vivian Gray, who carried forward the legacy of SACRS leadership—ensuring our organization remains relevant, nurturing affiliate relationships, and always reminding us of our fiduciary responsibility: to protect and deliver the retirement benefits our members have earned with dignity.

In times like these, trust, transparency, and stewardship matter more than ever. It is both an honor and a responsibility to serve alongside you—public servants who are committed to the financial well-being of over 750,000 current and future beneficiaries across California. As president of this volunteer-driven organization, I'm humbled by the expertise, integrity, and heart each of you brings to our mission. Together, we will navigate legislative shifts, complex investments, and systemic responsibilities—all in service to our county members.

Let's build on the work of our past presidents and move forward with purpose. Our key goals this year include:

- **Strengthening education and training** for trustees and system staff
- **Deepening collaboration** across our 20 pension systems
- **Building authentic relationships** between trustees, investment teams, and affiliates to exchange long-term financial strategies
- **Advocating for thoughtful legislation** that supports fiscal health for our members and pension systems

Through robust programming, open dialogue, and strong relationships, we aim to turn knowledge into meaningful impact.

We envision a future where trustees, staff, affiliates, and stakeholders are truly interconnected. No matter the size or location of your system, we are united by a shared commitment to those who rely on us. SACRS is the bridge that fosters community, conversation, and collaboration. Together, we are greater than the sum of our parts.

To every trustee reading this: your role is foundational. I encourage you to engage deeply—ask the hard questions, attend trainings and conferences, build relationships with your peers and affiliates, encourage your staff to participate, and share your insights generously. You are the stewards of retirement security, and your leadership shapes futures.

Let this be the year we lean in, show up, and elevate each other's voices.

With gratitude,

Adele Lopez Tagaloa

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

BOILING THE FROG:
WHAT'S HAPPENING TO SHAREHOLDER RIGHTS?

> *"The details of what SB21 did to shareholder rights are arcane, but the bottom line is that the changes made Delaware corporate law much friendlier to controlling shareholders, and significantly less protective of the rights of minority shareholders."*

Changes to Delaware law, new guidance from the SEC and legislation aimed at excluding sustainability-related factors from investment decision-making are combining to diminish US shareholder rights.

Hiding something in plain sight is a trope that mystery writers never tire of. It also can work in public policy, often when a major policymaking institution undergoes a dramatic change. At the moment, the world's attention is fixed on tariffs, fiscal deficits and market sentiment. Beyond these flashing headlines, though, there is a quiet move toward the diminution of the rights of minority shareholders in the US, which, if it grows, could threaten long-term corporate value.

Shareholder Rights Have Financial Value

Shareholder rights have value on financial markets, which is reason enough for caution on the part of policymakers. Delaware has long been known as the leader in establishing a legal infrastructure that carefully balances corporate governance and accountability to shareholders. The value of that careful balance is reflected in financial markets.

Institutional shareholders incorporate many factors into their investment choices, and one of them is the extent to which a corporation's governance protects their interests.[1] Academic research shows that the recommendations of sell-side analysts are more likely to have a favorable recommendation for companies with stronger shareholder rights.[2] There is also a robust, positive correlation between stronger shareholder rights and positive abnormal returns, and that relationship is longstanding.[3] In addition, one of the most useful valuation metrics many investors use is the alignment of managers' incentives with firm value, and here too, shareholder rights are crucial. According to one academic paper, managers' ownership of firms' shares – often seen as a key mechanism for alignment of incentives with shareholder interest – enhances firm value when shareholder rights are strong, but reduces value when those rights are weak.[4]

> *"While it is possible to endow shareholders with too much power, there is very little evidence that Delaware corporate law does so."*

Threats to Minority Shareholders' Rights: SB21

In March 2025, the Delaware legislature passed a new law, SB21, and the governor signed it into law. The details of what SB21 did to shareholder rights are arcane, but the bottom line is that the changes made Delaware corporate law much friendlier to controlling shareholders, and significantly less protective of the rights of minority shareholders.[5,6] These changes "would overturn at least 34 Delaware Court decisions made by different judges over more than a 40-year period," according to the Council of Institutional Investors (CII).[7] The bill was rushed into passage, in a way that the CII called "reactive and unduly hasty," following the departure of a few high-profile companies from incorporation in Delaware.[8] That departure, often dubbed DExit, is described by some as a "flood" of corporations incorporating elsewhere.[9]

So why would anyone want to compromise shareholder rights? While it is possible to endow shareholders with too much power, there is very little evidence that Delaware corporate law does so. What provoked the action was the reincorporation of a few highly visible companies (including Tesla, SpaceX and Dropbox) in other states in reaction to some recent actions of the Delaware Chancery. But there is little to suggest that companies were rushing to the exits; one paper notes that in 2024, the number of registered corporations in Delaware had a net gain of 85 publicly traded companies, and over 80% of newly public US companies were incorporated there.[10] There have been several episodes in the past when fears regarding a corporate exodus from Delaware were ignited, and thus far, none of them have put much of a dent in corporate decisions to incorporate there.[11]

Threats to Minority Shareholders' Rights: SEC Guidance

In February 2025, the Securities and Exchange Commission (SEC) issued two new pieces of guidance, one on shareholder proposals and one that affects shareholder engagements. While these are both guidance, and not official changes in rules, they do signal a change of course that diminishes shareholder rights.

The SEC's guidance on shareholder proposals introduces a stricter standard for judging whether proposals are significantly related to a shareholder's business or address a significant policy issue, making it easier to obtain no-action relief that permits companies to exclude shareholder proposals from their proxy ballots. In addition, the new guidance permits companies to request no-action relief without providing a rationale for their position, again making no-action relief easier to apply for, and probably easier to get.

The result is that a record-high number of shareholder proposals have been withdrawn. While withdrawal usually is a signal that the company and the shareholder reached a mutually acceptable resolution of the issue in question, ISS, a corporate governance adviser, notes that the trend this year likely reflects something different: shareholders withdrawing proposals because they anticipate exclusion under the new guidance.[12]

The SEC's guidance on Section 13(d) reporting addresses shareholder engagement with companies, which is a much more extensive enterprise than filing shareholder proposals. This primarily affects passive investors and those that own 5% or more of the stock of a company they wish to engage. The noteworthy part of this guidance is its specification of the types of engagements that might result in the investor being obliged to report under Schedule 13(d), which is far more time-consuming and onerous than reporting under the Schedule 13(g) standard which would normally apply. The guidance states that certain issues, including engagements that discuss "specific actions on social, environmental, or political policy" might trigger the requirement to report under the more onerous Schedule 13(d) standard.

> *"By singling out 'environmental, social and political' matters, the SEC has created a marked effect on engagement, in which the interpretation of what is judged to be "environmental" could vary between investors, companies and SEC staff that enforce the rules."*

The Delaware Legislative Hall is the state capitol building of Delaware.

> *"That, in turn, could affect financial value: if shareholders have diminishing voices, they may choose to head for the exit instead."*

Neither of these pieces of guidance will create a mushroom cloud on its own. But they do signal a change in direction toward the restriction of existing shareholder rights to engage with boards – who are, after all, there to represent the shareholders – on issues that shareholders see as important to performance. By singling out "environmental, social and political" matters, the SEC has created a marked effect on engagement, in which the interpretation of what is judged to be "environmental" could vary between investors, companies and SEC staff that enforce the rules.

Restrictions on shareholder rights, whether accomplished by a single pen stroke or many small ones, could have the same effect: likely increasing the distance and difficulty of shareholders making their priorities known to management. If a company believes that climate change is a "political" issue that might discourage dialogue over the issue, even if the shareholder sees climate risks as material, which many already do. That, in turn, could affect financial value: if shareholders have diminishing voices, they may choose to head for the exit instead.

Threats to Shareholders' Rights: Legislative and Executive Challenges

For several years, there have been many pieces of legislation introduced in both state and federal legislatures aimed at curtailing the use of sustainability information in investment decision making. Similarly, there have been many executive actions on the part of states that effectively implement curbs on using portfolio exclusions or sustainability factors in investment decision making for state pension funds. To date, most of the action has been at the state level, where hundreds of so-called anti-ESG bills have been introduced. Most do not survive the legislative process, but a few have.

For example, at least 35 states have considered or are considering measures to exclude investment managers that exclude certain industries such as firearms, tobacco, fossil fuels, mining and others, often deeming such exclusions to be "boycotts." Others state that investment firms must make investment decisions and vote proxies solely on the basis of financial or "pecuniary" information, with the presumption that most sustainability-related

> “While there is abundant literature showing that sustainability factors like these do in fact have correlations to financial value, the current crop of anti-ESG legislation simply presumes that they are not relevant to financial performance.”

factors are non-pecuniary or immaterial.[13] While the federal government has not made any laws considered anti-ESG, there is now significant likelihood that that could happen following the 2024 election.[14]

In April 2025, there was federal legislation introduced that would codify that investment managers in ERISA plans would be held to a “pecuniary-only” standard that would prioritize financial returns over non-pecuniary factors. The presumption is that consideration of things like climate risk, environmental compliance and workplace practices are political issues with no materiality. While there is abundant literature showing that sustainability factors like these do in fact have correlations to financial value, the current crop of anti-ESG legislation simply presumes that they are not relevant to financial performance.[15] And all of them would in some fashion limit shareholder rights, either by eliminating or curtailing consideration of material sustainability information in investment decision-making and proxy voting, or by excluding shareholders’ ability to file non-binding proposals for action on sustainability fronts that other shareholders may vote for or against on proxy ballots.

The Importance of Independence

Financial markets need to be shaped by the power of independent judgment based on empirical evidence, and not public policy guided by political persuasion. At the moment, there is no agency that plays that role, which often means that court judgements are left to play the role of arbiter in making decisions that are important to financial markets. But as we have seen throughout our history, courts can have political leanings too.

RESOURCES

1 *Mahoney, J., Council of Institutional Investors, 12 March 2025: Letter on Delaware Senate Bill 21. Harvard Law School Forum on Corporate Governance*

2 *Social Science Research Network, July 2008: Do Analyst Recommendations Reflect Shareholder Rights?*

3 *Social Science Research Network, December 2012: Thirty Years of Shareholder Rights and Stock Returns.*

4 *Social Science Research Network, December 2014: Shareholder Rights, Managerial Incentives, and Firm Value.*

5 *This term applies to shareholders that own more than 50% of the voting power, or exercises control over the company without owning a majority of the shares.*

6 *See, for example: The D&O Diary, February 2025: Critics Launch Campaign Opposing Delaware SB 21; Business Law Prof Blog, February 2025: Delaware Decides Delaware Law Has No Value; Delaware Business Times, February 2025: Corporate law amendments propose major shift in shareholder rights.*

7 *Mahoney, J., Council of Institutional Investors, 12 March 2025: Letter on Delaware Senate Bill 21. Harvard Law School Forum on Corporate Governance*

8 *Mahoney, J., Council of Institutional Investors, 12 March 2025: Letter on Delaware Senate Bill 21. Harvard Law School Forum on Corporate Governance*

9 *Newsmax, April 2025: Elon Musk Applauds Latin Company Leaving Delaware.*

10 *Delaware Business Times, 4 March 2025: Viewpoint: Delaware’s manufactured corporate crisis.*

11 *CLS Blue Sky Blog, April 2025: SPACs, Multiplan and the DExit That Wasn’t; The CLS Blue Sky Blog, March 2025: What the Past Can Teach Us About SB 21 and the Threat of Corporate Exodus.*

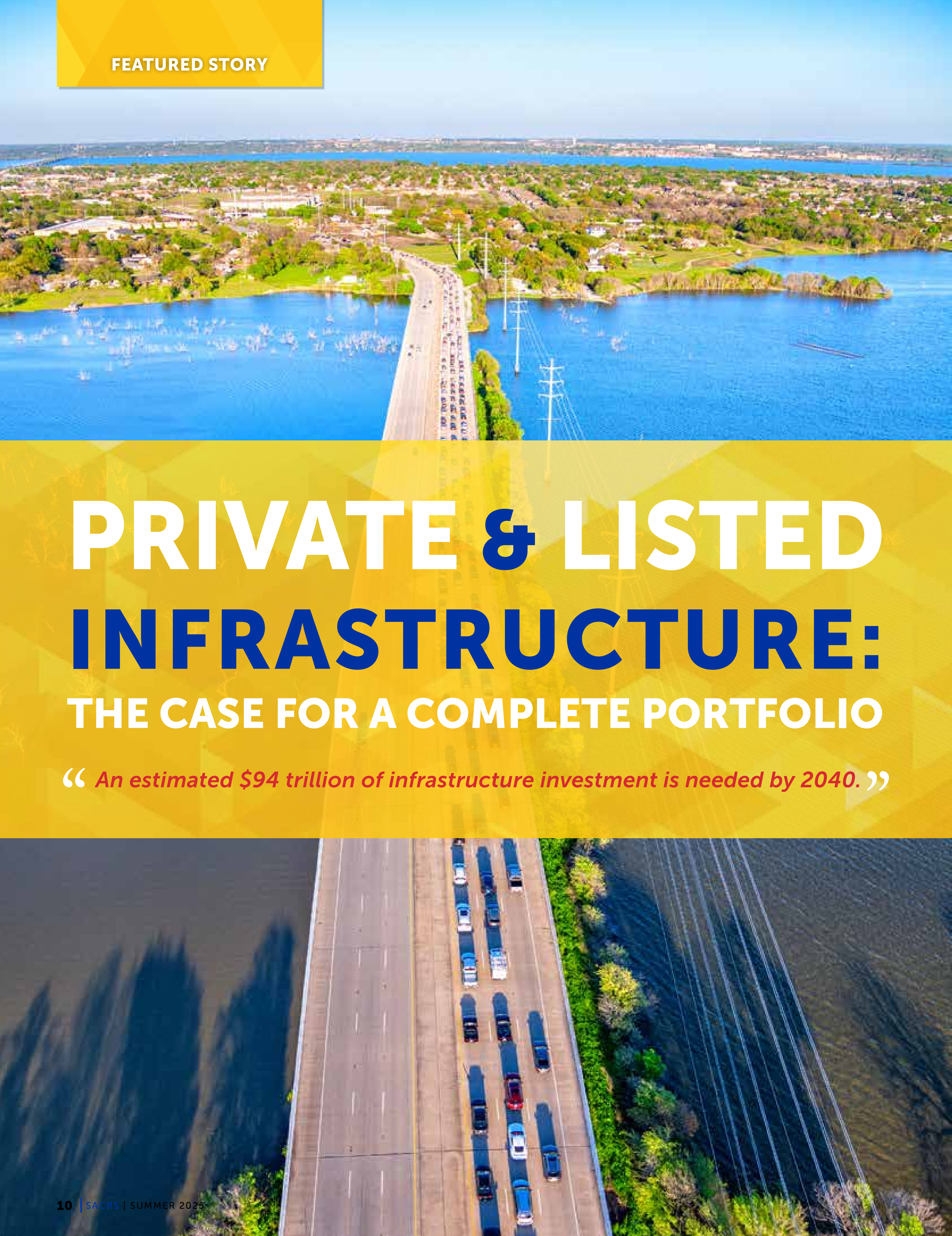
12 *ISS Corporate, March 2025: The New Reality of U.S. Environmental & Social Shareholder Proposals.*

13 *See, for example: Morrison Foerster: Anti-ESG Legislation; Pleiades Strategy, 2021-2025: Live Anti-ESG State Legislation Tracker; S&P Global, January 2025: Dozens of new state anti-ESG bills introduced; federal legislation expected; Ropes & Gray, January 2025: ESG in 2025 for Legal and Compliance Professionals: 25 Predictions for ‘25; Ropes & Gray, January 2025: ESG in 2025 for Legal and Compliance Professionals: U.S. Federal Anti-ESG Legislation to Watch For.*

14 *See both Ropes & Gray articles, Ibid.*

15 *See, for example, a comment letter to the Department of Labor on its proposed rule in 2020 that would have limited the use of sustainability factors in making investment decisions for ERISA platforms, Regulations.gov.*

*As Senior Vice President for Sustainable Investing, **Julie Gorte**, Ph.D. is a leading figure in Impax Asset Management’s sustainable investing work, coordinating systemic engagement and the financial implications of integrating sustainability into investment decision-making. Julie researches the connections between sustainability and economic performance. She also tracks and develops insights into the impact of public policy on investment and communicates with public policymakers to help make public policy more favorable to sustainability and sustainable investing. Julie is a member of our Gender Analytics team and the Impax Sustainability Centre. Prior to joining the firm, Julie headed up the social investment strategy at Calvert.*



PRIVATE & LISTED INFRASTRUCTURE:

THE CASE FOR A COMPLETE PORTFOLIO

"An estimated $94 trillion of infrastructure investment is needed by 2040."

"What's more, recent underperformance by listed infrastructure is explainable, unlikely to persist and creates a favorable entry point for listed infrastructure."

The global economy's new regime of higher interest rates, sticky inflation, and slower growth is a market environment that has historically favored infrastructure investing. Meanwhile, secular trends—including digitalization of the world's economies, a need to improving aging infrastructure, higher power demand from AI and other needs, and deglobalization—are accelerating infrastructure spending. An estimated $94 trillion of infrastructure investment is needed by 2040.

This powerful combination of today's economic regime and the world's growing infrastructure investment needs is one that we at Cohen & Steers believe will drive strong relative and absolute performance for listed infrastructure companies. These factors are also driving continued increased allocations by investors across both listed and private infrastructure. In fact, more institutional investors intend to increase their allocations to infrastructure than any other asset class, according to Mercer[1].

As investors increase their allocations to infrastructure, we believe listed infrastructure earns a growing portion of that allocation. Even if private infrastructure is already a part of a broad asset allocation, we believe listed assets should complement private holdings. Listed markets can also help managers deploy dry powder, completing their target allocations.

What's driving this recommendation?

- Listed infrastructure has the potential to offer the strong returns and diversification that investors seek without the downsides of illiquidity and higher fees of many private investments.
- Data show listed and private infrastructure investments offer similar returns and volatility long-term.
- Allocations to both provide can provide increased diversification and access to complementary investing universes.
- Blending private and listed assets allows investors to tailor preferences around risk, return, fees, liquidity, investment horizon, and asset exposure.

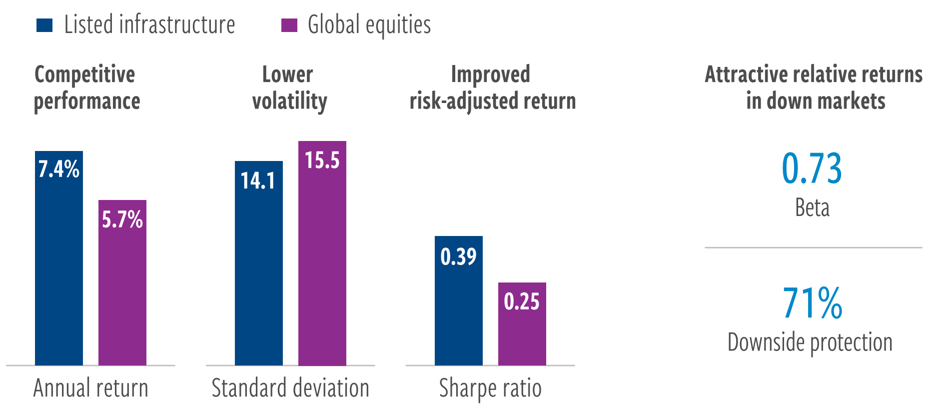
What's more, recent underperformance by listed infrastructure is explainable, unlikely to persist and creates a favorable entry point for listed infrastructure. In effect, we believe that listed infrastructure is attractively valued relative to private and already reflects the market's higher cost of capital, which are lagged in private.

The case for infrastructure

The long-term case for adding infrastructure to an equity or stock/bond portfolio is compelling, based on the asset class's return, volatility and correlation attributes (Exhibit 1). Both listed and private infrastructure have a history of equity-like returns with downside protection, largely due to relatively low cash flow volatility (which stems from infrastructure companies' long-term contracts and provision of essential services). These assets have long appealed to investors seeking diversification and stable income.

The asset class is particularly appealing today given heightened market volatility, stickier inflation and slowing growth. Indeed, the top three risks Mercer identified in its asset owner barometer are stagflation (38%), geopolitics (33%) and volatility (28%).

EXHIBIT 1 | Listed infrastructure has a favorable profile over the last 25 years



At March 31, 2025. Source: Cohen & Steers.
The information presented above does not reflect the performance of any fund or other account managed or serviced by Cohen & Steers, and there is no guarantee investors will experience the type of performance reflected above. There is no guarantee that any historical trend illustrated above will be repeated in the future, and there is no way to predict precisely when such a trend might begin. Listed infrastructure represented by the FTSE Global Core Infrastructure 50/50 Net Tax Index. Global equities represented by the MSCI World Net Index.

"Contrary to the misconception that private consistently outperforms listed, their historical returns are nearly identical."

A closer look at listed and private performance

Contrary to the misconception that private consistently outperforms listed, their historical returns are nearly identical. That performance has diverged in recent years, but we believe this is a short-term and easily explained phenomenon that actually creates a favorable entry point for listed infrastructure relative to private, which we believe is overpriced given it does not reflect the higher cost of debt and equity today.

From 2004 to 2021, listed infrastructure had annualized returns of 9.3%, while private infrastructure returned 9.4% (Exhibit 2). This is consistent with the fact that both have similar return profiles over the long term. The recent divergence began in 2022 when the Federal Reserve raised rates aggressively to combat inflation. Higher interest rates increase the cost of borrowing, which can affect pricing for infrastructure assets and businesses that rely heavily on debt financing.

"From 2022 through 2024, private infrastructure cumulatively returned 30.3% while listed returned 9.2%."

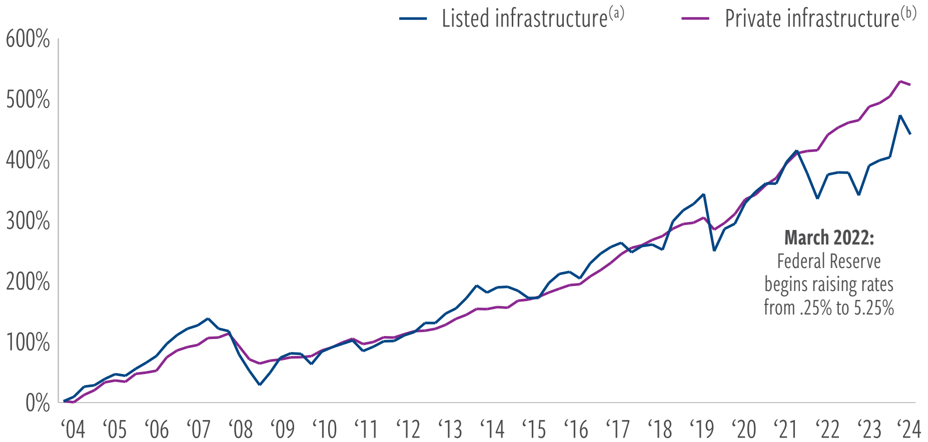
Rising interest rates drive higher discount rates for future cash flows, resulting in lower valuations for infrastructure assets and impacting their returns. Listed infrastructure, due to its liquidity and price transparency, repriced to reflect higher equity and debt costs in current valuations.

By contrast, private infrastructure valuations have not adjusted for a new cost of capital, evidenced by their steady positive returns. From 2022 through 2024, private infrastructure cumulatively returned 30.3% while listed returned 9.2%. Given the similarity of returns over the preceding 15 years, we do not believe compositional differences between listed and private markets fully explain the variance. We believe it's a function of how the asset classes are valued.

While long-term performance of listed and private infrastructure is nearly equivalent, the recent performance gap is not unprecedented; significant multi-year gaps have occurred in the past. The starkest example was during the global financial crisis (GFC) when listed markets quickly moved lower first and private returns repriced after. The magnitude of the performance gap then between listed and private was similar to what we are seeing today, and we would expect private returns to similarly lag as they did post-GFC.

Today's divergence is due to endpoint sensitivity, not a persistent trend. The fundamentals supporting infrastructure investments are intact for both listed and private markets. We believe listed markets will catch up to cumulative private infrastructure returns as they have in the past.

EXHIBIT 2 | Private, listed infrastructure have similar long-term performance ...but private has not yet repriced in the higher-rate regime



At December 31, 2024. Source: Burgiss, Cohen & Steers.

The information presented above does not reflect the performance of any fund or other account managed or serviced by Cohen & Steers, and there is no guarantee investors will experience the type of performance reflected above. There is no guarantee that any historical trend illustrated above will be repeated in the future, and there is no way to predict precisely when such a trend might begin.

(a) Listed Infrastructure represented by UBS Global 50/50 Infrastructure & Utilities Index GR through 2015; FTSE Global Core Infrastructure 50/50 Index GR thereafter. (b) Private Infrastructure represented by Burgiss Global Private Closed-Ended Infrastructure Index.

Clearing up misconceptions on volatility

Infrastructure's low relative volatility and equity beta attract investors to the asset class. Listed infrastructure exhibits lower volatility than equities and a low beta of around 0.7. However, comparisons between the volatility of private and listed infrastructure warrant a deeper look.

At first glance, listed returns exhibit more volatility than private, but it's common for listed markets to exhibit elevated day-to-day volatility. Private infrastructure quarterly returns are driven by appraisals and non-transactional valuation techniques that smooth returns and dampen volatility. While some investors view "statement smoothing" as a feature, it does not accurately reflect true underlying economic volatility.

Private investments use various valuation approaches, including discounted cash flow modeling, multiple analysis and comparable transactions. These methods have merits but also challenges, such as subjectivity in adjustments to cash flow or discount rate projections and limited comparable transactions in some industries or countries. The result is that private infrastructure can have a steady return stream that appears to be managed.

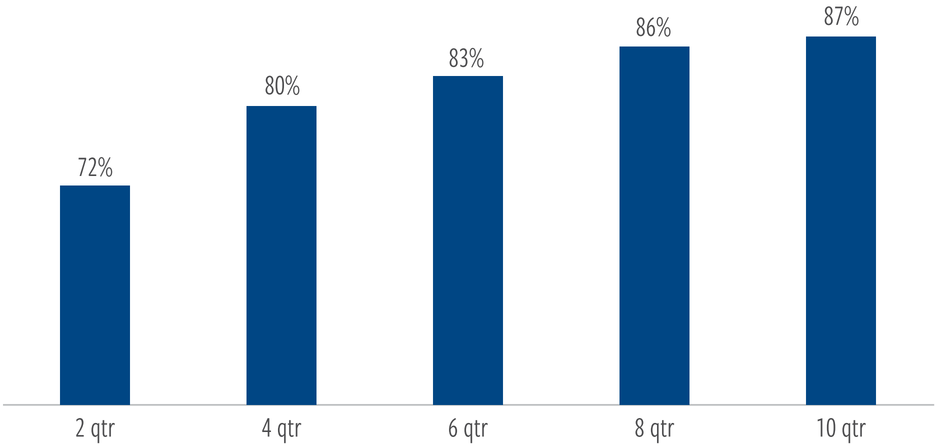
Over time, returns should align, but quarterly and multi-year gaps can be expected. Statistical analysis is used to "unsmooth" returns of private infrastructure, suggesting comparable levels of underlying asset volatility in listed and private markets. Despite differences between mark-to-market and smoothed valuations, we see a high correlation of returns over longer periods (Exhibit 3). This consistency with historical patterns suggests that investors in listed and private infrastructure ultimately benefit from similar fundamentals. These dynamics are consistent with what we have observed over the long term in real estate.

Both investing universes are diverse and complement one another

Both listed and private infrastructure are diverse by geography and sector, but their concentrations differ, making them good complements. According to Preqin, portfolio diversification is the top reason institutional investors allocate to infrastructure.

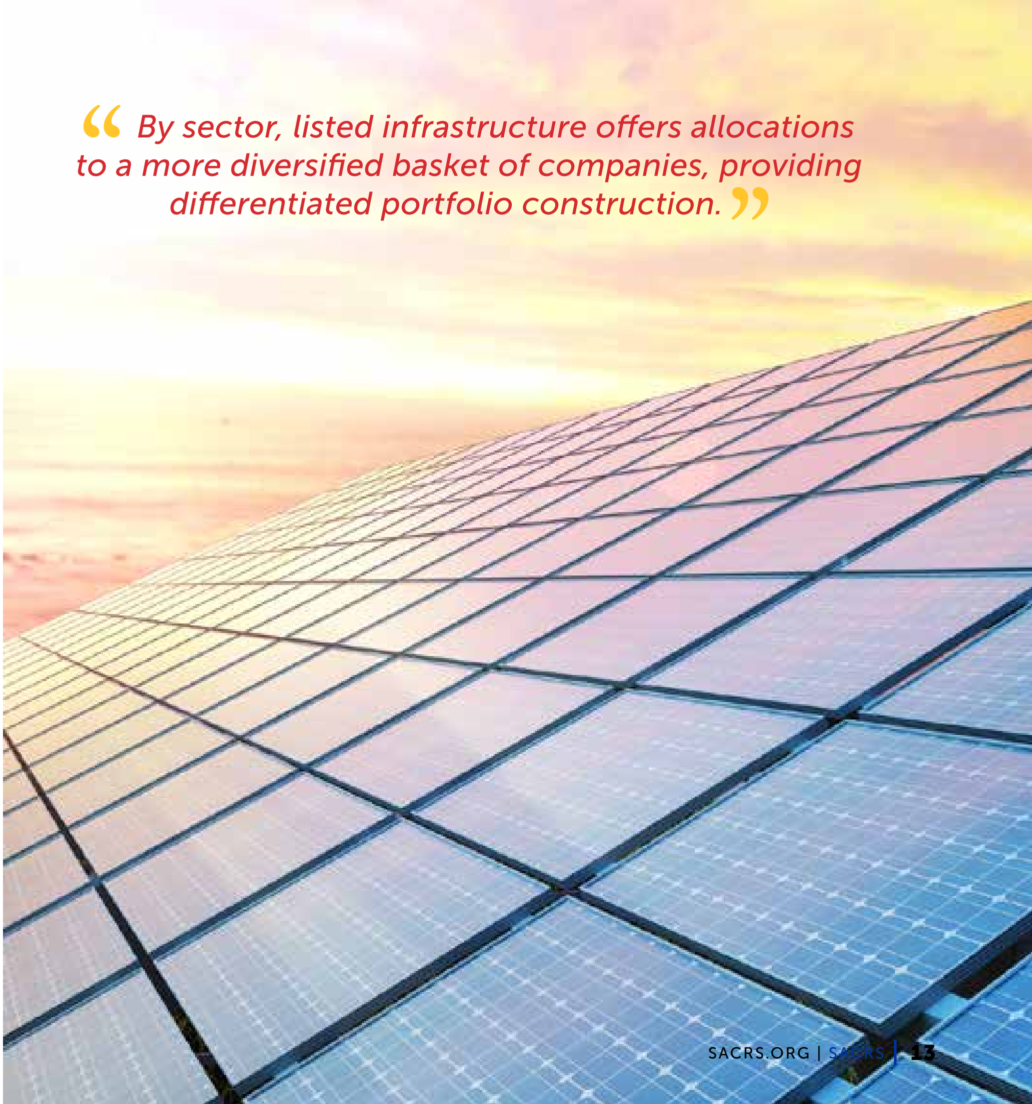
EDHEC, the international business school that produces extensive research on infrastructure and private assets, calculated that 57% of private infrastructure assets are in Europe and 30% in the Americas. Listed indexes typically have 60% in North America and 20% in Asia. There are several reasons for the geographic differences, but key factors include the large market capitalization of regulated, publicly listed utilities in the US and the greater opportunity for private ownership of infrastructure internationally compared to the US where infrastructure is more likely to be government owned and operated. Balanced listed and private allocations can increase geographic diversification.

EXHIBIT 3 | Listed, private infrastructure are highly correlated over longer periods
Correlation of listed(a) vs private(b) infrastructure



At March 31, 2025. Source: Burgiss, Cohen & Steers.
The information presented above does not reflect the performance of any fund or other account managed or serviced by Cohen & Steers, and there is no guarantee investors will experience the type of performance reflected above. There is no guarantee that any historical trend illustrated above will be repeated in the future, and there is no way to predict precisely when such a trend might begin.
(a) Listed Infrastructure represented by UBS Global 50/50 Infrastructure & Utilities Index GR through 2015; FTSE Global Core Infrastructure 50/50 Index GR thereafter. (b) Private Infrastructure represented by Burgiss Global Private Closed-Ended Infrastructure Index.

"By sector, listed infrastructure offers allocations to a more diversified basket of companies, providing differentiated portfolio construction."



> *"Listed infrastructure is currently trading at a 10% discount to global equities, compared with a historical average premium of 9%."*

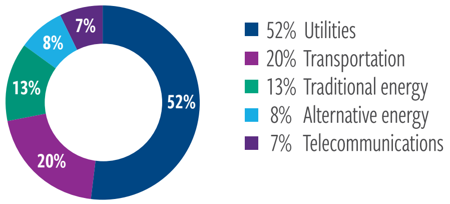
By sector, listed infrastructure offers allocations to a more diversified basket of companies, providing differentiated portfolio construction. Private infrastructure is more heavily allocated to energy, while listed has greater exposure to utilities (Exhibit 4).

Notably, however, private infrastructure investment is dependent on deal flow, which ebbs and flows by market demand and cycle stage. In the last five years, for instance, 89% of private transactions occurred in just energy, telecommunications and transportation. Listed, by definition, allows investors to continually allocate more nimbly across a wide range of sectors.

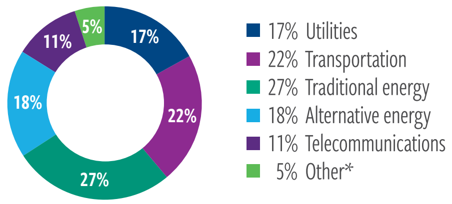
Listed managers can also create more diversified portfolios, while private managers have more concentration risk due to required asset sizes. This results in more concentration in private portfolios than investors realize.

EXHIBIT 4 | Listed, private Infrastructure are diverse by sector

Sector weights in the FT Wilshire GLIO Global Listed Infrastructure Index



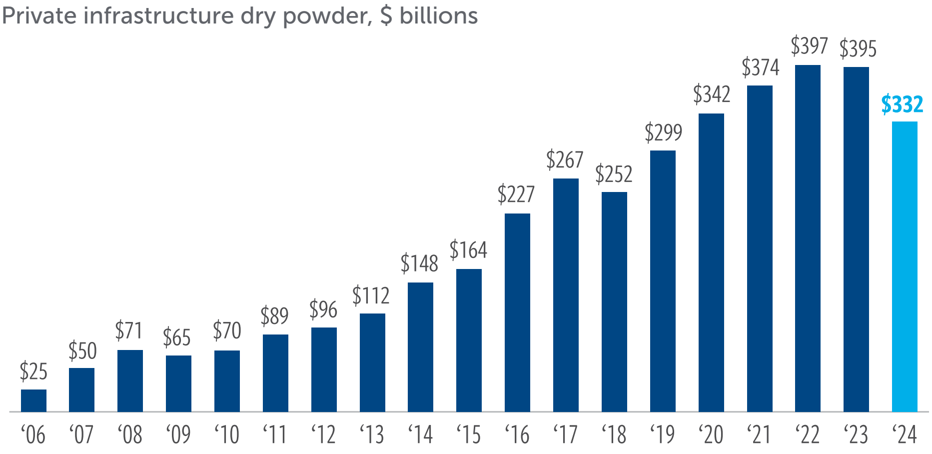
Share of private infrastructure transactions by sector (2006 to 2024)



At December 31, 2024. Source: GLIO, Preqin, Burgiss.
FT Wilshire GLIO Global Listed Infrastructure Index is used to provide relevant sector comparisons to private infrastructures in Burgiss database.

EXHIBIT 5 | Over $332b on the sidelines as institutional investors fall short of infrastructure targets

Private infrastructure dry powder, $ billions



At December 31, 2024. Source: Preqin, Goldman Sachs, Cohen & Steers.
Past performance, which is no guarantee of future results. There is no guarantee that any historical trend illustrated above will be repeated in the future, and there is no way to predict precisely when such a trend will begin. As defined by Preqin, "dry powder" is the amount of capital that has been committed to a private equity fund minus the amount that has been called by the general partner for investment. Preqin dry powder figures represent all private funds reporting data at 12/31/24.

Dry powder is substantial... and building

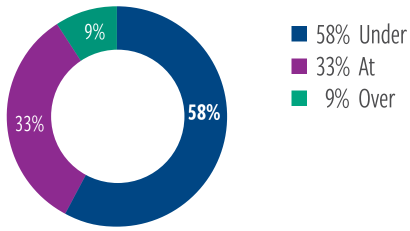
Institutions are not deploying private capital quickly enough to meet infrastructure allocation targets. Research from Preqin estimates that sovereign wealth funds, endowments, public pensions and other institutional investors have only funded 78% of their targets. This has led to a significant buildup of dry powder—capital committed but not yet deployed—within private infrastructure funds (Exhibit 5). We believe listed infrastructure can help close that allocation gap given the complementary nature of private and listed investments over the long term and the current relatively attractive valuations of listed.

This increase in dry powder reflects not only private infrastructure GPs' success in raising capital, but also the difficulty those GPs are having sourcing and executing on typically complex transactions in an increasingly competitive environment. As more funds are committed to the space, there are significant implications for both private and listed investors.

First, recent transactions suggest that the definition of "core" infrastructure in private funds is being expanded, allowing managers to cast a wider net. This means that investors may be exposed to assets lacking traditional attributes of infrastructure investments, such as inflation mitigation or resilient revenue models.

Second, listed companies are increasingly turning to "asset recycling" to fund growth initiatives, leading to a trend of selling assets, stakes, or entire businesses to private infrastructure investors—often at significant premiums. Over the last five years, there have been more than 100 such transactions, with an average premium of 31%. We believe the demand from private infrastructure investors creates a floor under the expected valuations for listed infrastructure companies.

EXHIBIT 6 | 58% of institutional investors are under-allocated to infrastructure



At May 1, 2024. Source: "2024 Institutional Infrastructure Allocations Monitor," published by Cornell University and Hodes Weills.

In addition, listed infrastructure valuations are unusually attractive. Listed infrastructure is currently trading at a 10% discount to global equities, compared with a historical average premium of 9%.[2] We expect that discount to narrow, given the new macro environment and tailwinds benefiting infrastructure businesses.

The Bottom Line

Most institutional investors remain under-allocated to infrastructure (Exhibit 6). We believe investors should turn to listed infrastructure to close that gap considering the combination of the currently attractive valuations for listed infrastructure and the long-term attributes that make listed complementary to private.

RESOURCES

1 *Mercer Investments' Large Asset Owner Barometer*

2 *Measured as the ratio of enterprise value to earnings before interest, taxes, depreciation, and amortization using current fiscal year estimates. Spread refers to the relative difference of EV/EBITDA multiples between infrastructure and global equities.*

TAKEAWAYS

The powerful combination of today's economic regime and the world's growing infrastructure investment needs is one that we believe will drive strong relative and absolute performance for infrastructure companies.

Private and listed infrastructure returns are very similar historically. Recent underperformance of listed is explainable, unlikely to persist and creates a favorable entry point for listed infrastructure.

As investors grow their allocations to infrastructure, we believe listed allocations should continue to increase considering its attractive stand-alone attributes as well as its complementary role alongside private.

***Benjamin Morton**, Executive Vice President, is Head of Global Infrastructure and a senior portfolio manager for Cohen & Steers' infrastructure portfolios. Prior to joining Cohen & Steers in 2003, Benjamin worked at Salomon Smith Barney as a research associate for three years, covering the utility and pipelines sectors. He also worked at the New York Mercantile Exchange as a research analyst covering energy commodities.*

***Tyler Rosenlicht**, Senior Vice President, is a portfolio manager for Global Listed Infrastructure and serves as Head of Natural Resource Equities. Prior to joining the firm in 2012, Tyler was an investment banking associate with Keefe, Bruyette & Woods and an investment banking analyst with Wachovia Securities.*

***Jeffrey Palma**, Senior Vice President, is Head of Multi-Asset Solutions, responsible for leading Cohen & Steers' asset allocation strategy and macroeconomic research. Prior to joining the firm in 2021, Jeffrey was a managing director at State Street Global Advisors, where he led a team of 20 individuals responsible for investment strategy and strategic asset allocation, as well as portfolio construction and implementation.*

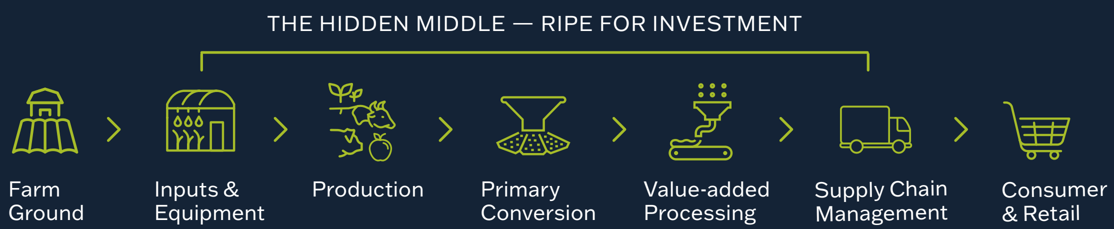
Focused **agribusiness** investment strategy

YOUR OPPORTUNITY

Agribusiness Investments in Real Assets, Infrastructure and Private Equity

Food production must increase by 60% by 2050 to support a rising global population. Growth required in the food and agribusiness sector will intensify the focus on the “hidden middle” of the value chain—aggregators, processors, and distributors.

Closing the financing gap in this midstream segment will be critical for food security, efficiency, and sustainable growth. As such, companies in this sector present a compelling opportunity for investors.



AGR PARTNERS MANAGES

$1+

BILLION

focused on the food and ag value chain.

The firm has executed on its strategy for

10+

YEARS

providing investors with risk-adjusted returns in a growing sector.

YOUR SOLUTION

Invest in the Hidden Middle with a Private Equity Approach and Experienced Partner

AGR Partners provides strategic capital to agribusinesses. As value investors, the firm aligns interests with industry-leading operators while striving to enhance risk-adjusted returns.

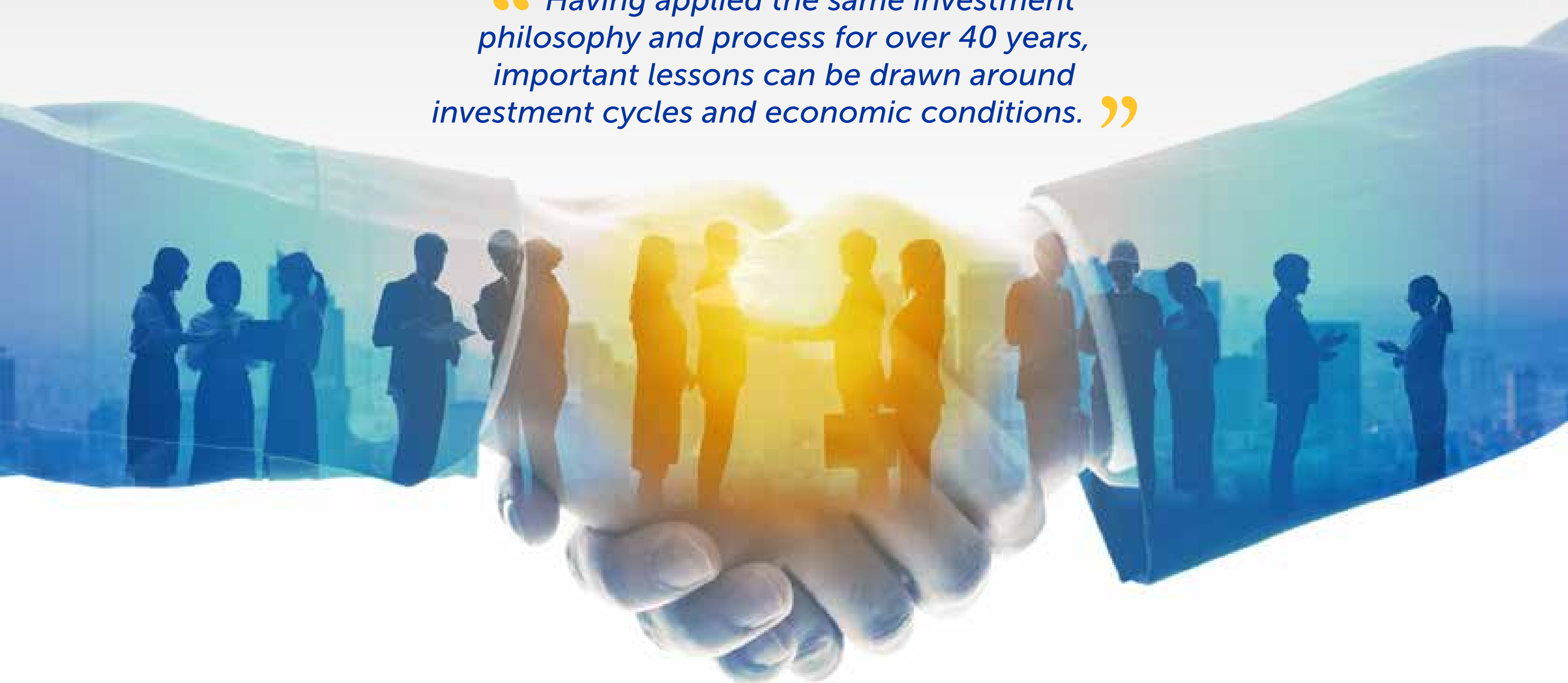
With twenty investments and an experienced team, AGR helps business leaders in established markets drive long-term growth and shape the future of agribusiness.

AGR PARTNERS

Learn more about this investment opportunity, including demand tailwinds and transactions catalysts, by scanning here.

THE (OCCASIONAL) CASE FOR M&A

"Having applied the same investment philosophy and process for over 40 years, important lessons can be drawn around investment cycles and economic conditions."



Proclamations that international equities are the place to be are becoming hard to miss. During February, calls from an array of investment commentators and pundits urging investors to consider opportunities beyond the highly valued US equity market grew yet louder. We at Walter Scott don't disagree.

Where our perspective differs, however, is that we have long believed in the outlook for the best companies outside of North America. For us, this is far more than a fleeting market call or enticing soundbite. It is a belief grounded in our company research and our long-term investment outlook.

Having applied the same investment philosophy and process for over 40 years, important lessons can be drawn around investment cycles and economic conditions. We can also apply that experience when judging corporate behavior, honing our ability to find companies that will meet our long-term investment objectives.

Over the years, we have steered away from companies that are subject to cyclical forces without a clear tailwind for long-term growth behind them. We have also tended to avoid companies with overly complex or opaque financing arrangements, and we have maintained a healthy scepticism around the promises of M&A.

> “Strategically, the case for any acquisition must stack up on a 20-year view, with robust financial modelling over a 10-year horizon.”

LEARNING LESSONS, NOT SETTING RULES

Yet these lessons are not rules. We use them to guide, not constrain, our decision making. There will always be exceptions. Take M&A. Countless academic studies have questioned whether many acquisitions create value. We have learned to treat estimated savings courtesy of synergies with a pinch of salt, likewise, ambitious timelines for the integration of businesses. But with "The Art of the Deal" very much in focus in February, it seemed timely to consider companies where M&A has been a success and where acquisition-led growth is an important part of their long-term growth outlook.

THE CASE FOR BOLT-ON ACQUISITIONS

Compass is one example of a company where bolt-on acquisitions have created rather than destroyed value and been an important contributor to growth over the years.

In February, the CFO and Head of IR joined one of our research meetings to provide an update on the company's strategic outlook and take questions from the team. As we have become used to from Compass, the message from the CFO, Petros Parras was reassuringly consistent. In this conversation and in our previous meeting with him in November last year, we heard about management's focus on achieving the right balance between buybacks and M&A, and delivering growth through both organic growth and acquisitions.

Europe remains an area of focus for the company. With market share currently 7%, management believes there is scope for growth. Having spent $1.7bn in 2024 on a series of acquisitions across Europe to tap into outsourcing demand, they have mapped out further new business opportunities across the company's top 10 European markets indicating that there will be more M&A as they pursue opportunities in interesting sub-sectors.

Sage Group is another example of a company where the consensus view on the value of M&A does not, in our view, apply.

Sage is a leader in accounting, financial, HR and payroll technology for small and medium sized enterprises (SMEs). For its customers, Sage's services deliver efficiency, accuracy, regulatory compliance, systems integration and business analytics. For companies that might still be relying on Excel spreadsheets or even pen and paper book-keeping, these benefits can be significant.

Sage has shown that the value delivered through its services and solutions builds loyalty and long-term customer relationships. The company's success has also come from its ability to continue to improve and augment its services. M&A has been an important part of that development.

Just taking the final quarter of 2024, Sage announced two deals that very much reflected its strategic gameplan. The company acquired Barcelona-based ForceManager, a tool that supports SME sales teams to improve efficiency and productivity. This deal was very much in Sage's wheelhouse in delivering AI-enhanced tools that help its clients enhance their day-to-day operations. ForceManager was also already part of the Sage partner ecosystem, giving the company meaningful insight into the merits and customer appeal of its offering.

Sage also acquired Anvyl, a New York-based technology firm, in the fourth quarter. Anvyl's supply chain software will augment Sage's existing Supply Chain Execution solution and in turn provide customers with greater visibility across their supply chains from purchase order to warehouse management. Supply chain transparency and control is an area of growing complexity and importance and so this deal should position the company well to tap into the evolving needs of its customer base.

ORGANIC AND ACQUIRED GROWTH

UK-based Halma consists of a group of businesses making equipment that protects human lives, infrastructure assets and natural resources. Halma's products are ubiquitous. They range from medical products and diagnostic equipment found in hospitals and laboratories, to fire detection systems and elevator safety devices within office buildings and shopping centers.

Growth across these areas has been, and will continue to be, underpinned by regulation, urbanisation and growing climate change requirements amongst other long-standing shifts. A large part of its success and growth has also come from identifying and acquiring businesses that add expertise and exposure to these specialist fields. Acquisitions remain central to the company's growth plans with a targeted 10% annualised earnings per share growth over the long term, split evenly between organic and acquired growth.

The company's January investor event – titled "How we do M&A" – was a chance to hear from members of Halma's M&A team as well as the divisional heads who play an important role in identifying acquisition targets and ensuring the success of these deals. It was of no surprise that the company was keen to stress its robust due diligence processes, but discussion of its investment timeline was also striking.

Strategically, the case for any acquisition must stack up on a 20-year view, with robust financial modelling over a 10-year horizon. With the company's 40-year history and 170 deals to date, experience also counts for a lot. Management outlined what they look for and what they don't want. Attractive niches alongside differentiated solutions and products are high on their wish lists. They don't want turnarounds. Instead, they are looking for successful smaller companies with the potential to take the next step. They don't want deals presented by investment bankers. They are looking to buy companies that aren't up for sale.

Halma's decentralised approach and its belief in preserving the culture and spirit of any acquired company were noted. Integration, they explained, is not a word they use. This all means that Halma becomes an acquirer of choice, which in turn lessens the risk of competitive bids and keeps deal multiples more reasonable than they might otherwise be.

MORE SELLERS THAN ACQUIRORS

Acquisitions are also central to the growth outlook for another European company, Italian pharmaceutical group, Recordati. The company develops, manufactures and markets a range of medications and drugs, with over 400 prescription and over-the-counter products.

In its rare diseases division, it owns a collection of fast growing and highly profitable franchises treating ultra-rare and typically highly debilitating diseases. Those include rare metabolic diseases often caused by several genetic defects and oncology treatments for high-risk neuroblastoma patients.

These businesses have all grown through a combination oforganic growth and the acquisition of small to medium sized drug franchises. Disposals of non-core but still valuable assets from Recordati's larger peers have proved to be a particularly fruitful acquisition strategy over the years.

As with Halma, Recordati relies on its strong cash generation to fund these deals and it also makes the most of its management's expertise and lines of sight into niche pharmaceutical fields. The pipeline of drugs available for acquisition in the mid-sized deal range is rich. There are, however, few players with Recordati's business model and financial resource. Thanks to those attributes the company has repeatedly shown itself able to acquire the drugs and treatments that it really wants rather than compete against others over many possible deals.

ASTUTE M&A

On a much larger scale, LVMH is also an example of successful M&A over many years. This luxury giant has been built on a series of acquisitions.

Some of its more recent deals have allowed the group to extend into new luxury markets, such as travel and leisure through the purchase of Belmond. Others, such as the landmark acquisition of Tiffany, have cemented the group's leadership in a key growth market. Long-term planning is something that stands LVMH apart and that timeframe is something that has been very much in evidence in its dealmaking over the years.

In February, however, the focus was instead on disposals. Management quashed rumours of a planned sale of Moët Hennessy but declined to comment on the sale of its retail business, DFS. LVMH has previously shown itself to be as adept at disposals as it has been with acquisitions, with the sale of its cruise business in 2023 being just one example. So, watch this space.

CRITICAL THINKING

We have always treated M&A announcements with a degree of scepticism. That initial response is unlikely to change. But we won't ever write deals off. Across our research framework – our seven sisters – we challenge what companies are telling us, as well as our own analysis. We will always judge a company on its individual merits. So we will continue to scrutinize dealmaking from that perspective. We recognize that while many will fail to meet expectations, the right deal, approached in the right way, can deliver just the kind of growth we look for.

***Alan Edington** is an Investment Manager and oversees Sustainability Integration at Walter Scott. He is also a member of the Investment Management Committee. Prior to joining the firm in 2012, he worked at ManoCap, a private equity firm based in Sierra Leone, and as a lawyer at Slaughter and May. Before university, Alan undertook an extended internship at Walter Scott. He holds a BA (Hons) in Law from the University of Oxford and is a CFA charterholder.*

> *“We will always judge a company on its individual merits. So we will continue to scrutinize dealmaking from that perspective.”*

AS I SEE IT

Gurvir S. Grewal
Global Research Analyst,
William Blair

THE AI OPPORTUNITY:

INVESTING BILLIONS, IMPACTING TRILLIONS

“To navigate tomorrow’s technological landscape, investors must understand its underlying nature and remember the truism that hardware and software are complementary rather than relying on superficial impressions.”

“If the algorithms serve as the gears of a clock, then the growth in data, driven by the internet, and compute, driven by semiconductor technology, are no longer inert components but the very hands that set the gears in motion.”

Investing has long balanced art and science, blending ambition with caution. That duality is particularly acute when investing in the artificial intelligence (AI) ecosystem, where billions of dollars drive rapid developments that merit both optimism and rigorous scrutiny.

In part one of this new series, AI Alpha unveils AI’s promise; in part two, it tempers that optimism with critical inquiry. The key questions are whether AI will deliver on its financial promises, and who will ultimately capture these returns—the corporations or the consumers? Outcomes will vary by company, but we contend that today’s multibillion-dollar investments will translate into trillions of dollars of value over time.

AI: An Algorithmic Paradigm Shift

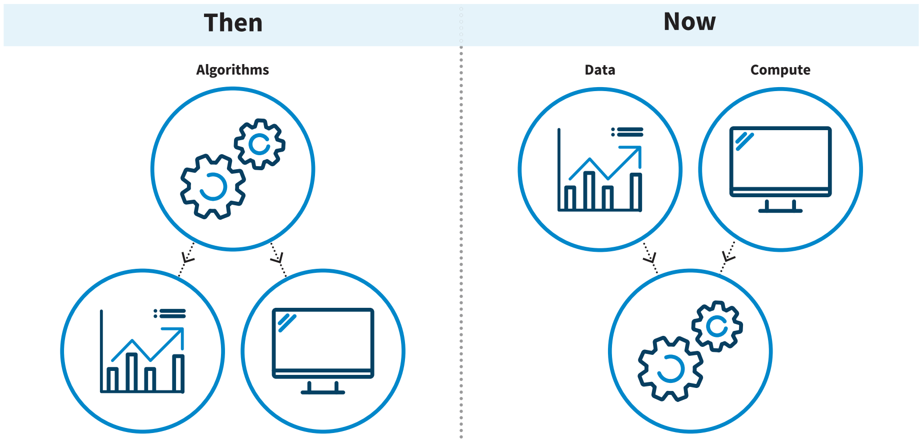
The rise of AI marks the dawn of a new era. To navigate tomorrow’s technological landscape, investors must understand its underlying nature and remember the truism that hardware and software are complementary rather than relying on superficial impressions.

Consider how the early pioneers of semiconductor transistors and the internet, once dismissed as niche tools for academia or military research, perceived a deeper truth: when compute grew ever cheaper, information could be processed with unprecedented speed and efficiency, and when communication costs plummeted, the dormant channels of global discourse burst into life. These were not mere random events but inevitable outcomes of fundamental shifts in physics and economics. By embracing a first-principles approach, one can discern the trajectory of innovation – thus identifying long-term growth opportunities rather than ephemeral trends.

What is it about AI’s core design that naturally produces transformative outcomes? Though a future article will explore this in detail, consider that since the birth of the modern computer industry in its von-Neumann architecture format (1940s), software engineers have crafted systems in which algorithms, like master craftsmen, orchestrated data and compute into a precise, predetermined mechanism. However, in the current paradigm, transformer-based models on graphics processing units (GPUs) have turned that mechanism inside out. If the algorithms serve as the gears of a clock, then the growth in data, driven by the internet, and compute, driven by semiconductor technology, are no longer inert components but the very hands that set the gears in motion.

“AI is then a model, a faithful replica, of our inherently intricate real world, capturing and mirroring patterns from vast expanses of data, with a capacity for complexity and intellect that often surpasses the confines of the human mind.”

What's Different About Today's AI?



Source: William Blair, as of March 2025.

> *This clear division of labor highlights that while AI is adept at replicating routine tasks, human reasoning remains essential for addressing unique challenges.*

Reversing the roles of data, compute, and algorithms is more than a semantic shift of algorithms from "software" to "AI"; it is a fulcrum upon which the landscape of technology pivots, a monumental leap that has the potential to redefine the very contours of progress. Traditional software is deterministic, executing precise instructions. In contrast, AI digests orders of magnitude more data at scale, continuously adjusting itself to deliver the most likely outcomes despite the complexities and nuances of the data it encounters. This iterative refinement makes it probabilistic. AI is then a model, a faithful replica, of our inherently intricate real world, capturing and mirroring patterns from vast expanses of data, with a capacity for complexity and intellect that often surpasses the confines of the human mind.

The shift from deterministic algorithms to their probabilistic counterparts mirrors the intellectual leap from Newtonian physics to the 20th century probabilistic frameworks of quantum mechanics and complexity theory, where uncertainty and emergent phenomena play a central role. This evolution reflects a broader intellectual journey from a strictly cause-and-effect worldview to one that embraces the inherent ambiguities and unpredictabilities of the natural world—a transformation that geniuses such as Ray Solomonoff, in his 1950s wisdom, recognized as the true destiny of algorithms. Now, with the explosion of data and leaps in computational power, the world has finally caught up to his prescient vision.

The Probabilistic Pivot: AI's Redefinition of Labor, R&D, and Software

Today's AI, rooted in its essential probabilistic nature yet reaching far beyond, stands as a discerning decision-maker—modeling the real world through high-quality input-output processing and digesting data on an unmatched scale. At the same time, it serves as a powerful tool that fuels experimentation, transforming trial and error into a catalyst for revolutionary research and development (R&D), accelerating cycles of trial, error, refinement, and ultimately discovery. With its expanding capabilities and rapidly falling costs, AI has the potential to both enhance and replace human judgment, transform R&D, and redefine software. With vast sums already funneled to labor, R&D, and software, I believe AI's impact can potentially reach into the trillions of dollars.

Let's explore how we get to that number by looking at each category in more detail.

Labor: AI's March into the Workplace

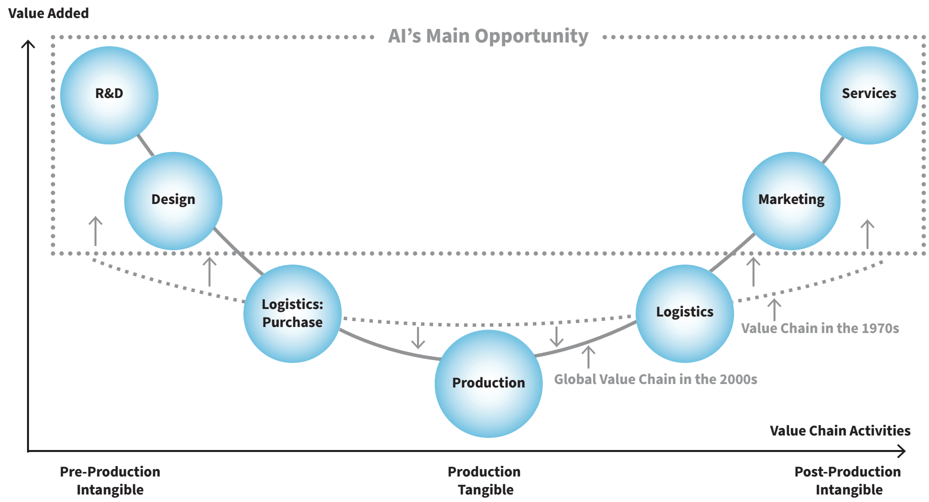
Until now, the human mind orchestrated the complex tasks that propelled economic activity. Today, however, AI emerges as a new force, also adept at modeling the world and exhibiting intelligence, reshaping the winner-take-all dynamics of economic labor.

AI excels at routine tasks by relying on inductive reasoning to extract probabilistic patterns from vast datasets, while the human mind retains an edge in deductive reasoning, dissecting novel problems through logical analysis. The former thrives on correlation, the latter on causation. An equity analyst who depends solely on pattern recognition—ingesting news, podcasts, and research reports—risks being outperformed by the more powerful AI, whereas one who applies mental models to understand causation can navigate novel scenarios more effectively where the AI finds the complexity difficult to interpret. This clear division of labor highlights that while AI is adept at replicating routine tasks, human reasoning remains essential for addressing unique challenges.

Many roles once dominated by human effort are increasingly susceptible to disruption as AI assumes tasks that once required extensive manual processing, particularly since many people are employed to manage the repetition of the daily economic machinery, providing a vast arena for the application of inductive AI. Even the supposedly difficult-to-reach areas are being challenged. In industries as heavily regulated as healthcare and insurance, AI has already demonstrated its capacity to reduce processes taking 15 weeks and 50 experts to less than 10 minutes and 3 experts[1] and a quarter of all computer programming jobs have already vanished.[2]

> *In the true spirit of Joseph Schumpeter's creative destruction, firms must disrupt their own labor practices from within, for if they fail to do so the market will impose change upon them, replacing inertia with innovation.*

AI's Main Opportunity



Source: Reis, C. F. de B., & Souza, A. B. de. (2022). Drawing Value Curves: Lessons From Financial Statement of The World's Biggest Manufacturing Corporations. Revue D'économie Industrielle, (179), 39-68. For Illustrative purpose only.

AI's role is twofold, as it may either complement human labor by enhancing efficiency or replace it entirely when tasks are routine. The relentless logic of capitalism suggests that companies leveraging AI's advantages—its efficiency, cost-effectiveness, and capacity for continuous improvement—are likely to outcompete those clinging to outdated methods, driving a transformation of labor demand. In the true spirit of Joseph Schumpeter's creative destruction, firms must disrupt their own labor practices from within, for if they fail to do so the market will impose change upon them, replacing inertia with innovation.

Getting to the Trillions

Through globalization, developed countries have retained high-value-added, intangible services domestically while outsourcing lower-value tasks such as manufacturing, thereby creating a vulnerability.

Global labor spending likely exceeds $50 trillion annually.[3] In the United States alone, $10 trillion is devoted to wages, of which $7 to $8 trillion funds service- and knowledge-based activities—research, design, marketing, finance, and education—which are areas naturally suited to AI's data-processing and pattern-recognition capabilities. This enables AI to assume and augment tasks once the exclusive province of human effort.

As an example, in sectors such as legal, financial services, and healthcare, the reduced cost and increased digital accessibility of AI make it significantly easier for everyone to obtain legal, financial, and health information. Consequently, providers in these fields must adapt by specializing and offering premium services or face displacement by AI. This creates a dual transformation: while the labor force is reshaped, customers benefit from lower costs unlocking democratized access to information.

Even within traditional areas such as manufacturing, although it accounts for only 10% to 11% of US gross domestic product (GDP),[4] a significant portion of its activity is high-value innovation. The nation allocates roughly 3.5% of GDP to R&D,[5] and manufacturing firms conduct about 70% of all private R&D. This implies that a significant portion of manufacturing's output derives not only from assembly-line labor, but also from research, engineering, and design—higher-value tasks that will be affected by AI.

R&D: Experimentation at Industrial Scale

AI functions as a digital model of the real world that replicates physical assets and processes, serving as a virtual laboratory where real-world complexities are mirrored and experimentation and rapid prototyping are both possible and efficient. This setup enables controlled trial and error, with its probabilistic compute drawing on diverse data sources—text, images, video, chemical molecules, genes, code, sensor data, databases, and much more—to simulate and refine outcomes, thereby accelerating innovation across various industries.

This capacity for experimentation is already being applied across multiple fields. For example, AI is used to design innovative battery components, create new polymers, and deal with novel autonomous driving scenarios. An example of how AI can help tackle monumental challenges such as global warming, AI models excel at sifting through billions of possibilities among metal-organic frameworks—complex structures of metal ions linked by carbon compounds tailored to specific climates, such as humid sea-level versus dry, high-altitude conditions—to identify the optimal CO_2-absorbing material, a task that would overwhelm human chemists.[6]

Although the inherent flexibility of AI's probabilistic outputs may slow adoption in areas requiring exact precision, such as healthcare or finance, the world is inherently imprecise. We do not seek the perfect version of a movie, podcast, blog, or article, but rather we desire one that is "good enough" to fulfill our needs—whether to entertain, to illuminate the workings of a company, to complete a task, or to discover a molecule that mitigates illness. It is in this prevailing imprecision—where exactitude is the exception—that AI finds a vast canvas for experimentation, steering us toward ever more refined and effective solutions.

> *“Any repetitive process that yields data suitable for pattern extraction naturally lends itself to systematic AI-driven experimentation.”*

Getting to the Trillions

Any repetitive process that yields data suitable for pattern extraction naturally lends itself to systematic AI-driven experimentation. Today, industries such as semiconductor chip design, drug discovery, software development, and content creation are rapidly incorporating AI to enhance efficiency and innovation. Companies in these sectors are investing heavily in research and development, with global R&D spending reaching approximately $2.75 trillion annually[7] —a figure that continues to grow as a percentage of global GDP.[8]

As AI reduces the cost and increases the speed of experimentation, we can expect overall R&D expenditure to expand further, while the share driven by AI also rises significantly. In time, AI-enhanced research may come to dominate the R&D landscape, capturing an increasingly larger portion of this multitrillion-dollar investment.

Software: Code Goes Cognitive

The same economic forces that complement and replace labor are equally transforming software. The Moneyball revolution once upended baseball by redefining player valuation and team strategy through software; today, AI is not merely following those footsteps but is propelling the sport into a new era.[9] AI’s impact extends far beyond baseball of course. For instance, it directs Meta in tailoring content and advertisements for more than three billion users, underpinning $165 billion in revenue. In a dramatic shift, Tesla’s autonomous driving mission moved from years of investing in full self-driving (FSD) v1 through v11—systems based on hard-coded rules for performance and safety—to FSD v12, which employs iterative, efficient models that reduce C++ code and human intervention by a hundredfold while significantly enhancing performance and safety.

Yet, not every organization boasts visionary leadership. While tech giants have swiftly pivoted toward these innovations, many firms remain anchored in outdated practices. In the digital age, every organization will be affected by AI to varying degrees—some adapting rapidly, others being compelled to change by the relentless logic of capitalism, where creative destruction spares no one.

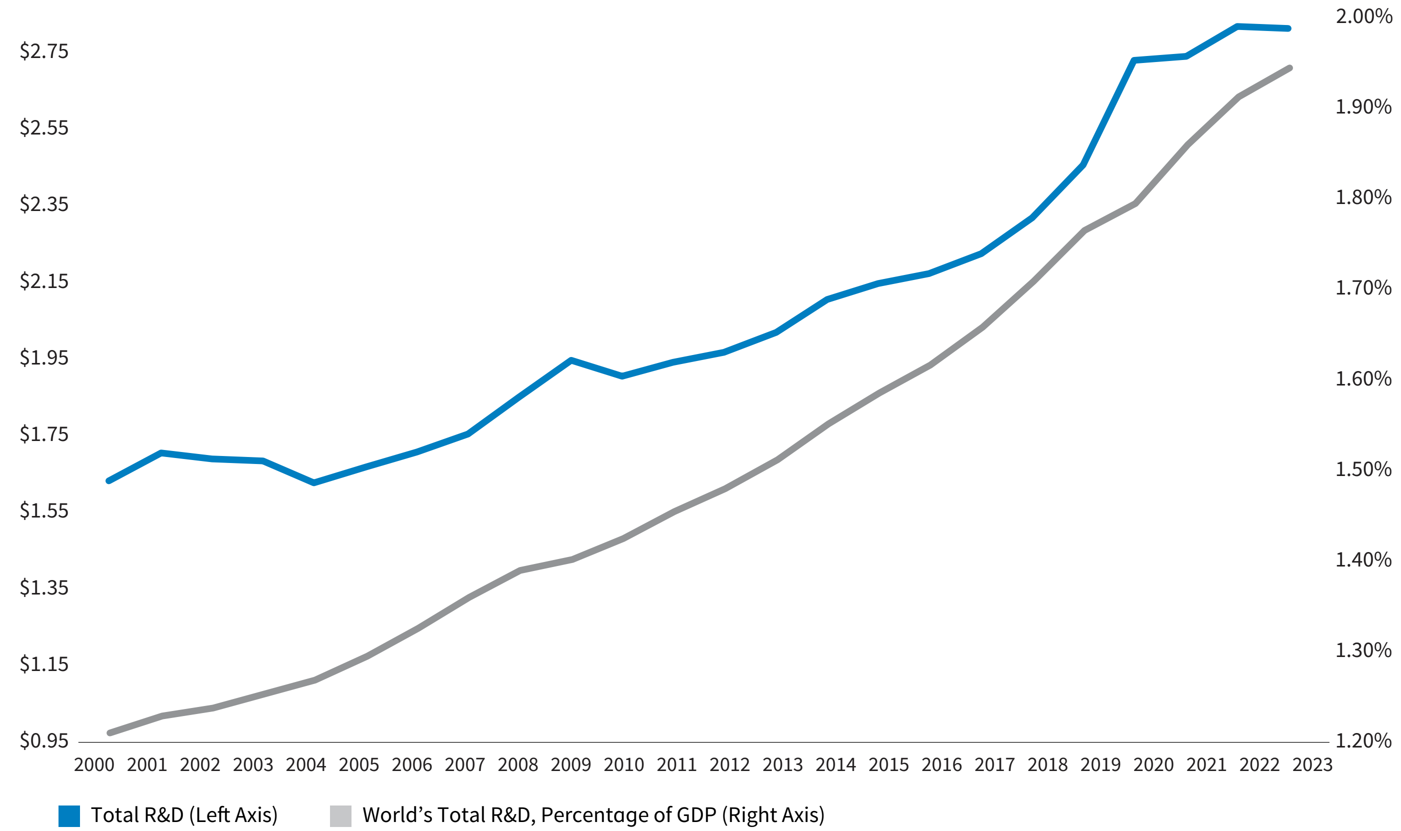
Getting to the Trillions

The transition from traditional software to AI is well underway, with AI already outpacing conventional software-as-a-service (SaaS) at this early stage of its journey.

As part of the financial ecosystem driving this change, Stripe’s 2024 annual report provides valuable insight, referring to “a large number of companies with rapidly growing businesses including OpenAI, Anthropic, Suno, Perplexity, Midjourney, Cognition, ElevanLabs, LangChain, Pinecone, Mistral, Cohere, Sierra, Decagon, Invideo, and countless others that aren’t yet household names (but may become so at any moment).”[10]

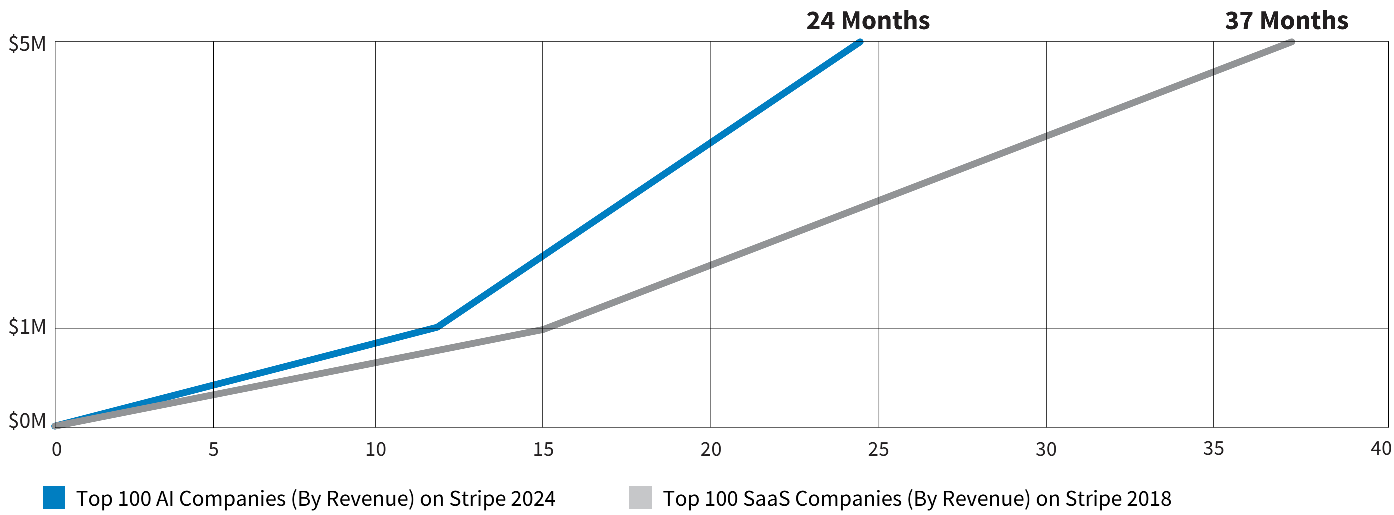
These emerging companies represent just a glimpse of the future being built on the foundation of AI. Consider that “Cursor, the AI-powered coding assistant, raced to over $100 million in recurring revenue in just three years.”[11] To describe it simply as a “coding assistant” is to diminish its economic resonance. It has ushered in what some now call “vibe coding,” enabling the creation of games in mere hours, a task that once demanded years of effort creating what now looks like a bloated gaming development industry. In this singular example, we witness how AI emerges not simply as a tool but as a force rewriting of our economic and software paradigms.

Global R&D Growth, in USD Trillions and a Percentage of GDP

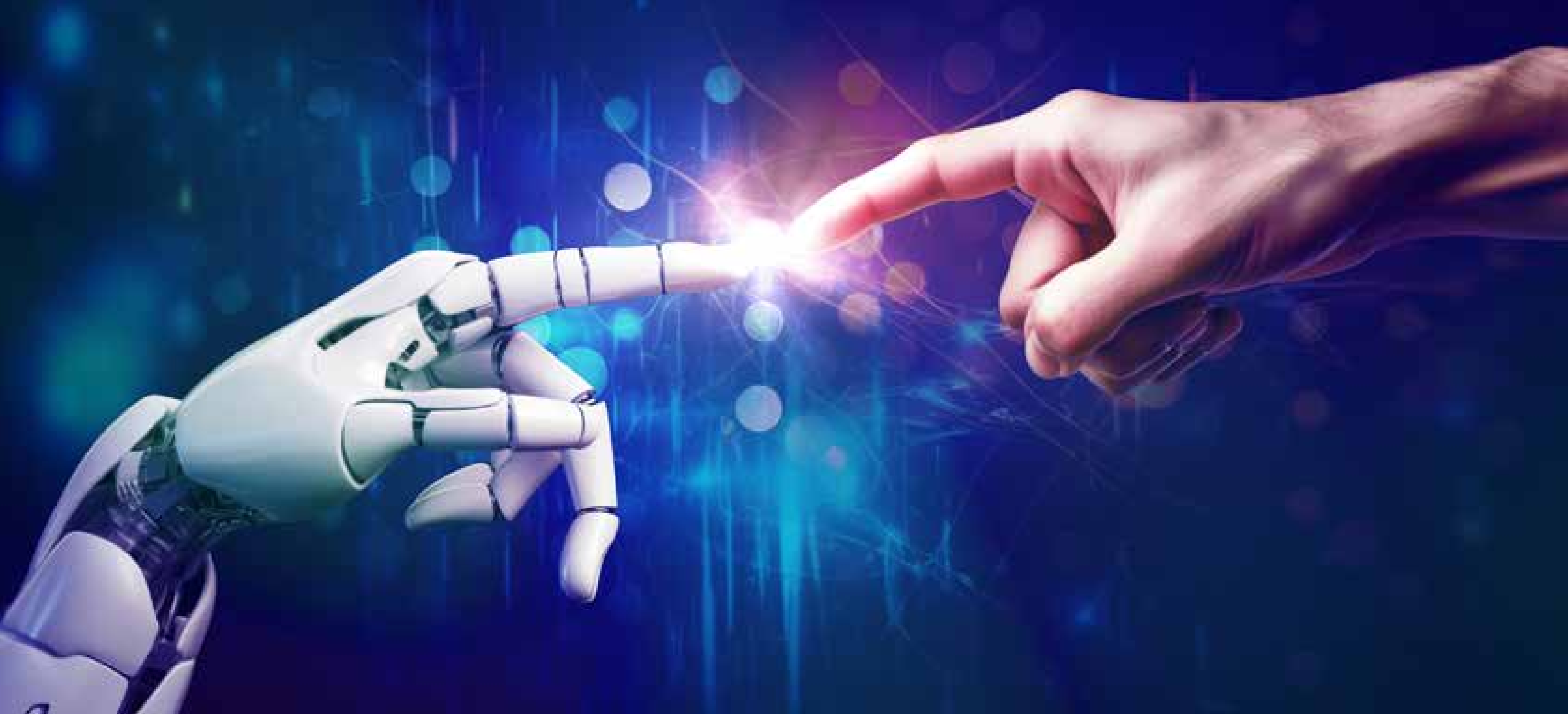


Source: Bonaglia, D., Rivera León, L., and Wunsch-Vincent, S. (2024, December 18). End of Year Edition–AgainstAll Global R&D Has Grown Close to USD 5 Trillion in 2025. World Intellectual Property Organization. WIPO estimates based on Gill Database and data from Eurostat, OECD, RICYT, and UNESCO INS.

Median Time to Annualized Revenue Milestone



Source: Collison, P., and Collison, J. (2025, February 27)



Worldwide, traditional software spending now exceeds $700 billion[12] and is forecast to reach $1 trillion[13] before the decade's end. For decades, the Information Age has been built on the sturdy foundation of algorithms embedded in traditional software, woven ever more deeply into society's fabric—now, AI is set to accelerate the role of algorithms in driving economic activity.

Even at this embryonic stage, AI has shown that when it models the complexity of the real world through data, it can be optimized to generate billions of dollars in savings. Shell's PortXChange cut vessel idle time by 20%, Fortescue's AI-driven energy use and mining operations trimmed power capacity costs by nearly $500 million, and UPS's recalibrated delivery routes with AI slashed fuel expenses by hundreds of millions of dollars.[14]

Satya Nadella, CEO of Microsoft, has warned that business applications—essentially databases with embedded business logic—could be on the brink of collapse, to be replaced by AI agents capable of learning and executing complex logic which could upend conventional systems.[15] Chamath Palihapitiya's critique of the $5 trillion Software Industrial Complex (SIC), which he contends inflates at 10% to 15% per year and has grown unsustainable over 30-plus years, is underscored by CIOs spending hundreds of millions on bloated solutions that drain margins;[16] in this critical juncture, any SaaS model that merely replicates low-context human tasks without incorporating deep, nuanced domain expertise or a human element is at risk of being replaced by AI.

In a global economy valued at $100 trillion, I believe AI is poised to command an ever-growing share of business and consumer workloads, propelling its economic influence into the realm of trillions.

Final Word

Much remains to unfold. I believe that AI, as a general-purpose technology, will not only augment other technological breakthroughs, but also amplify their impact, driving economic value into the realm of trillions of dollars. Yet this enormous potential does not automatically translate into outsized investment returns, a subject that part two of this series will examine in detail.

RESOURCES

1 *The Information.*

2 *13D Research & Strategy, WILTW, as of April 10, 2025.*

3 *Our World in Data.*

4 *U.S. Department of Defense.*

5 *U.S. Department of Defense.*

6 *The Economist.*

7 *World Intellectual Property Organization (WIPO).*

8 *World Bank.*

9 *The Economist.*

10 *Stripe.*

11 *Stripe.*

12 *Statista.*

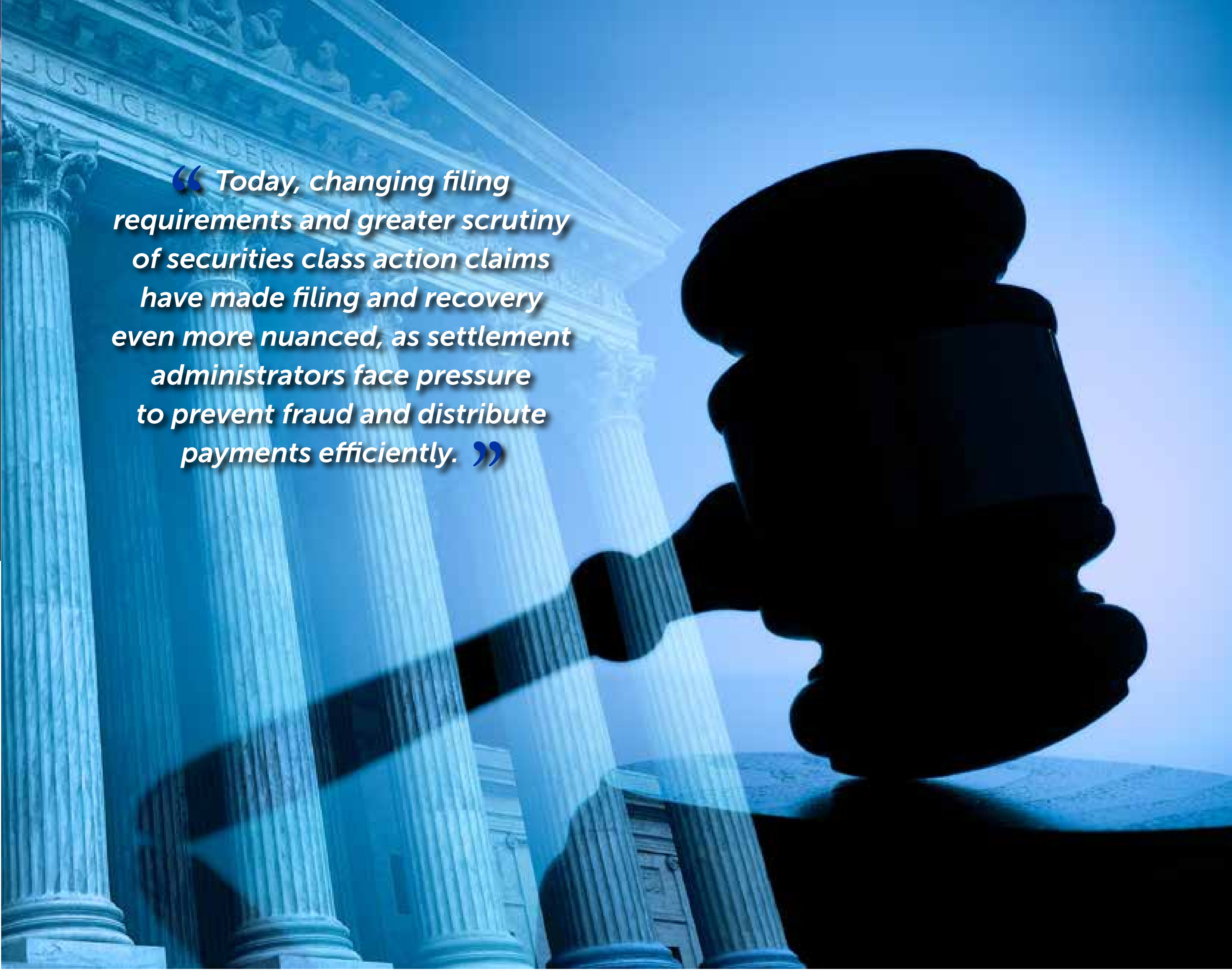
13 *Precedence Research.*

14 *The Economist.*

15 *Bg2 Pod.*

16 *All-In Podcast.*

Gurvir S. Grewal *is a US specialist analyst on the global equity team at William Blair Investment Management. Before joining the firm, Gurvir was a quantitative analyst at QMC, a Dubai-based quantitative hedge fund. Before that, he was an emerging markets equities trader at Morgan Stanley in London. Gurvir received an MEng in EEM (engineering, economics, and management), with first-class honors, from the University of Oxford. There, he focused on machine learning, signal processing, and optimization.*



"Today, changing filing requirements and greater scrutiny of securities class action claims have made filing and recovery even more nuanced, as settlement administrators face pressure to prevent fraud and distribute payments efficiently."

NAVIGATING THREE OF TODAY'S BIGGEST SECURITIES CLASS ACTION PAIN POINTS

A successful shareholder recovery program has long demanded specialized expertise – not only in the legal realm, but also regarding the operational and historical data complexities of class actions.

> *“While administrator decisions are largely accurate, mistakes do happen given the large number of claims processed in most securities settlements.”*

Today, changing filing requirements and greater scrutiny of securities class action claims have made filing and recovery even more nuanced, as settlement administrators face pressure to prevent fraud and distribute payments efficiently. As a result, ensuring claim survival from the initial filing through final payment distribution has become more challenging for pension funds. To navigate this operational friction, plans need the right combination of people, process, and technology so they can solve routine issues with automated workflows and proactively flag non-standard or complex issues for manual intervention.

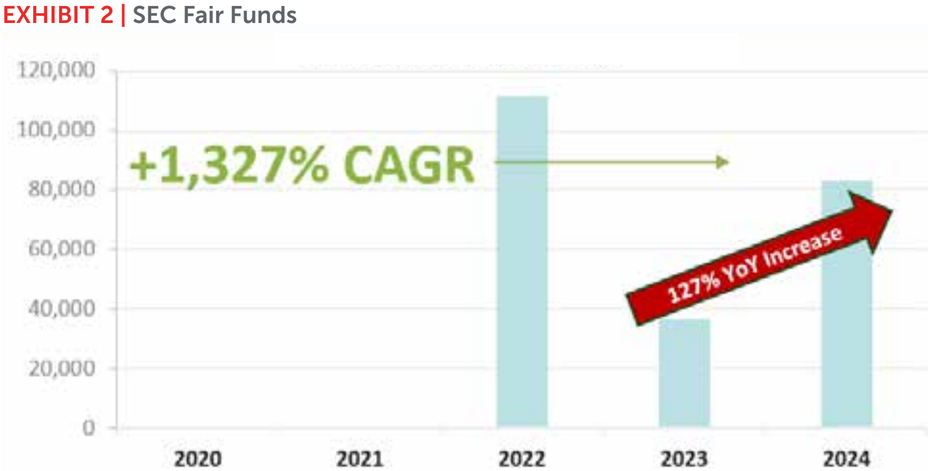
MANAGING DOCUMENTATION AUDITS

Increasingly, the administrators responsible for processing class action settlements require pension funds to provide independent documentation (e.g., bank and broker statements) that substantiates the transaction activity provided in their filed claims. In typical securities class actions, higher-value claims are more likely to be audited. This raises the financial stakes of addressing these requests quickly and effectively, given the often-large volume of submissions that administrators must review in a timely manner. SEC Fair Funds present an even greater hurdle for investors, as these enforcement actions require full documentation of all claims in order to receive payment.

Exhibits 1 and 2 show the number of documentation audits FRT has managed in securities class actions and SEC Fair Funds from 2020-24, illustrating the dramatic growth in claim scrutiny. In response, plans should ensure they establish processes and solutions for managing these requests efficiently – as this gives shareholders more time to respond and reduces the risk of claim rejection. For example, in lieu of providing original transaction statements when they no longer exist, FRT has developed templated affidavits that attest to the reliability of a plan’s records.

EXHIBIT 1 | Security Class Actions

EXHIBIT 2 | SEC Fair Funds



PREVENTING CLAIM REJECTIONS

Settlement administrators can deem claims deficient for a variety of reasons, including:

- Ineligible securities (i.e., not covered under the settlement terms)
- A determination of zero recognized loss
- Missing TINs or account information

Addressing these issues when they arise is critical, as they determine claim survival and recovery amounts. At FRT, we subscribe to the slogan that "the best deficiency is one that never happens." For pension plans, their class action recovery processes should be able to identify routine issues (such as those listed above) for further investigation and, if needed, engage in direct communication with the administrator to validate the eligibility of a claim. While administrator decisions are largely accurate, mistakes do happen given the large number of claims processed in most securities settlements. Having a "second set of eyes" monitoring the quality of your plan's class action claims can help pensions proactively cure deficiencies.

CLASS ACTION PROGRAM OVERSIGHT

Maintaining an effective class action program today means tracking and understanding where filed claims stand in the recovery lifecycle. Fund operations teams need a way to monitor results and support governance objectives, while also balancing class action work against their many other day-to-day responsibilities.

Ultimately, pensions can benefit from having a single book of record for shareholder recovery – one that can provide case-specific insights, board-level reporting, and automated alerts regarding upcoming case deadlines. Without this, it would be difficult for pensions (or third-party providers responsible for class action filing) to understand the status of ongoing recovery opportunities and how they evolve over the course of a multi-year settlement lifecycle.

CONCLUSION

Facilitating securities class action monitoring, filing, and recovery falls squarely under a plan's fiduciary responsibility to its members. But how pensions manage their class action programs matters more now than ever, primarily for the reasons listed above. Plan executives can benefit from assessing the checks, balances, and internal controls of their class action programs today – and whether they serve to improve claim survival rates.

__Bill Kidder__ is Chief Operating Officer at Financial Recovery Technologies (FRT) and is responsible for global operations and client success. He joined FRT in 2020 from Brown Brothers Harriman & Co., where he was most recently the executive in charge of global project delivery for Investor Services. Bill graduated magna cum laude from Boston University and earned his MBA from Boston College.

"The final Budget Act of 2025 authorizes $321.1 billion in total spending, including $228.4 billion from the General Fund."

State Association of County Retirement Systems

LEGISLATIVE REPORT

The Legislature wrapped up their House of Origin deadline on June 6 after convening two weeks of floor session votes to move over a thousand bills to the other House. But that was not before both Houses made its fiscal deadline on May 23 - when the Legislature took its first big cut of bills. With the state facing an estimated $12 billion deficit and growing, both Appropriations Committees were tasked with holding many bills back that had fiscal impacts. In the Senate, with 432 measures, leaders held 29%, up from 25.5% last year; and, of the 666 bills in the Assembly, lawmakers held 35%, which is consistent with their actions last year.

Meanwhile, legislative leadership and budget staff are working to reach an agreement on a budget plan. The Senate and Assembly announced an agreement amongst the houses on June 9 but final negotiations with the Administration are ongoing. Key points of contention include the Governor's proposal to advance the Delta Conveyance Project, and significant cuts to Medi-Cal—such as eliminating dental benefits for adults, halting new enrollment for undocumented Californians, and imposing monthly premiums on those already enrolled. Amidst all of this activity, and after weeks of rumors, the Senate voted for a new leader this week, Senator Monique Limon from Santa Barbara. She will replace the current Senate President Pro Tempore Mike McGuire next year. This transition wasn't entirely unexpected as Senator McGuire is termed out in 2026. However, the vote came quickly after Senator Limon was able to secure the votes necessary to make the transition official.

Governor Gavin Newsom signed California's 2025/26 budget into law on June 27, just ahead of the start of the new fiscal year. Alongside the budget, he also signed SB 131 — a significant overhaul of the California Environmental Quality Act (CEQA) for infill housing — a policy he had made a key condition for his approval of the budget.

While the Legislature passed an initial budget bill on June 15 to meet its constitutional deadline, negotiations continued throughout the remainder of the month. The final Budget Act of 2025 authorizes $321.1 billion in total spending, including $228.4 billion from the General Fund. The budget is balanced and includes $15.7 billion in total reserves, with $11.2 billion in the Rainy-Day Fund and $4.5 billion in other reserves.

Governor Newsom had emphasized that CEQA reform was a prerequisite for his support of the budget – pointing to the proposal as a key tool California needs to address its affordability and homelessness crisis. SB 131 delivers on that priority, introducing major changes aimed at streamlining environmental review for infill housing projects, as well as certain other developments such as broadband infrastructure, healthcare facilities, and wildfire mitigation projects. Despite significant opposition from environmental groups, the bill passed with strong bipartisan support in the Legislature.

With the budget now enacted, lawmakers are shifting focus to the policy committee deadline of July 18, by which time all bills must pass through their respective policy committees. The Legislature will then recess for their summer break, reconvening on August 18. Upon their return, bills will advance to the Appropriations Committees and then to floor votes. The Legislature is scheduled to adjourn for the year on September 12.

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 was heard by the Senate Judiciary Committee on 7/15 and 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 passed out of the Senate Committee on Labor and Public Employment and Retirement and was heard in the Senate Judiciary Committee on 7/8.

AB 339 (Ortega) - would require the governing body of a public agency to give a recognized employee organization no less than 120 days' written notice before issuing a request for proposals, request for quotes, or renewing or extending an existing contract to perform services that are within the scope of work of the job classifications represented by the recognized employee organization.

Status: This bill was heard in the Senate Committee on Labor and Public Employment and Retirement on 7/9.

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 was heard in the Senate Committee on Labor and Public Employment and Retirement on 7/9.

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 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 and make government more responsive to local needs that is established pursuant to the charter of a city with a population of more than 3,000,000 people that is subject to the Brown Act.

Status: This 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 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) - This bill 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: This bill passed out of the Assembly PERS committee and has been referred to the Assembly floor.

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: This bill was heard in the Assembly Governmental Organization Committee on 7/9.

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 sponsors of SB 239 (Arreguin) are now working with Senator Durazo and have amended the bill to narrow the public participation requirements to cities, counties and special districts with certain population thresholds. The bill's two-way conferencing and translation requirements appear to no longer apply to the County Boards of Retirement. Additional amendments are expected in the Assembly related to remote comments.

Status: The bill was heard in the Assembly Local Government Committee on 7/16.

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: This bill passed out of the Assembly PERS Committee and was heard in the Assembly Appropriations Committee on 7/2.

*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.*

For the most current status on proposed legislation, visit **sacrs.org/Advocacy**.

SACRS

SPRING CONFERENCE 2025

PHOTO GALLERY

SACRS Spring Conference 2025 was held May 13-16 at the beautiful Omni Rancho Las Palmas Resort & Spa in Rancho Mirage and included thought-provoking keynotes, noteworthy panels, and valuable breakout sessions covering a variety of topics. Here is a look back at a few of the wonderful speakers, enlightening education sessions and networking events.





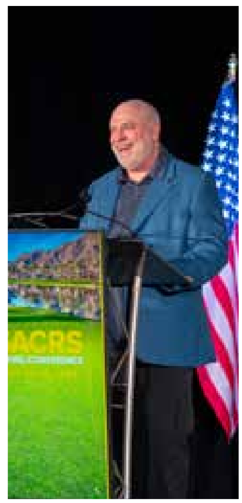








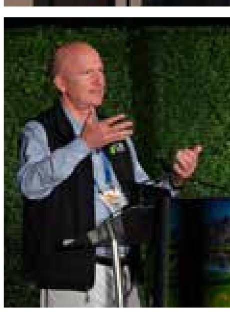
2025
FUN RUN
START
FINISH




SACRS


SACRS


SACRS



CONGRATULATIONS

During the Spring Conference, then SACRS President David MacDonald recognized two outstanding SACRS volunteers and SACRS Spring Conference 2025 Community Hero awardee Coachella Valley Rescue Mission, an organization that offers emergency services, recovery programs and community outreach to local people experiencing homelessness, hunger and life challenges.

David MacDonald presented awards to JoAnne Svendsgaard, Executive Vice President, Marketing, North America, Adrian Lee & Partners and to Sam Austin, **Title?**, New England Pension Consulting (NEPC).

Accepting the SACRS Community Hero award are Coachella Valley Rescue Mission's Executive Director Amanda Galindo and Community Relations Coordinator Scott Wolf.


SAVE THE DATE
SACRS
SPRING 2026
CONFERENCE
MAY 12-15
EVERLINE RESORT & SPA • OLYMPIC VALLEY, CA
REGISTRATION OPENS JANUARY 2026, CHECK THE SACRS WEBSITE FOR MORE DETAILS.

STATE ASSOCIATION *of*
COUNTY RETIREMENT SYSTEMS

840 Richards Boulevard
Sacramento, California 95811
(916) 701-5158

UPCOMING CONFERENCE SCHEDULE

FALL 2025

Nov. 11-14

Hyatt Regency Huntington Beach Resort and Spa

Huntington Beach, CA

SPRING 2026

May 12-15

Everline Resort & Spa

Olympic Valley, CA

FALL 2026

Nov. 10-13

Omni Rancho Las Palmas Resort & Spa

Rancho Mirage, CA

SACRCS™