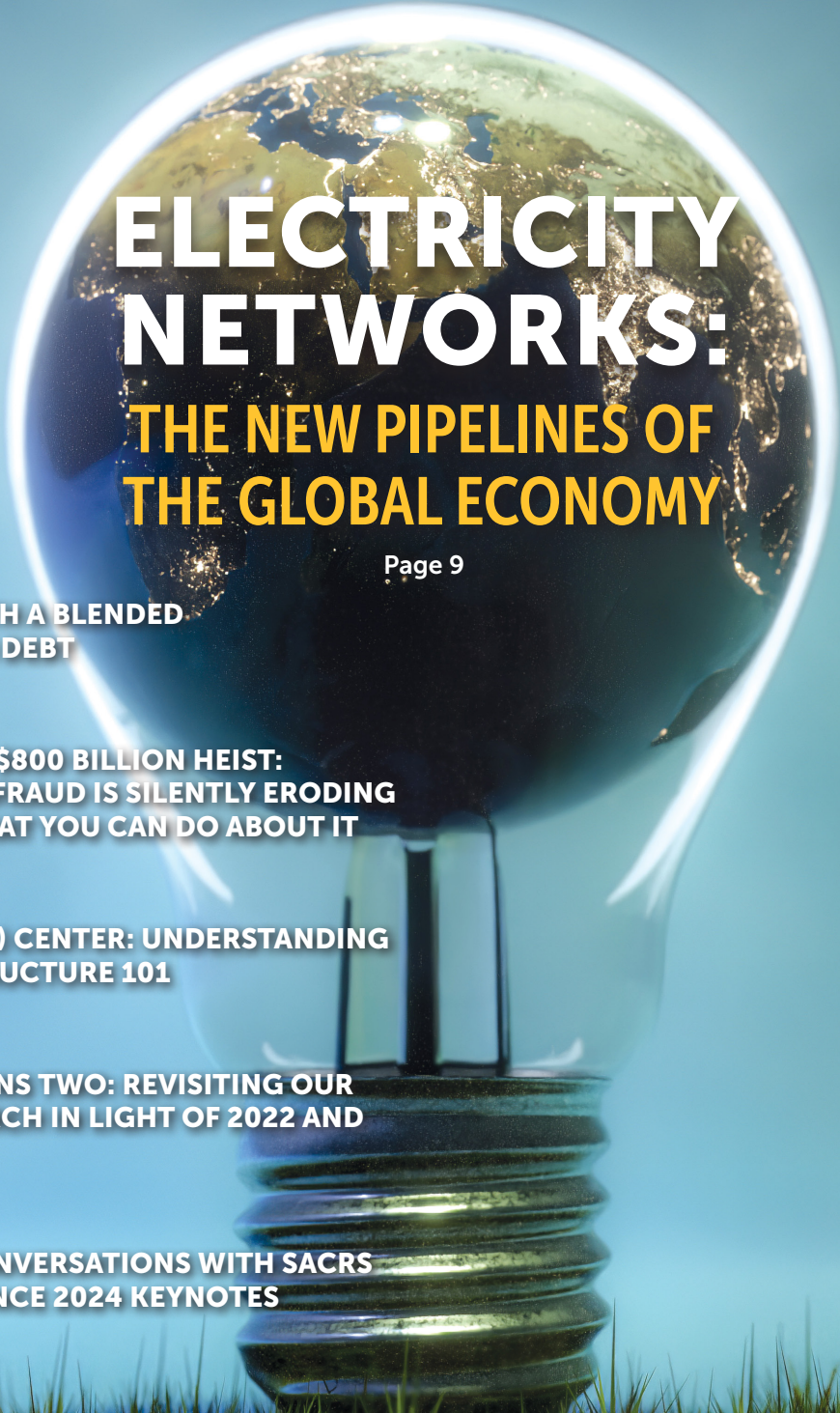


# SACRS

STATE ASSOCIATION *of* COUNTY RETIREMENT SYSTEMS



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## WILL I SEE YOU IN MONTEREY?

SACRS Annual Fall Conference is nearly here, can you believe it? If you haven't set your plans to join us in beautiful Monterey Bay for SACRS Fall Conference, November 12-15, there is still time! Our location is the Hyatt Regency Hotel and Spa and you can register at [sacrs.org/Events/Fall-Conference](https://sacrs.org/Events/Fall-Conference).

Here are some highlights you can look forward to:

### GREAT KEYNOTES

We have a fantastic line-up of top speaking talent that will be insightful and provide information on what we need to know now to understand current financial markets, geopolitical influences, and other pertinent topics.

### TOPICAL BREAKOUT SESSIONS

We have just the people you want to hear from in your area of interest! Administrators; Affiliates; Attorneys; Disability; Trustee; Accounting/Internal Auditors; Investment; Ops/Benefit; and Safety. There really is a special topic breakout for everyone.

### NETWORKING OPPORTUNITIES

Throughout the event, there will be networking breaks, meal functions, and receptions that allow for you to spend time with your fellow SACRS members. SACRS Fall Conference 2024 will be the last opportunity for all of us to be together as a big group to celebrate our 70th Jubilee. You don't want to miss this party! If you're on the fence about attending SACRS Fall Conference 2024, look at the SACRS Spring Conference highlights beginning on page 33 to see examples of the great opportunities for networking and education that attendees received in Santa Barbara. It may just convince you!

Hope you enjoy this edition of SACRS magazine and be sure to join us in Monterey!

*Sulema H. Peterson*

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

# OCTOBER

IS BREAST CANCER AWARENESS MONTH

In November of 2020 my life was rocked by a breast cancer diagnosis. While I am blessed to have had the support of my family and friends while undergoing treatment and surgeries these past three years, many patients are not as fortunate. I'm grateful for the care I received and the positive outcome. As a result of my experiences, I became a volunteer with an amazing organization, the Albie Aware Breast Cancer Foundation (Albie Aware).

Albie Aware was founded in 2004 on the principle that no one should die from breast cancer due to a lack of necessary resources. Since then, a small staff and an army of volunteers have worked tirelessly to meet the increasing demands of supporting adults in the Sacramento region facing a breast cancer diagnosis by providing direct financial and medical support to the local community.

I am a proud member of The Pink Ladies, a group of volunteers dedicated to the Albie Aware mission. Our work in the community has been very impressive, and with the support of my SACRS friends and community, Albie Aware has been able to expand services even more to positively impact breast cancer patients and their families. If you are interested in supporting us, visit <https://albieaware.org/> or contact me.

I'm ecstatic to report that I am three years cancer free. With your support Albie Aware will be able to assist and offer support to more men and women in the fight for their lives.

*Thank you for your continued support and encouragement during my journey, I feel genuinely blessed to be a part of the SACRS family.*



The Pink Ladies' annual End of Summer Celebration raised more than \$100,000 in both 2023 and 2024 to benefit the Albie Aware organization. Participating at Sacramento fundraising events the past couple of years were SACRS members Teri Noble, Aaron and Julie Wyne, and Gabe Rodrigues.



# HELLO, MY SACRS FAMILY!

*“All of us who are involved with our retirement systems work in concert with each other to help provide financial security to our members during their retirement years.”*

## It's amazing how 2024 has been flying by.

SACRS just finished with its 2024 workshop on Modern Investment Theory and Practice for Retirement Systems. This was an outstanding course! We had sessions with professors and industry stalwarts on investment basics, diversification, asset classes, actuarial considerations, macro environment impacts, hedge funds, private equity, private credit, real estate, governance, AI, ESG and cultivating empathy in the workplace. The courses were held at the UC Berkeley Haas School of Business. It was an academic program rich in content. We had a full class with both new and experienced trustees. We also had several administrators and fund managers in the course. The feedback from our attendees was extremely positive. I come to this course annually and love it. I learn so much each time I attend. This program is a must and I hope you plan for the next one July 13 -16, 2025. I'll be there!

The focus now is on our Fall Conference in beautiful Monterey, California. The speaker lineup is already progressing nicely. Please register early! Attendance will be at capacity, so don't get left out. I look forward to seeing you there.

So much is going on in our country right now. As overwhelming as things can be, please stay informed, engaged, and involved.

Do this for the sake of your systems and pension plan members. You are needed to help guide this ship!

All of us who are involved with our retirement systems work in concert with each other to help provide financial security to our members during their retirement years. Trustees, administrators, investment staff, system employees, fund managers, etc - we all contribute to this incredible impact that we have on our members' lives.

What you do matters!

Thank you for all your hard work and dedication to the success of our pension systems. Please continue this work in earnest. Our members depend on you. And let's strive to continue to grow our pension system community - our pension family.

Hope to see you at the SACRS Fall Conference!

All the best,

*David MacDonald*

**David MacDonald**, SACRS President & Contra Costa CERA Trustee



# THE DILEMMA WITH A BLENDED APPROACH TO EM DEBT

*“ There are only 18 countries in the index, and most portfolios are highly concentrated in a few countries with significant representation. ”*

**D**oes the conventional approach to investing in emerging markets (EM) debt—which is top down and blended—lead to less efficient capital allocation? We at William Blair believe so, due to the oversized and concentrated representation of Asia (particularly China) in EM debt local currency and corporate indices. The end-result of a top-down blended approach, then, is larger, concentrated positions in less attractive or riskier parts of the investment universe.

“ In our opinion, then, the traditional benchmark-driven approach to EM debt investing, which is blended, can lead to the allocation of capital to potentially unattractive or riskier markets. ”

### CHALLENGES IN ASIA

Asia represents more than 40% of the EM debt local currency index, the J.P. Morgan Government Bond Index—Emerging Markets (GBI-EM) Global Diversified, and that number will grow to near 50% later this year when India is included in the index, resulting in even greater concentration. This region is characterized by low or negative real interest rates and unattractively valued currencies. Take, for example, China, Thailand, and Malaysia, which together represent approximately 30% of the index. In all of these countries, government bond yields are currently trading below US Treasury yields.

Moreover, the traditional EM debt local currency universe is very narrow. There are only 18 countries in the index, and most portfolios are highly concentrated in a few countries with significant representation. As a result, active risk allocation tends to be concentrated in a small number of places, and that concentration tends to lead to high volatility, high correlation between alpha and beta, and inconsistent alpha generation over the long run.

Asia also represents approximately 42% of the EM debt corporate credit index, the J.P. Morgan Corporate Emerging Markets Bond Index (CEMBI) Broad Diversified. In this space, the region also displays tight credit spreads and unattractive valuations. China is also over-represented in the EM debt corporate universe. For example, Greater China (which includes China, Hong Kong, and Macau) represents approximately 15% of the J.P. Morgan CEMBI Broad Diversified. In China specifically, the financial sector has a large weight within the investment-grade space, whereas the troubled real estate sector represents an important part of the high-yield investment universe.

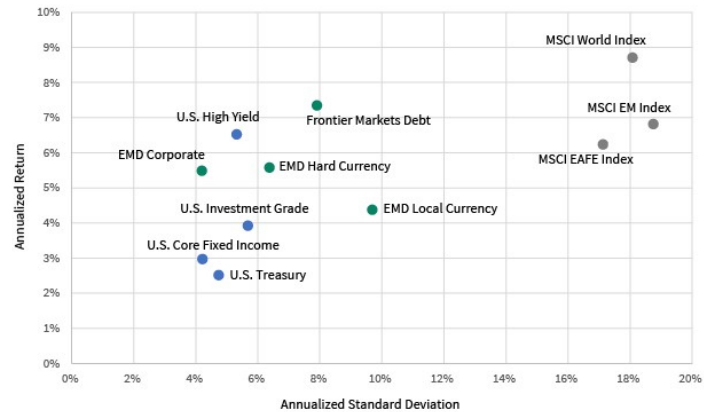
In our opinion, then, the traditional benchmark-driven approach to EM debt investing, which is blended, can lead to the allocation of capital to potentially unattractive or riskier markets.

### A DIFFERENT APPROACH

Most EM debt managers don't have the willingness or ability to fully underweight countries with large weights in the benchmark. But at William Blair, our approach is different.

We believe that over the long run, investors are better compensated for taking credit risk than currency risk in the EM debt space. This is particularly true in sovereign hard currency credit, which has a history of low credit defaults and high recovery values. Figure 1 illustrates the attractive risk/reward profile of EMD hard currency debt (including the noteworthy historical performance of frontier markets debt).

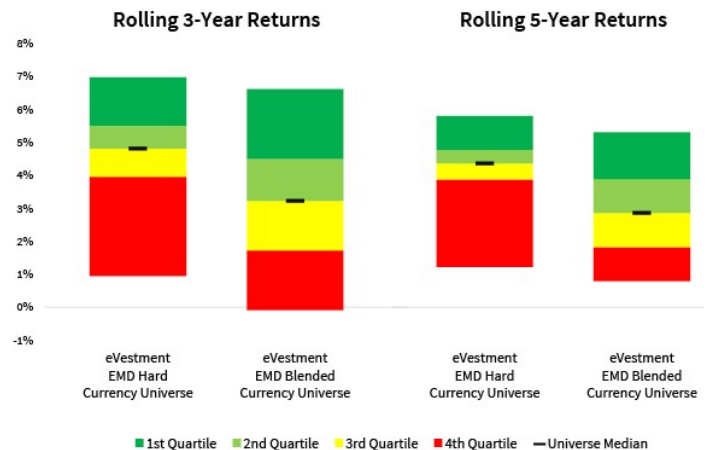
FIGURE 1: RISK/RETURN OF EMD AND OTHER ASSET CLASSES (20 YEARS ENDING MARCH 31, 2024)



Source: FactSet, as of March 31, 2024. Past performance is not indicative of future returns. A direct investment in an unmanaged index is not possible. Index representation is as follows: EMD hard currency, J.P. Morgan CEMBI Diversified; frontier markets dept, J.P. Morgan Next Generation Markets Index; US core fixed income, Bloomberg US Aggregate Index; US high yield, J.P. Morgan US High-Yield Index; US investment grade, J.P. Morgan US IG Corporate Index; US Treasuries, Bloomberg US Treasury Bills Index.

Figure 2 illustrates how managers with a hard currency approach have fared better than managers with a blended approach over the medium term (rolling three- and five-year time periods ending March 31, 2024). Over the rolling five-year period ending 3/31/24, the median return for the eVestment hard currency universe is 4.60% vs. 3.10% for blended. Over the rolling three-year period, the median return for the eVestment hard currency universe is 4.82% vs. 3.23% for blended.

FIGURE 2: ROLLING RETURNS EVESTMENT UNIVERSE, HARD CURRENCY VS. BLENDED CURRENCY.



Source: eVestment, as of March 31, 2024. Gross of fees, in US dollars. Rolling three- and five-year return data is shown for the 10-year window from April 1, 2014, to March 31, 2024.



Given this, we believe that investors for whom EM debt allocation is appropriate should be strategically invested in EM hard currency sovereign debt with opportunistic allocations to EM corporate and local currency debt.

While our William Blair Emerging Markets Debt strategy is benchmarked against the EMD sovereign hard currency index (J.P. Morgan Emerging Markets Bond Index Global Diversified), it may opportunistically and selectively invest up to 20% in EM corporate credit and 20% in EM local currency debt.

With a diversified EM sovereign debt universe as the starting point, we apply a robust bottom-up country and security selection process to identify what we believe is the optimal allocation to sovereign, quasi-sovereign, corporate, and supranational securities denominated in developed and/or EM currencies.

Our William Blair Emerging Markets Debt strategy has a strong focus on frontier markets debt, because we believe structurally higher levels of excess risk premium can be found in frontier markets. To ensure adequate diversification and minimize portfolio drawdown risk, we use a strong macro-driven credit, currency, and rates analysis process; concentration risk controls; and liquidity constraints in each market.

This bottom-up, security-selection approach to investing across the EM debt universe, we believe, has the potential to achieve a more efficient allocation of capital, and in turn better risk-adjusted returns over the medium and long term.

## RESOURCES

*J.P. Morgan Emerging Markets Bond Index (EMBI) Global Diversified tracks the total return of US-dollar denominated debt instruments issued by sovereign and quasi-sovereign entities. J.P. Morgan Government Bond Index Emerging Market (GBI EM) Global Diversified is a comprehensive global local emerging market index,*

*consisting of regularly traded, liquid fixed-rate, domestic currency government bonds. J.P. Morgan Corporate Emerging Markets Bond Index (CEMBI) Diversified is a market capitalization weighted index consisting of US-dollar denominated corporate bonds issued by emerging markets entities, uniquely-weighted to result in more balanced weightings for countries included in the index. J.P. Morgan Next Generation Markets Index tracks US-dollar denominated debt issued by sovereign and quasi-sovereign issuers in frontier markets. The index provides a benchmark for the smaller, less liquid population of emerging market credits. Bloomberg Barclays US Treasury Index measures US dollar-denominated, fixed-rate, nominal debt issued by the US Treasury. Bloomberg Barclays US Aggregate Bond Index is a broad-based benchmark that measures the investment grade, US dollar-denominated, fixed-rate taxable bond market. J.P. Morgan US High-Yield Index is designed to track the US high yield corporate debt market. J.P. Morgan US IG Corporate Index is designed to track the US investment grade corporate debt market. MSCI EAFE Index is a stock market index that is designed to measure the equity market performance of developed markets outside of the US & Canada. MSCI Emerging Markets Index is a free float-adjusted market capitalization index that is designed to measure equity market performance in the global emerging markets. MSCI World Index captures large and mid-cap representation across developed markets.*

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**Marcelo Assalin, CFA**, partner, is the head of William Blair's emerging markets debt (EMD) team, on which he also serves as a portfolio manager. He is also a member of William Blair Investment Management's leadership team.

Before joining William Blair, Marcelo was head of EMD at NN Investment Partners, a role he began in 2015, and lead portfolio manager for blended debt portfolios. Marcelo received a B.A. in business administration and accounting from the University of São Paulo.



“ More than US\$21tn must be invested in the world’s grids by 2050 to support a global net-zero trajectory. ”

# ELECTRICITY NETWORKS:

THE NEW PIPELINES OF THE GLOBAL ECONOMY



# **A**n expected doubling of the world's grids by 2050 is creating compelling opportunities for companies with the materials and know-how to create a new backbone for the global energy system.

The drive to decarbonize the world's electricity system has so far focused on expanding 'upstream' energy supply, like solar and wind power generation. A record US\$659bn was estimated to have been invested in new renewable energy capacity in 2023.<sup>1</sup> Investment in the grid infrastructure needed to connect and manage more intermittent electricity supply has not kept pace. Meanwhile, electricity demand is growing, and the risks of potentially devastating blackouts are rising.<sup>2</sup>

The expansion and modernization of grids around the world will be essential to the transition to a more sustainable economy. More than US\$21tn must be invested in the world's grids by 2050

to support a global net-zero trajectory.<sup>3</sup> Once deemed a 'boring' sector, we see a highly dynamic investment landscape now emerging.

*“ A combination of increasing electrification of end demand and higher economic growth in developing economies means that global electricity demand is set to triple between now and 2050. ”*

## **A MULTI-TRILLION-DOLLAR INVESTMENT TREND**

Although investment in renewable energy generation has rapidly increased, capital flowing into the grids that transmit power over long distances and distribute it across local networks has been static, at around US\$300bn a year.<sup>4</sup> A combination of increasing electrification of end demand and higher economic growth in developing economies means that global electricity demand is set to triple between now and 2050.<sup>5</sup> Annual global investment in electricity grids will need to rise commensurately, with annual spending of some US\$900bn between now and 2050, plus an additional US\$200bn directed towards expanding energy storage capacity.



“ *More flexible systems are needed to harness the vast potential for EVs to help balance the system by charging when electricity is abundant and cheap and discharging electricity when it is expensive..* ”

“ *The power system of the future must become more intelligent for three reasons: decentralized capacity, intermittent generation and bidirectional electricity flows.* ”

Driving much of this anticipated growth is the electrification of processes that currently burn fossil fuels. For example, adoption of electric vehicles (EVs) is forecast to increase US electricity demand by as much as 13% this decade.<sup>6</sup> Meanwhile, in the UK, a complete switch from natural gas boilers to electric heat pumps for domestic heating would double electricity demand during winter months.<sup>7</sup>

Electrifying industrial processes such as steel production and producing 'green' hydrogen for immediate use in refining and fertilizer production will also pressure electricity demand, as will the

growth of artificial intelligence and the energy-hungry data centers that power it. In emerging markets, massive increases in access to reliable electricity are still needed to meet basic needs like space heating and cooling.

But demand growth is only half of the story. The power system of the future must become more intelligent for three reasons: decentralized capacity, intermittent generation and bidirectional electricity flows.

First, low-carbon energy systems will be supplied by millions of generators, ranging in size from enormous wind and solar farms to individual rooftop installations. This is a stark contrast to the small number of large power plants that have dominated production to date.

Second, more interconnections between grids and large-scale storage will be needed to manage the intermittency of solar and wind generation. Batteries will be both a source of electricity demand during periods of excess renewable generation and a source of supply for grid operators when it is dark and still.

Third, electricity networks are also becoming bidirectional. More users are becoming so-called 'prosumers' who both consume and produce electricity. More flexible systems are needed to harness the vast potential for EVs to help balance the system by charging when electricity is abundant and cheap and discharging electricity when it is expensive.

### **INVESTMENT OPPORTUNITIES AS GRIDS MODERNIZE**

Electricity networks need to get bigger and smarter and be built faster. We see this global build-out creating investment opportunities across four broad sectors.

First are the developers and operators of grid infrastructure who typically command dominant positions in highly regulated markets. Second, the suppliers of critical materials and components who stand to benefit from structural demand growth in those materials. Third, providers of advanced IT systems who will be essential to the management of more complex grids. Finally, there are the energy storage companies that provide not just the technology itself, but also the innovative business models that increasingly need to balance electricity supply and demand.

#### **1 Developers and Operators**

In markets like the UK and Spain, the integrated utilities which own and operate power grids can offer investors the prospect of consistent, regulated and inflation-linked returns. Grid operator revenues should rise in line with long-term growth in electricity usage, as a percentage of end user fees is typically given to transmission and distribution providers. To prepare for this growth, these companies are increasing capital investments in grid infrastructure as they build capacity for rising electricity consumption and manage the addition of more geographically diverse and intermittent renewable generation to the system.

For example, UK-listed utility SSE announced in November 2023 that it is increasing its five-year capital investment program to £20.5bn, focusing on electricity infrastructure to support its transition to net zero.<sup>8</sup> Similarly, Spain's Iberdrola recently announced plans to invest around €10bn in its UK power networks. By expanding their regulated asset base, grid operators lock in an increase in their revenue base.

Much of the additional capital expenditure by grid operators will flow to companies involved in engineering, procurement and the construction of electricity grids. By extension, companies like those that specialize in industrial equipment rental, such as Ashted and United Rentals, stand to benefit from a structural uptick in demand for their services.

## 2 Materials

The world's electricity network must double in length by 2050. BloombergNEF estimates that the network of overhead, underground and submarine cables will have to reach 152mn km to realize net-zero goals.<sup>9</sup> On top of this, ageing grid infrastructure must be replaced: two-fifths of Europe's grids are more than 40 years old.<sup>10</sup> In the US, the average age of a large power transformer is similar, at the end of its typical lifespan.<sup>11</sup>

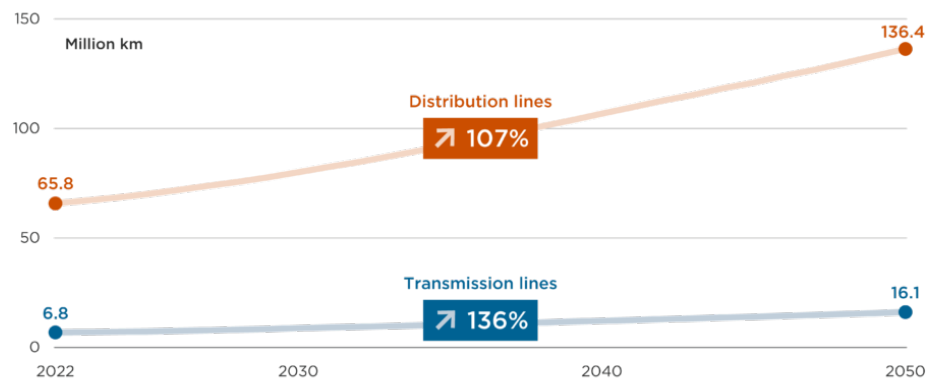
Regional networks of high voltage direct current (HVDC) cables will emerge to connect areas rich in renewable generation capacity with centers of demand. Advisory firm Xodus estimates that the offshore wind industry alone will create demand for 56,000km of HVDC cable by 2035, up from just 1,950km in 2020.<sup>12</sup>

This is a specialist market, where track record matters, especially for sub-sea cables. Market leaders like Prysmian can command strong pricing power. The Italian company is the world's leading power and optical cable maker by revenue and the largest supplier of cables for the high-voltage transmission market.<sup>13</sup> Prysmian, a vertically integrated fiber cable producer, also stands to benefit as more interconnector projects also require integrated data cables. Laying cable over long distances is resource intensive. Early movers are using recycled materials and components to reduce the price volatility of commodity inputs like copper and reduce waste.

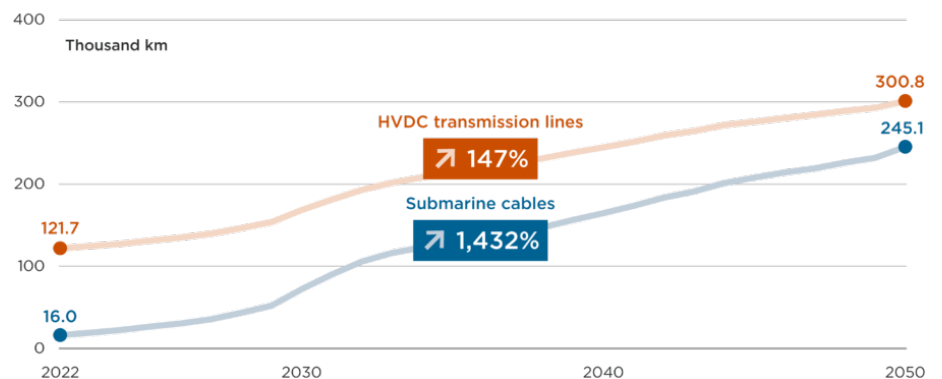


### ELECTRIC AVENUES

The world's grid must double in length by 2050 to align with net-zero goals...



...with rapid growth projected in subsea and high-voltage lines



Source: BloombergNEF, March 2023. These projections are based on the Net Zero Scenario in BNEF's New Energy Outlook, which maps a pathway to achieving net-zero emissions by 2050. 'HVDC' = High-Voltage Direct Current.

“ By 2035, US utilities may need to invest as much as US\$1tn in distribution networks, on top of US\$300bn to US\$500bn in transmission lines. ”



Meanwhile, higher power demand and the changing needs of a bidirectional grid will require extensive updates of distribution networks (used for moving electricity over shorter distances and at lower voltages than the transmission network). By 2035, US utilities may need to invest as much as US\$1tn in distribution networks, on top of US\$300bn to US\$500bn in transmission lines.<sup>14</sup> This ramp-up in spending will support demand for manufacturers of key components, including converters, transformers and voltage control equipment, such as Hubbell. The US company is a leading supplier of critical electrical hardware and services to North American utilities as they modernize their grids for the new economy.

### 3 System Intelligence

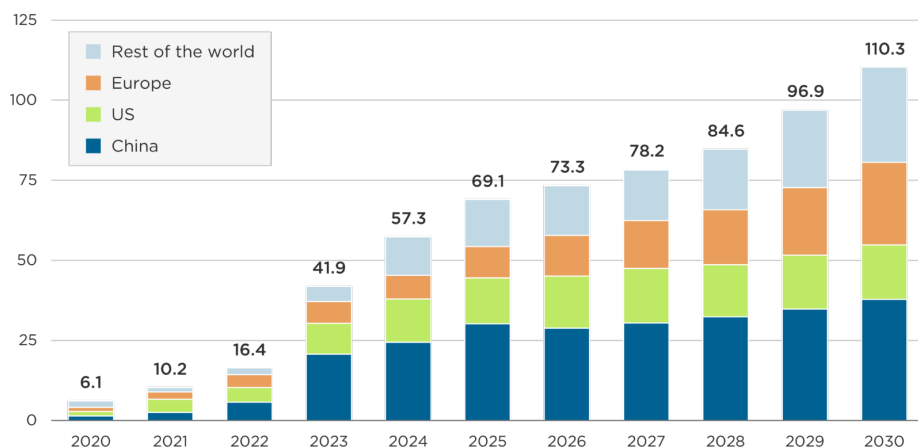
As electricity grids become more complex, with increasingly distributed generation and the emergence of more 'prosumers', there is growing need for advanced systems to help manage them. Modern smart grids make extensive use of sensors and the 'internet of things' to more accurately track flows of power and changes in supply and demand, and to anticipate system vulnerabilities and equipment failures. Artificial intelligence (AI) and machine learning help produce more accurate forecasts of supply and demand, support more flexible

demand-side management technologies and increase the cybersecurity of vital electrical infrastructure.

Increased system intelligence relies on smart metering. Progress on installing smart meters ranges from 86% in Japan to 69% in the US and just 52% in the EU, as of 2021.<sup>15</sup> The figures for the Middle East, Africa, South and Central America and India are meanwhile in single digits. Growth opportunities are clearly substantial. Even in mature markets, significant investment in smart grids is planned, with the EU planning to invest €170bn in grid digitalization by 2030, for example.<sup>16</sup>

#### RAPID CHARGING

Annual new energy storage capacity is expected to almost treble by 2030 (GW)



Source: BloombergNEF, October 2023.

This is a supportive environment for suppliers of smart grid solutions such as Schneider Electric. The French group provides end-to-end software that enables more reliable and efficient grid management. For example, its demand management and grid metering solutions help utilities design and operate grids, using data to gain system insights and address variability.

### 4 Energy Storage

A key challenge posed by the transition to low-carbon grids is the intermittency of solar and wind generation. This is driving investment into a range of energy storage



“ Increasingly, new wind and solar farms are being developed with co-located battery storage, often to meet regulatory requirements. ”

technologies, including utility-scale lithium-ion batteries, innovative solid-state batteries, longer-duration flow batteries, and well-established technologies such as pumped hydroelectricity. BloombergNEF forecasts that global energy storage capacity will grow at an annual rate of 27% between 2023 and 2030.<sup>17</sup>

Increasingly, new wind and solar farms are being developed with co-located battery storage, often to meet regulatory requirements. Utility-scale battery storage can contribute to a low-carbon grid through load-levelling (storing excess renewable generation), frequency regulation (balancing electricity supply and demand) and black start services (helping the grid recover from a full or partial shutdowns). Providing these valuable network services earns revenues for battery operators. Renewables-focused electricity producers Boralex and Northland Power, both of Canada, are among those developing complementary grid-scale storage capacity.

Longer term, there is a growing need for long-duration energy storage, able to provide power at scale over days

and weeks. Here, in addition to the well-established technology of pumped hydroelectricity, companies are placing big bets on electricity conversion. Notwithstanding the energy losses inherent in these transformations, it has been projected that ‘power-to-X’ technologies could reduce global GHG emissions by more than 20% by addressing emissions from hard-to-abate industries (including steelmaking, cement and shipping) and low-temperature heating.<sup>18</sup>

### **TACKLING BOTTLENECKS IN THE CLEAN ENERGY TRANSITION**

The compelling economics of renewable power has pushed the world past the point of no return when it comes to grid transformation. In many markets, it is now cheaper to build new renewables and storage than to operate existing coal-fired plants.<sup>19</sup> But the bottlenecks in connecting cheap supply to growing demand will not resolve themselves. Grid constraints are already delaying renewable energy development around the world: 1,500GW of renewables projects in advanced stages of development are

stuck in grid connection queues.<sup>20</sup>

Fortunately, we see renewed focus by governments on plugging the gaps in market incentives and regulatory design needed to redirect capital towards the electricity value chain. In the US, final rulings are expected from the Federal Energy Regulatory Commission this year on proposed changes to regional transmission planning and cost allocation, as well as siting of transmission line routes. The US Department of Energy has recently opened a second round of financial support to regional transmission within a US\$2.5bn program authorized by the Inflation Reduction Act.

In Europe, new grid financing mechanisms are anticipated this spring, following the announcement in November 2023 of an EU action plan to accelerate grid build-out between and within member states. Meanwhile in Asia, the Global Energy Interconnection initiative continues to reflect China’s ambition to connect the greater Asia region, via ultra-high-voltage power transmission lines, and become the largest exporter of clean power globally.

“ The compelling economics of renewable power has pushed the world past the point of no return when it comes to grid transformation. ”

The price competitiveness of renewable power generation, combined with widespread policy support, market incentives and improvements in technology, will spur a rapid and sustained rise in investments in grid infrastructure. Such momentum creates opportunities for companies at the forefront of this trend, from grid operators to suppliers of critical and emerging technologies to the industry.

## IN SUMMARY

- Trillions of dollars will be invested in electricity networks over the coming decades to power growth in an increasingly digitalized global economy.
- Power grids will have to get bigger and smarter to accommodate the rise of renewables and bi-directional electricity flows with consumers.
- The modernization of electricity networks creates opportunities in four main areas: grid developers and operators, suppliers of critical components, advanced 'smart grid' technology companies and innovators in energy storage.

## RESOURCES

- 1 IEA, 2023: World Energy Investment 2023
- 2 North American Electric Reliability Corporation, December 2023
- 3 BloombergNEF, 2023
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# FORENSIC ACCOUNTING

## The \$800 Billion Heist: How Securities Fraud Is Silently Eroding Returns and What You Can Do About It

*“ Approximately \$800 billion in investors’ equity is lost to unchecked corporate fraud every year, according to a 2023 University of Toronto study. ”*

**T**he couple, married over 30 years, made every right move to ensure financial security in their golden years – Roth IRAs, 401(k)s, investing with their retirement system. They spent the better part of their working lives tucking away portions of every paycheck, dreaming of a peaceful retirement filled with grandchildren, travel, and hobbies.

Ask and they will tell you: every dollar matters.

While this is a fictional couple, countless families across the country would say the same. Most are surprised that it is not just market performance that impacts their investments. Fraud does, as well.

Securities fraud is more common and more impactful than most people realize. Fortunately, institutional investors take the lead in holding companies accountable for actionable fraud against

investors. Most recently, investors recovered \$490 million against Apple in March 2024 and \$350 million against Alphabet in February 2024 (both recoveries pending court approval).

But, according to researchers, the losses suffered by investors are much more alarming in scale.

### The \$800 Billion Heist

Approximately \$800 billion in investors’ equity is lost to unchecked corporate fraud every year, according to a 2023 University of Toronto study.<sup>1</sup>

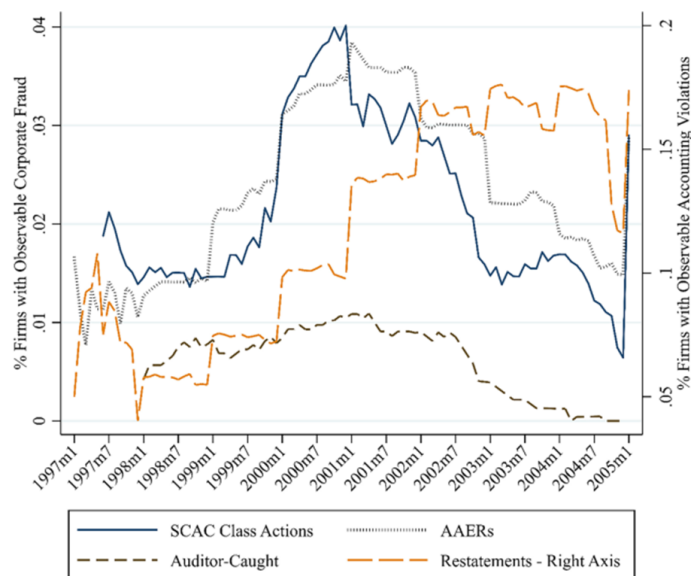
As the university explains, “under typical surveillance, about three per cent of U.S. companies are found doing something funny with their books in any given year.” The researchers arrived at that figure by looking at financial misrepresentations exposed between 1997 and 2005.

The Enron scandal presented a unique opportunity to estimate the amount of undetected fraud in the market. Enron began to file for bankruptcy in 2001. As a result, its auditing firm, Arthur Andersen, collapsed, leading to heightened scrutiny of the firm’s other former client companies, which comprised approximately 20% of all U.S. publicly traded companies at the time. *Id.*



Their focus on the years 2001 to 2003 revealed three times more detected fraud among the ex-Andersen companies that were exposed to greater scrutiny. The study's authors, who put the actual number of companies committing fraud not at 3% but 10% or more, estimate that "fraud destroys about 1.6 percent of a company's equity value – mostly due to diminished reputation among those in the know, representing about \$830 billion in current U.S. dollars." *Id.* (See Figure 1)

**FIGURE 1**



This graph "...plots the fraction of Compustat large US corporations engaged in (alleged) fraud or misconduct (henceforth, for simplicity, 'fraud') according to the various measures. . . . When the measure we use is accounting restatements, the fraction of firms involved in fraud is large (on average 13% per year, plotted with magnitudes on the right axis). . . . All the other measures of misconduct produce a much lower incidence – between 1 and 4% of firms (plotted with magnitudes on the left axis). . . ."<sup>2</sup>

## What Retirement Systems Can Do: Portfolio Monitoring and Securities Litigation

While the losses to investors are troubling, pension funds and retirement systems have strong tools to advocate for their members and hold corporations to account for misconduct. Institutional investors today can, in fact, identify fraud that would otherwise go unchecked and take steps to protect their members' investments. Robust portfolio monitoring is the first step.

Portfolio monitoring services offered by expert legal counsel identify fraudulent activity and losses, and armed with this information, investors can take appropriate legal action. That may mean monitoring a case carefully to file a claim against a settlement, filing an individual action to recover a large loss, or leading a class action case to maximize the recovery for all affected investors.

Institutional investors routinely uphold their fiduciary duties to maximize the fund's assets, including potential claims to recover losses. In 2023, investors, among them pension funds and retirement systems, secured \$5.8 billion total in securities fraud class action settlement funds for distribution.<sup>3</sup> While this is a fraction of the total impact of fraud on investment returns, it deters future misconduct, strengthens markets, and returns dollars to the fund.

As noted, from a plan participant standpoint, every dollar matters.

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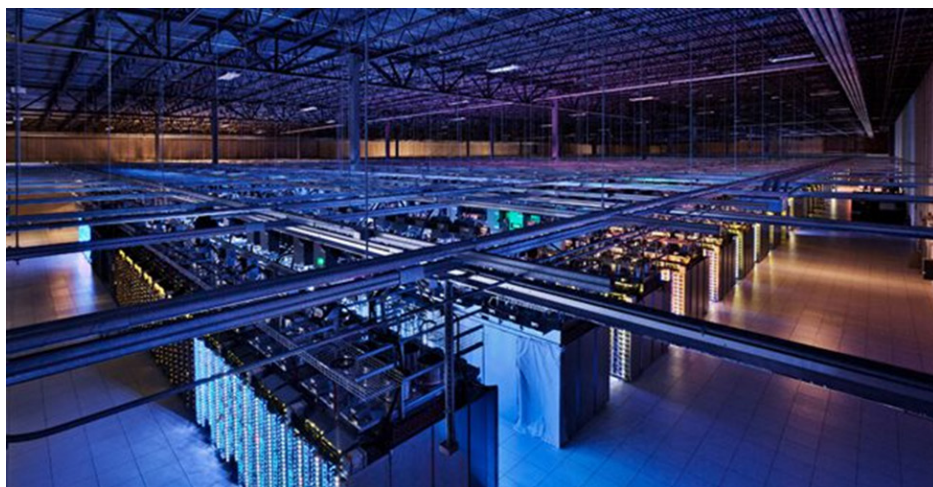
# Front and (Data) Center:

## Understanding Digital Infrastructure 101

“ Data centers can range from enormous stand-alone buildings that look like industrial warehouses, to suites in strip malls, single floors in high rise office buildings, or simply a few servers in your company office’s IT closet. ”

Since the COVID-19 pandemic, you have probably heard most financial news outlets mention “data centers” or “digital infrastructure,” in many cases on a regular basis. Maybe you have wondered how emails get from one device to another. Or, if the recent explosion of news about artificial intelligence (“AI”) has caught your interest, chances are you have wondered “what exactly is a data center?” In simple terms, a data center is a building where virtual information (or data) is exchanged, manipulated, and/or stored. Data centers can range from enormous stand-alone buildings that look like industrial warehouses, to suites in strip malls, single floors in high rise office buildings, or simply a few servers in your company office’s IT closet (we’ve all ventured in there at least once). (See *IMAGE 1*)

**IMAGE 1.** Rows of servers inside of a data center.



Source: Harvey, C. (2017, Jul 10) What is a Data Center? History, Design, Cooling & Types. Datamation.com. <https://www.datamation.com/data-center/what-is-data-center/>

### Internet of Things: General Data Center Use Cases

Today, the internet is how the world talks, shops, works, games, dates, and much more. The internet consists of connected devices, such as computers and phones, exchanging information via a network of underground cables connected to data centers and other internet infrastructure. Data centers play a vital role in the transmission of the information that surrounds our daily lives. For example, when a text message is sent, it does not travel from one phone directly to the next. That text message is sent to the sender’s carrier’s nearest cell tower, then to a data center via underground cables, then out to the recipient’s carrier’s nearest cell tower, from which it is then finally sent to the recipient’s phone or mobile device. Emails, instant messages, snapchats, Instagram DMs, etc all travel similar routes. The data center acts as a “command station” for incoming and outbound internet traffic.

“ If you own an iPhone and pay for iCloud storage, you are “leasing” data center space. ”

“ Goldman Sachs estimates 47 gigawatts (GW) of incremental power generation capacity is required to support US data center growth through 2030. ”

Data centers also act as virtual repositories for companies and individuals. Does your company use some sort of shared drive? Sometimes referred to using a letter then the word “drive” such as the “F: drive.” Or, it could simply be a DropBox folder accessible by the internet. If so, you save presentations, excel files, agendas, and much more in these folders. Those files that you upload live on servers in your company’s data center(s) or those of a third-party service provider.

If you own an iPhone and pay for iCloud storage, you are “leasing” data center space. Does Apple continuously tell you that your “iCloud Storage” is reaching capacity and to buy more? If so, that does not mean that you need a cell phone with more memory. That means that you have used up all the space allotted to you on Apple’s servers living inside of their data centers. To continue storing your pictures, videos, iMessages, voice memos, etc., you need to increase your “iCloud Storage.” That simply means renting more storage space in Apple’s data center. (See IMAGE 2)

Other common activities that require computing inside of a data center include utilizing Chat GPT, streaming music, movies and TV shows, accessing a bank account, booking travel, trading stocks, participating in video calls, playing multiplayer video games, searching for a house to buy (online), and much more.

## U.S. Supply and Demand

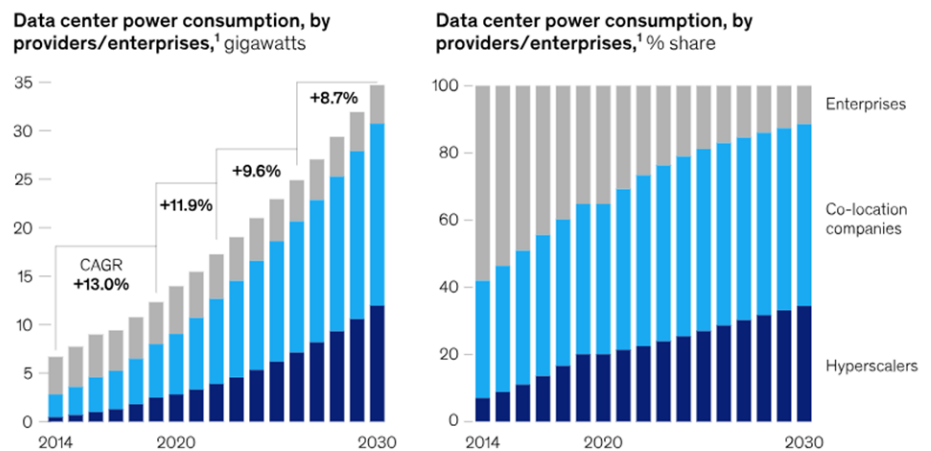
Data center supply and demand is broadly measured by power. Goldman Sachs estimates 47 gigawatts (GW) of incremental power generation capacity is required to support US data center growth through 2030. To contextualize, the average power consumption of a typical American household is around 1-1.5 kilowatts (kW), so 1 GW of power would be equivalent to supplying the energy needs of approximately 1 to 1.5 million households! Some industry pioneers and

**IMAGE 2:** One of Apple’s data centers located in Denmark.



Source: Zhang, M. (2024, Jan 29) Apple’s Data Center Locations: Enabling Growth in Services. Dgtl Infra Real Estate. <https://dgtlinfra.com/apple-data-center-locations/>

**FIGURE 1:** US data center demand is forecast to grow by some 10 percent a year until 2030.



<sup>1</sup>Demand is measured by power consumption to reflect the number of servers a data center can house. Demand includes megawatts for storage, servers, and networks.

Source: McKinsey & Company (2024 Jan 17). Investing in the rising data center economy. <https://www.mckinsey.com/industries/technology-media-and-telecommunications/our-insights/investing-in-the-rising-data-center-economy>

data center experts, such as Hossein Fateh, founder and CEO of CloudHQ, believe these estimates are light. He believes that the data center demand for AI is 5x larger than the whole market that exists today! (See FIGURE 1)

Goldman Sachs forecasts a 15% CAGR in US data center power demand from 2023-2030 with data centers making up 8% of total US power demand by 2030, up from 3% currently. Goldman expects that 60% of that power will stem from gas while the other 40% will stem from

“ When compared to most other real estate asset classes, data centers require more robust electrical, mechanical, and networking systems to support the servers that operate inside. ”

renewable sources. The firm also expects that the strong demand in the coming years will drive nearly \$50 billion of capital investment in US power generation capacity cumulatively through 2030. (See Resource 1 for all Goldman Sachs sources)

### A Peek Under the Hood

How do these things work? When compared to most other real estate asset classes, data centers require more robust electrical, mechanical, and networking systems to support the servers that operate inside. The servers are the primary computing devices in data centers, responsible for processing data and executing virtual tasks.

Data centers require large amounts of power. Data center components, such as servers, cooling and networking equipment require continuous and reliable power supplies to operate. Interruptions in power can lead to downtime, disrupting

services and potentially causing financial losses for both the end users and providers.

When a data center loses power or connectivity, the customers in that location experience downtime. Downtime has proven to be extremely costly for organizations in today's digital world. Amazon lost \$34 million of sales in a mere 59-minute outage in 2021. That equates to \$9,615 a second! (See Resource 2)

To ensure high availability and minimize or completely avoid downtime, data centers often incorporate redundant power systems, such as backup generators and uninterruptible power supplies (UPS). These systems provide backup power in the event of a utility power failure, helping to maintain operations during outages. Similar to when homes lose power in hurricanes or snowstorms, some individuals purchase a generator to power their homes in case of emergencies. Data centers employ similar tactics, only on much larger scales. (See IMAGE 3)

Similar to fans built into laptops or desktop computers, data centers use advanced cooling systems to maintain optimal temperatures to prevent servers from overheating. This can include air conditioning units, chillers, and specialized cooling technologies like hot aisle/cold aisle containment, etc. Data centers also need robust networking infrastructure to facilitate communication between servers, storage devices, and external networks. This includes routers, switches, firewalls, and load balancers.

A data center's access to internet connectivity can drastically increase the performance of the site. Users typically prefer to have data centers with strong network infrastructure to reduce "latency." "Latency" refers to the time it takes for data to travel from its source to its destination. It is often measured in milliseconds and represents the delay between when a request is made and when a response is received.

These components work together to create a secure, reliable, and efficient environment for storing, processing, and distributing data and applications. Due to the importance of these mission critical assets, data center tenants have started working with a select and limited number of trusted data center developers and operators that have a long-standing track record of delivering high-quality data centers.

**IMAGE 3:** A room inside of a data center that contains UPS units, a critical part of a data center's redundancy.



Source: <https://www.fgcbuilds.com/data-center-UPS-generator/data-center-UPS-sizing/>

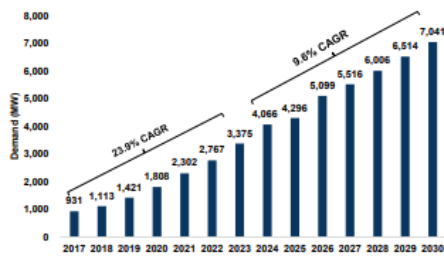
“ Given Northern Virginia's robust data center infrastructure and connectivity to major network backbones, it is a key destination for international fiber traffic entering the United States from Europe. ”

## Location, Location, Location

When you think of high-rise office buildings, you think of New York City. For industrial, Los Angeles. For data centers, Northern Virginia is the global metropolis. Northern Virginia offers the world's most dense internet environment which is essential for high-speed data transmission. Northern Virginia's proximity to the nation's capital and the east coast also bolsters the region's dominance in the data center market. Dominion, the region's largest utility company, does not see the demand for data center power slowing down either. (See *FIGURE 2* and *FIGURE 3*)

**FIGURE 2: Dominion's forecast of load from data centers indicates that the rapid growth it has seen will not slow down for the foreseeable future**

Dominion 15-year data center forecast

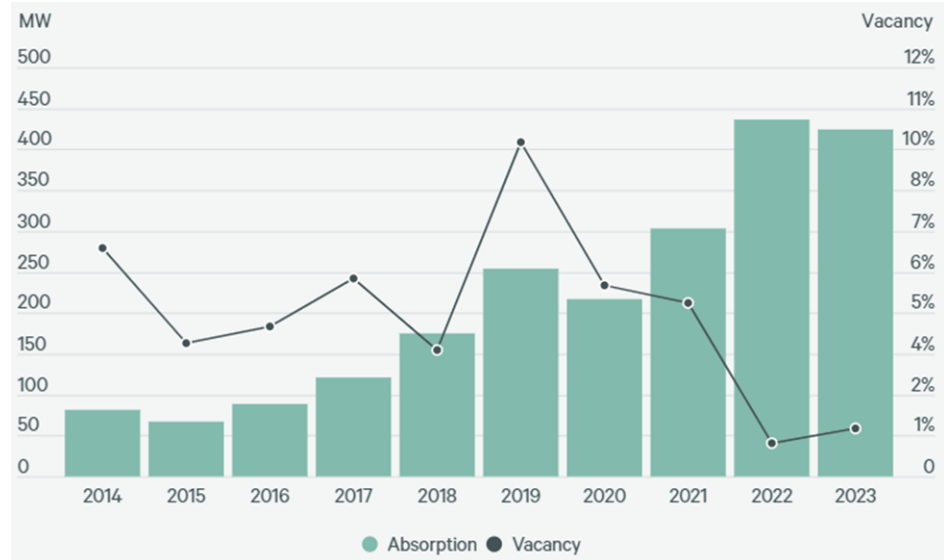


Source: Goldman Sachs (28 April 2024) Generational Growth AI, data centers and the coming US power demand surge

<https://www.goldmansachs.com/intelligence/pages/gs-research/generational-growth-ai-data-centers-and-the-coming-us-power-surge/report.pdf>

As discussed above, information does not travel through the sky. Fiber optic cables below the ground transport data between data centers and other internet facilities to facilitate the world wide web. Transatlantic Submarine Cables, or undersea fiber optic cables, span the Atlantic Ocean, connecting landing points in Europe (e.g., United Kingdom, France, Spain) to landing points on the US East Coast (e.g., New York City, Miami, or Virginia Beach). Once the European fiber cables land at these coastal landing points, they are then interconnected via fiber networks that extend inland to various data center hubs, including Northern Virginia. Given Northern Virginia's robust data center infrastructure and connectivity to major

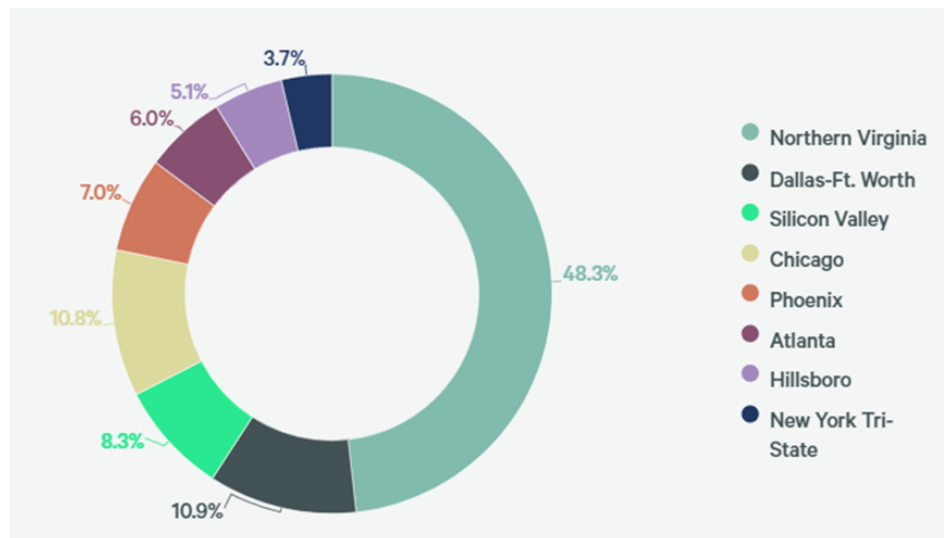
**FIGURE 3: Northern Virginia Historical Supply and Demand**



Source: CBRE Research, CBRE Data Center Solutions, H2 2023

<https://www.cbre.com/insights/local-response/north-america-data-center-trends-h2-2023-northern-virginia>

**FIGURE 4: Title- % of Total Primary Market Data Center Inventory**



Source: CBRE Research, CBRE Data Center Solutions, H2 2023

<https://www.cbre.com/insights/local-response/north-america-data-center-trends-h2-2023-northern-virginia>

network backbones, it is a key destination for international fiber traffic entering the United States from Europe.

Besides a city's internet environment, other factors data center providers and users consider when conducting site selection include power (and water) availability, utility costs, potential tax incentives, land costs, population trends, natural disaster risk, and more. Other major US data

center markets include Dallas-Ft. Worth, Silicon Valley, Chicago, Phoenix, Atlanta, Hillsboro (Portland), and the New York Tri-State area. (See *FIGURE 4*)

Locating land is critical in data center site selection, but locating land with access to large quantities of power is even more critical. Tertiary cities such as Des Moines, IA, Reno, NV, Omaha, NE, Montgomery, AL and more are beginning to see data

“Data center operators and real estate investors with powered land holdings are now reaping the benefits of land banking due to their foresight and first mover entry into the data center market.”

center developments due to the lack of power from utility providers in major data center markets. The industry continues to witness a surge in land purchases worldwide. Data center operators and real estate investors with powered land holdings are now reaping the benefits of land banking due to their foresight and first mover entry into the data center market.

## Investing in Data Centers

Digital infrastructure has continued to see an influx of investor capital since the COVID-19 pandemic demonstrated its importance. Investing in digital infrastructure provides a broad range of risk/return investment profiles (e.g. core/core+, value-add, opportunistic). For example, single tenant data centers encumbered by long-term leases with investment-grade tenants can provide investors with stable, predictable cash flows with modest risk. On the other side of the risk/return spectrum, land investments to be developed or partially vacant data centers that do not yet have power, entitlements, etc. can provide investors with speculative investment opportunities to achieve higher returns through active management.

Infrastructure investors, growth capital, buyout investors, real estate, and more have continued to pour money into the sector. Increased data center capacity demand from users has provided investors comfort when compared to other traditional real estate classes. Data centers also provide investors with exposure to the technology sector as it relies on the infrastructure to operate. Today, technology companies are the largest users of data centers and will be for the foreseeable future.

The COVID-19 pandemic decimated the global office market. As the world continues to rely more on the internet to communicate, real estate investors are expected to continue to increase their data center holdings and shifting office

exposure to allocations to data center-specific fund managers. Data center real estate has not only acted as an uncorrelated alternative to traditional real estate classes but is also assumed to offer the most investment prospects in 2024, according to PwC's Emerging Trends in Real Estate survey. (See Resource 3)

Real estate specific investors of all shapes and sizes participate in data center capital markets, including traditional REITs, private equity firms, insurance companies, pension funds, family offices, infrastructure funds, hyperscale users (such as AWS, Google, Meta, Oracle), and more. Data centers can be viewed as an alternative investment during inflationary or unstable economic periods due to:

- **Long-term contracts (or leases) with customers.** Data centers often incorporate long-term contracts with their clients, providing a stable and predictable revenue stream. These contracts commonly include escalator clauses that allow for periodic price adjustments to account for inflation.
- **The world's digital transformation.** The ongoing digital transformation across industries has led to an explosion of data creation and consumption. Data centers provide the infrastructure necessary to store, process, and manage this vast amount of data efficiently. The use case for data centers has bolstered demand for the sector.
- **Investment in technology.** To remain competitive, the industry continuously invests in technological advancements to improve efficiency and reduce costs. This includes data center design, adopting virtualization and cloud computing technologies, and optimizing cooling systems to lower energy consumption.
- **Hedging strategies.** Many data center operators or investors use financial instruments such as futures contracts or derivatives to hedge against fluctuations in energy prices, currency exchange rates, or other inflationary factors.

## Deal Structure: Who's Involved?

Data center real estate deals come in all shapes and sizes. Facilities can be master leased to a data center provider or user, multi-tenant with a combination of the two, or empty! Data center providers either own their data centers or lease them for long periods of time. Providers then manage and "sublease" the capacity to other users at higher prices. Common data center tenants include cloud providers, financial institutions, insurance companies, healthcare providers and more. Recently, there has been a rise in blockchain and AI tenants as these users typically demand large power supplies for day-to-day operations.

Typically, single tenant data centers are encumbered by long-term leases with modest annual rental escalations. In this scenario, the tenant would be responsible for most or all operating expenses and capital expenditures. These properties can provide investors predictable, stable cash flow with tenants that are commonly more "sticky" than tenants in other real estate classes. Migrating data center workloads requires meticulous planning and coordination to ensure that everything is properly disconnected, transported, and reconnected without disruptions, doing so has proven to be extremely costly!

Many large investment funds are active in the data center space but have relied on investing in digital infrastructure funds managed by specialized managers to help navigate the ins-and-outs of industry. Investing in data centers requires a deep trusted relationship with tenants and a comprehensive understanding of all things digital infrastructure. The investment profile of a target acquisition can be impacted by location, data center product type (e.g. colocation, wholesale, hyperscale, etc.), utilities, technological advancements (cryptocurrency, AI, etc), internet availability, tax implications, and

more. Data center tenant, broker, operator, technical consultant, and financier relationships are crucial parts of keeping a pulse on the industry and ultimately, locating and executing investment strategies. Gaining the trust of not only data center tenants but other players active in the industry is difficult, therefore new entrants are at a disadvantage to long-time participants with a strong trusted track record. It is recommended to consult investment managers that have a deep industry knowledge to help navigate the exciting sector with powerful and sustainable market dynamics.

## Last Words

The data center serves as the backbone of our increasingly digital world, providing the infrastructure necessary for the storage, processing, and distribution of vast amounts of data. In essence, data centers are not merely physical structures, but the very heart of our interconnected global economy and the gateway to the digital future. From powering online services and social media platforms to facilitating critical business operations and AI research, these facilities play an indispensable role in modern society.

As technology continues to advance and our reliance on data grows, the importance of data centers will only continue to expand. Understanding the function and significance of these complex facilities is essential for navigating the digital landscape and harnessing the potential of the information age. Lastly, a data center-specific commitment can provide institutional investors exposure to an industry with outsized demand that can continue to benefit from the world's techno dependency.

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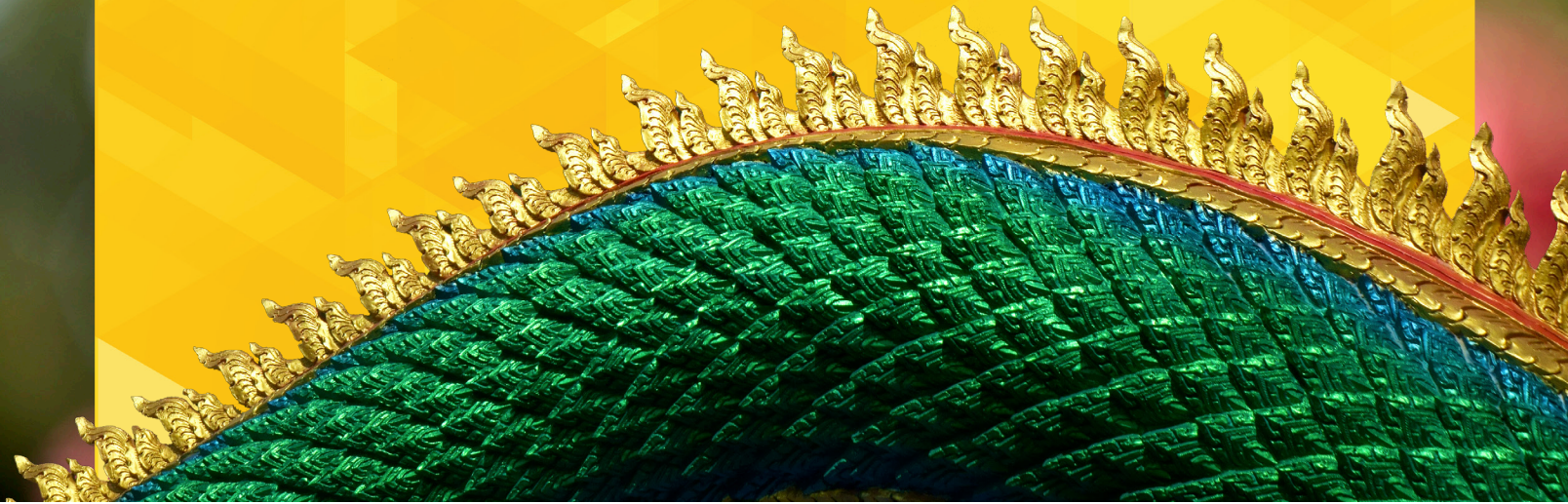
#### 3 FUND OPTIONS

<p style="margin: 0;"><b>LIQUIDITY FUND</b> <i>LIQUIDITY: SAME-DAY</i> Cut-Off Times: 9:00AM, 11:15AM, 12:00PM S&amp;P Rating: AAAM Stable NAV</p>	<p style="margin: 0;"><b>SHORT-TERM FUND</b> <i>LIQUIDITY: NEXT-DAY</i> Cut-Off Time: 10:30AM S&amp;P Rating: AAf Floating NAV</p>
<p style="margin: 0;"><b>MEDIUM-TERM FUND</b> <i>LIQUIDITY: TWO-DAYS</i> Cut-Off Time: 10:30AM S&amp;P Rating: AA-f Floating NAV</p>	<div style="background-color: #003366; color: white; padding: 10px; text-align: center;"> <p style="margin: 0; font-size: small;"><b>Todd Winslow</b> RELATIONSHIP MANAGER <a href="mailto:todd@caltrust.org" style="color: white;">todd@caltrust.org</a> t: 916.396.1907 <a href="http://www.caltrust.org" style="color: white;">www.caltrust.org</a></p> </div>



# THE DRAGON TURNS TWO:

## Revisiting Our Liquidity Research in Light of 2022 and 2023 Events



“ Like the early and dangerous experiments of the Manhattan Project, are investors tickling the tail of a sleeping liquidity dragon? ”

In early 2022, we published research looking into the market-wide implications of significantly increased amounts of money flowing into illiquid assets such as private equity, private credit, and private real estate.<sup>1</sup> Like the early and dangerous experiments of the Manhattan Project, are investors tickling the tail of a sleeping liquidity dragon? Having managed a portfolio of hedge funds with an illiquid component throughout the Global Financial Crisis, we had an appreciation of the frightening realities of a significant market shock, compounded by the need to raise cash (in this case to meet redemptions), in the presence of a partially illiquid portfolio. Given the huge increase in illiquid asset holdings in many portfolios, we were curious whether the market had become sufficiently fragile that a significant market shock could create a liquidity price downward spiral.

“ *The larger the illiquid allocation, the more fragile the system. Each dollar allocated to illiquid assets results in one less dollar available to fund liquidity needs.* ”

Two years later, we have updated that original research, reflecting recent market dynamics. We start by briefly covering key takeaways from the original research and then discussing some of the main market events of 2022 and 2023 in light of that work. We then evaluate where many investors stand from a liquidity perspective at the beginning of 2024, concluding with some recommendations

## Key questions and takeaways from the original research

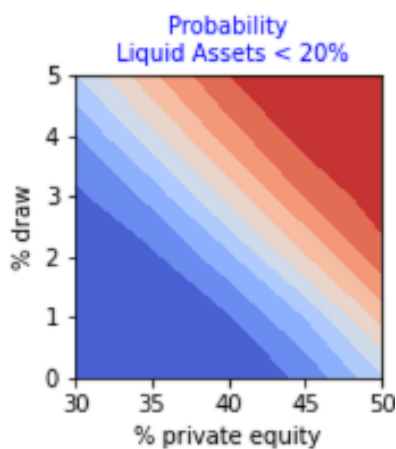
### How might the increasing allocation to illiquid assets affect liquid assets?

This is akin to secondhand smoke—an investor need not be invested in illiquid assets to be affected by the actions of other investors with large illiquid asset holdings. Liquidity demands are first met by selling liquid public market assets that bear the initial impact of any liquidity squeeze. In many cases, investors holding the least amount of illiquid assets will be hurt the most in a significant market drawdown.

### What are the implications for illiquid assets?

The nature of this problem is that it has a tipping point. The tipping point is the point at which illiquid assets must be sold to finance cash needs. Once the tipping point is breached, the more illiquid assets held, the worse the performance..

The graph below presents one view of our tipping point results, illustrating the probability of liquid assets dropping below 20% of portfolio assets during a three-year period that includes and follows a 3-standard-deviation market shock. Deep blue represents a 0% to 10% probability, and deep red represents a 90% to 100% probability. Shades in between deep blue and deep red represent 10% probability increments.



Source: Allspring

For smaller private market allocations and smaller organic cash flow needs (the “draw” as a percent to pre-drawdown portfolio assets), it is very unlikely that liquid assets fall below 20%. Contrast this with large (5%) organic cash flow needs and a large starting illiquid allocation (50%), which results in almost certainty that liquid assets will fall below 20% of portfolio assets. The graph also makes clear the idea of a tipping point, moving from deep blue to deep red.

### What are the key factors that determine a breach of the tipping point?

The market shock and market fragility are the key determinants of whether a breach occurs.

- **Market shock:** The larger the shock and the longer the duration of the drawdown, all else equal, the higher the probability of breaching the tipping point.
- **Market fragility:** The more fragile the market, the more likely a breach for a given market shock. Market fragility is determined primarily by two things:
  - **Organic cash flow:** The larger the cash drain on liquid assets, the more fragile the system.
  - **Illiquid allocation:** The larger the illiquid allocation, the more fragile the system. Each dollar allocated to illiquid assets results in one less dollar available to fund liquidity needs. Also, the larger the illiquid allocation, typically the larger the capital commitment, which exacerbates the drain on liquid assets.

Given the macroeconomic and market events of 2022 and 2023, it’s helpful to discuss each year in light of this research and then highlight the implications for 2024.

## 2022: A rough start with a better end

This was the year inflation got out of control globally. Central banks responded by tightening monetary policy with, among other things, significant interest rate increases. Public market equities, real estate, and bonds fell by 15% to 30% at the trough of the drawdown. Private market assets, as they are known to do, were very slow to write down asset values. The result was that many institutional investors lost control of their asset allocation as illiquid assets breached the upper allocation bounds and public market assets fell through their lower allocation bounds.

Pension funds continued to make benefit payments, endowments and foundations continued to distribute funds, and private market funds continued to call capital that had been previously committed. Distributions from private markets dried up. These net cash outflows led to a further depletion of liquid assets. Fortunately, much of the asset market drawdown had slowed or ended by the fourth quarter, and this improvement continued into 2023.



## 2023: Volatility below the surface

Last year saw inflation come under control and monetary tightening cease. Public market equities and bonds rallied significantly, with equities largely recovering ground lost in 2022. Public market bonds rallied as yields fell, and public real estate held steady. This rally in liquid assets helped bring investors' asset allocation closer to target levels. The year was not without its excitement, however, with the failures of Silicon Valley Bank and Signature Bank and the rescue of First Republic Bank. In all three cases, the balance of illiquid assets (loans to venture capital firms and start-ups, investments in cryptocurrency) to liquid assets (largely Treasury bonds and bills) grew too large and concerned depositors demanded their money.

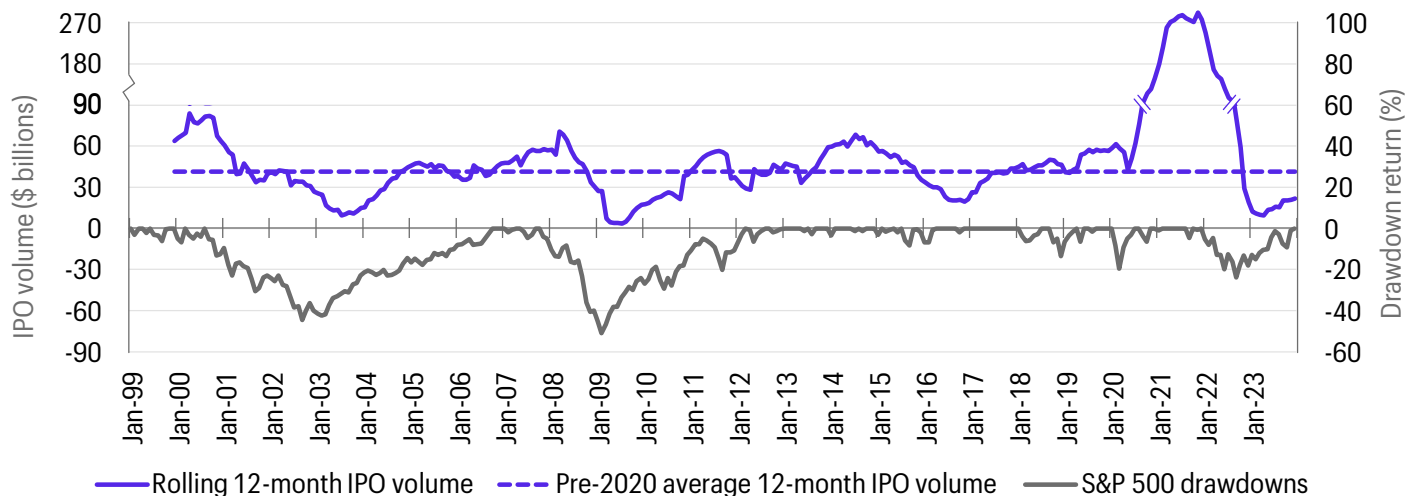
Blackstone's private real estate investment trust (known as BREIT and as one of the world's largest real estate funds) continued to gate redemptions—a process that started in the fourth quarter of 2022 and continued through all of 2023. Despite the gating, BREIT breached the tipping point and properties had to be sold to meet redemptions. Pension funds continued to make benefit

payments, endowments and foundations continued to distribute funds, and private market funds continued to call capital that had been previously committed. Distributions from private markets remained anemic.

To get a sense of how anemic distributions from private markets became, the figure below plots the drawdowns on the S&P 500 Index in gray and the rolling 12-month dollar volume of initial public offerings (IPOs) in violet. IPOs are a primary way for private equity to distribute capital to investors. The relationship between the two is striking—when the S&P 500 Index draws down meaningfully, IPOs disappear and then trail the recovery in the S&P 500 Index by six to nine months. At the end of 2023, distributions remain well below the pre-2020 average. This is particularly acute across much of venture capital.

Before jumping into 2024, it's worth getting clarity on where investors found themselves at the end of 2023. The "legacy of loss" is the idea that losses leave a mark. For any given loss, the recovery takes a larger return than the original loss—for example, a 50% loss requires a 100% return to get back to even.<sup>2</sup>

S&P drawdowns and IPO dollar volume



Sources: Allspring and Bloomberg Finance L.P., Jan-99–Dec-23.



**“ The implications for 2024 are that, while equity market indexes are back at or near their 2021 peaks, public bond and real estate indexes are not, as interest rates remain well above the levels at the end of 2021. ”**

We also know that the recovery is a non-linear function of the size of the loss—for example, a 25% loss requires a 33% gain to recover but a 50% loss (2 x 25% loss) requires a 100% gain to recover, not a 66% gain (2 x 33%). This is important because cash outflows in the presence of a loss increase the return needed to fully recover the impact of that cash flow by more than the amount of that cash flow.

To make this more concrete, we construct a hypothetical portfolio with realistic cash flows and walk it through 2022 and 2023. Consider a portfolio at the end of 2021 that was 70% liquid assets and 30% private (illiquid) assets. The liquid allocation is 60% MSCI All Country World Index (ACWI) (Net), 30% Bloomberg U.S. Aggregate Bond Index, and 10% MSCI U.S. REIT Index. Next, we assume net annual cash outflows of 3% of the 2021 portfolio value and private market capital calls net of distributions of 1.5% of the 2021 portfolio balance.<sup>3</sup> We also assume rebalancing within the liquid assets to the target liquid asset weights each month.

The first row in the table shows annualized returns for 2022 and 2023 for each asset class.<sup>4</sup> Here we see that, by the end of 2023, public equities had just recovered from the 2022 drawdown while bonds and real estate still had a ways to go to fully recover. The next two rows show the dollar balances in each asset at the end of 2021 and then again at the end of 2023. There was a 13% reduction in liquid assets at the start of 2024 compared with the start of 2022. To understand the consequences of this scenario, we turn to 2024.

## 2024: Uncertainty ahead

The implications for 2024 are that, while equity market indexes are back at or near their 2021 peaks, public bond and real estate indexes are not, as interest rates remain well above the levels at the end of 2021. Liquid asset balances in most portfolios are well below their 2021 peaks. This is largely because, over the course of 2022 and 2023, many investors had to sell public market assets to fund cash distribution and to meet capital calls from private market investments. A lot more money suffered the drawdown than enjoyed the recovery. This leaves many portfolios more exposed to a liquidity stress event following a market shock than they were at the end of 2021.

If equity markets continue to rally, distributions from private markets should also pick up. If, however, equity markets slip and/or uncertainty increases significantly—possibly on the back of escalating geopolitical risk—distributions from private markets are likely to remain anemic. Because the liquid asset base has shrunk relative to the end of 2021, a smaller market shock in 2024 would move markets to the tipping point than the shock necessary in 2022.

**“ Consider reducing or suspending any new commitments that turn liquid assets into illiquid assets. ”**

	ACWI	US Agg	US REIT	Privates
Annualized return 31-Dec-21 to 31-Dec-23	-0.1%	-4.2%	-7.3%	0.0%
Dollar value at 31-Dec-21	42.0	21.0	7.0	30.0
Dollar value at 31-Dec-23	36.4	18.2	6.1	33.3
Dollar shortfall	5.6	2.8	0.9	
Percent shortfall	13.3%	13.3%	13.3%	

Source: Allspring and Bloomberg Finance L.P., 31-Dec-21 to 31-Dec-23.

## What can investors do?

A few things that we recommended in our original research still apply today.

**1 MANAGE LIQUIDITY:** Take stock of your liquid assets and the cash flow demands on them.

- a) Consider reducing or suspending any new commitments that turn liquid assets into illiquid assets. For the sake of this analysis, consider any asset you can turn into cash within six months without significant price concession to be liquid.
- b) Consider explicit downside protection on your liquid equities. One of the fastest ways for a liquidity position to shrink is to suffer a significant market drawdown in liquid assets. Explicit protection provides gains to offset losses when they are most needed.

**2 BE A PROVIDER OF LIQUIDITY IN TIMES OF MARKET STRESS:** Aligned market will see many forced sellers who must make significant price concessions to remain solvent. Investors with sufficient liquidity will be able to buy many assets—public and private—at distressed prices. For investors uncomfortable with reducing or suspending private market commitments (as suggested in point 1 above), consider reducing or suspending those commitments but earmarking that capital to be deployed in the secondary market for private assets in case of a liquidity event.

**3 CONSIDER TREND-FOLLOWING STRATEGIES:** Our modeling suggests that sales of liquid assets over time to meet cash flow needs will lead to trending in markets on the way down. This liquidity-driven selling will further depress prices well below fundamental value, which will result in prices trending upward during a recovery. Trend-following strategies should be well positioned to benefit portfolios on the way down (providing much-needed protection) as well as on the way up (buying recovering assets at bargain prices). Trendfollowing strategies are a systematic way of implementing the suggestions in points 1 and 2 above.

**4 LONG VOLATILITY:** This is the worst advice in most market environments. Volatility generally fails to live up to its expectations, so being short volatility tends to pay off and being long volatility tends to be a consistent money loser. But in a liquidity-driven market, when many investors are forced to sell to meet cash flow needs, prices should fall and volatility could spike to new levels.

All of these suggestions are best implemented if discussed and agreed on before we suffer a market shock that kicks off a liquidity-stressed environment.

## Preparing for when the dragon awakes


Our original paper published in early 2022 highlighted risks to the entire market (not just those with large illiquid allocations) of the significant shift by many investors into illiquid assets—primarily private market assets. Two years have passed, and equity markets have largely retraced their steps recovering from the drawdown in 2022 while bond and real estate markets have not. The selling of liquid assets to meet cash flow demands over those two years left less capital exposed to the recovery than was exposed to the drawdowns, further compounding the incomplete recovery. That, coupled with the actual net cash outflow over those two years, leaves many portfolios more vulnerable to a market drawdown and extreme liquidity stress than they were at the end of 2021. It may be time to consider steps to preserve and protect liquidity as well as to prepare to capitalize on the opportunities that a liquidity-stressed market may provide. The best time to prepare for a storm is when the sun is shining—and when the dragon is still sleeping.

### RESOURCES

1. Whitney, Duane, and Kevin Kneafsey. "Tickling the Dragon's Tail: A Model of the Systemic Impact of Increased Illiquid Asset Holdings in Times of Market Stress." Allspring, March 2022.
2. If a \$100 portfolio loses 50%, it drops down to \$50 and must gain \$50 (100% of its new value) to get back to the portfolio's original value.
3. The 1.5% comes from assuming committed capital equal to 25% of the private market value on December 31, 2021. This committed capital is called equally over five years, so  $1.5\% = 25\% \times 30 \times 1/5$ . All cash outflows are assumed to happen evenly every month. We assume no distributions from private market assets over this period.
4. We assume a 0% return to private assets, as it makes the cash flow into privates more transparent, but we could put any number in here as it has no impact on the liquid asset portfolio.



**Kevin Kneafsey, PH.D.** is a senior portfolio manager for the Systematic Edge Multi-Asset team at Allspring Global Investments. He joined Allspring from its predecessor firm, Wells Fargo Asset Management (WFAM). Before WFAM, Kevin was at Schroders Asset Management, where he worked as a senior advisor in the multi-asset group. Prior to that, Kevin served as the head of research for BlackRock's multi-asset client solutions team. He has taught classes at the University of Arizona in the Eller College of Management and at the University of California, Berkeley, in the masters in financial engineering program at the Haas School of Business. He currently teaches at CalPoly San Luis Obispo.



“ Although, not thrilled with being stuck at the Capitol, legislators are in full campaign-mode, with almost a third of the Legislature’s seats turning over in the 100 legislative districts up for election. ”

## State Association of County Retirement Systems

# LEGISLATIVE REPORT

The 2023-24 Legislative Session ended with some bangs but a lot of whimpers. There were the usual last week “gut and amends” that had many advocates running around the Capitol, but there were some high-profile packages, like the Pro-Tem’s clean energy bills and two major reparations bills that were stalled. By early October the Governor met his 30-day deadline to take action on the 990 bills that were sent to his Desk. Overall, he vetoed 183 bills, making his veto rate roughly 18% - which has been about his average. Some of the bills that met his red pen were automatic voter registration, a major AI safety bill, and a bill that would have let undocumented immigrants be eligible for home loans.

**O**f note, in the last hours of Session, the Governor called for a Special Session to address gas prices. The Assembly has convened their Second Extraordinary Session to consider legislation aimed at easing gas price spikes, including the Governor’s proposal that would require

oil refineries to maintain a minimum supply of fuel. Although, not thrilled with being stuck at the Capitol, legislators are in full campaign-mode, with almost a third of the Legislature’s seats turning over in the 100 legislative districts up for election.

## Budget

On June 26, the Legislature passed a budget agreement that was subsequently signed by the Governor on the 29th. This deal represents a compromise between both legislative leaders and the Governor after weeks of negotiations. The \$297 billion spending plan addresses the \$56 billion revenue gap over the next two years. This plan relies on reserves, spending deferrals and claw backs of unappropriated funds. In addition, the plan includes \$16 billion in cuts, including a blanket 7.95% reduction in funding for nearly all state departments and the elimination of thousands of vacant positions, which are collectively expected to save nearly \$3.7 billion.

The Governor and legislative leaders focused their budget on core program priorities, including an expansion of Medi-Cal, behavioral health programs and homelessness funds for local governments. The budget deal also outlines future legislation that will require the state to set aside a portion of future projected surpluses so that it cannot be spent until the money is collected – addressing some of the key structural budget issues the state has faced. The package also includes a 2026 constitutional amendment to increase California’s main reserve account.

In addition, the state plans to use its rainy-day fund, pulling out more than \$12 billion over the next two years to address the fiscal shortfall. The budget agreement will also suspend the net operating loss for companies with more than \$1 million in taxable income and limit business tax credits to \$5 million annually.

## Initiatives

The Legislature is also putting priority issues before the voters this November. Voters will decide on ten ballot measures (several more were pulled from the ballot at the last minute). In addition, one measure that we have previously reported on – the Business Roundtable sponsored Taxpayer Protection and Government Accountability Act- was pulled from the ballot by the California Supreme Court. This measure would have increased the voter threshold for state, local governments and agencies to raise taxes and revenues. On June 20, the Court unanimously voted to reject the measure from going to the ballot, citing the proposed language as unconstitutional.

The following are the Initiatives that will go before voters in November:

**Prop 2** – A \$10 billion bond to build schools - \$8.5 billion going to K-12 schools and the remainder to community colleges

**Prop 3** – Reaffirm the right of gay couples to marry

**Prop 4** – A \$10 billion climate bond for water, wildfires and other climate initiatives

**Prop 5** – Lower voter approval thresholds for local housing and infrastructure bonds

**Prop 6** – Limit forced labor in prisons

**Prop 32** – Raise the state minimum wage to \$18/hour

**Prop 33** – Allow local governments to impose rent control

**Prop 34** – Require certain health providers to use nearly all revenue from a federal prescription drug program on patient care

**Prop 35** – Create a permanent tax on managed care health plans

**Prop 36** – Increase penalties for theft and drug trafficking

## SACRS is tracking the following bills:

**SB 1189 (Limon)** – This bill authorizes the Ventura County Employees’ Retirement Association to appoint a Chief Technology Officer.

**Status:** This bill was signed by the Governor on July 15.

**SB 1379 (Dodd)** – This bill creates an exception to PEPRA from the 960- hour limitation on retired public employees working after retirement for hours worked in an appointment by Solano County Sheriff’s Office.

**Status:** This bill was signed by the Governor on September 29.

**AB 2284 (Grayson)** – The bill amends the definition of “compensation earnable” to define a work classification “grade” to mean a number of employees considered together because they share similarities in job duties, schedules, unit recruitment requirements, work location, collective bargaining unit, or other logical work-related grouping. The bill was amended on June 27 to include a provision that requires the Board of Supervisors to pass a resolution to allow for the language to become operational within the jurisdiction. The SACRS Board met on July 18 and took an oppose position.

**Status:** This bill was signed by the Governor on September 28.

**AB 2301 (Nguyen)** – This bill, the Sacramento Area Sewer District Pension Protection Act of 2024, provides for the continuation of benefits and pension obligations for employees transferring from the County of Sacramento to the Sacramento Area Sewer District.

**Status:** This bill was signed by the Governor on July 2.

**AB 2474 (Lackey)** – This is a SACRS-sponsored bill and was amended in Committee to allow LACERA-only to deposit retirement allowances into prepaid accounts until January 1, 2028, as a pilot program. The bill also provides clarity regarding the ability of a system to deposit pension payments in a member’s living trust bank account. The bill also clarifies potential consequences when a retiree exceeds the 960-hour post-retirement employment limit and provides systems with administrative flexibility on that matter.

**Status:** This bill was signed by the Governor on July 15.

### **AB 2770 (Committee on Public Employment and Retirement)**

– This is the annual housekeeping bill that includes various technical amendments for CalPERS, CalSTRS, and '37 Act systems. SACRS is a co-sponsor of the bill. The bill removes the "return receipt" requirements as part of current procedures in statute that systems must follow to locate members and beneficiaries. The bill also conforms the sunset date of January 1, 2025, to the Labor Code for the recently added disability presumption for post-traumatic stress disorder.

**Status:** This bill was signed by the Governor on July 15.

**AB 3025 (Valencia)** – This bill creates a framework for making benefit corrections and contribution refunds when disallowed compensation is inadvertently included in pension calculations. This bill includes a penalty to be paid by the employer to the member if compensation is later determined to be disallowed. The bill also includes language that is intended to protect a system's Alameda correction process currently underway. The SACRS Legislative Committee is working with the bill's author and sponsor to ensure '37 Act systems can properly implement the bill, consistent with IRS regulations. The bill was amended on June 27 to expressly state that confidential information is not subject to the California Public Records Act. The author has also agreed to accept one last amendment that clarifies "Initiated a process" to mean a system has formally adopted a resolution "or made an administrative determination".

**Status:** The bill was signed by the Governor on September 22.

## SACRS is also monitoring the following bills that do not impact the '37 Act systems but are of interest:

**SB 252 (Gonzalez)** – This bill prohibits CalPERS and CalSTRS from making new investments in a fossil fuel company and requires those systems to divest from fossil fuel companies by July 1, 2031, unless the board determines in good faith that the action is inconsistent with the board's fiduciary responsibilities.

**Status:** Dead. This bill was not taken up by the Assembly Public Employment and Retirement Committee.

**SB 962 (Padilla)** – This bill provides that the California Public Employees' Pension Reform Act permits a public employer to adopt a new defined benefit formula that is not consistent with PEPPRA, if that formula is determined and certified by the chief actuary and the board of that employer's retirement system to not have a greater risk or greater cost to the sponsoring employer than the defined benefit formula required by PEPPRA. Approves a specified defined benefit formula applicable to employees of the San Diego Unified Port District.

**Status:** The bill was signed by the Governor on July 15.

**AB 817 (Pacheco)** – The bill would have provided flexibility for local government agencies to conduct remote meetings under Open Meeting laws. Specifically, this bill would have allowed a subsidiary body of a local agency to teleconference their meetings without having to publicly notice or make all locations publicly available.

**Status:** Dead. This bill did not pass out of the Senate Local Government Committee.

**SB 1240 (Alvarado-Gil)** – This bill provides for the continuation of pension benefits for employees of El Dorado County Fire Protection District and the Diamond Springs Fire Protection District under a new consolidated district.

**Status:** This bill was signed by the Governor on September 28.

**AB 2715 (Boerner)** – This bill allows a legislative body to discuss a threat to critical infrastructure controls or critical infrastructure information relating to cyber security during a closed session.

**Status:** This bill was signed by the Governor on September 14.



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.



# SACRS <sup>ANNIVERSARY</sup> 70

## SPRING CONFERENCE 2024

### PHOTO GALLERY

The SACRS Spring Conference took place at the picturesque Hilton Santa Barbara Beachfront Resort in Santa Barbara and included thought provoking keynotes, valuable training sessions, and intriguing breakout and concurrent sessions covering a variety of topics. Take a visual look back and relive the highlights of the unforgettable sessions, activities, and events celebrating SACRS 70th Anniversary.











# SHORT TAKES

## Conversations with Keynotes

SACRS Spring Conference 2024 featured a remarkable roster of insightful and informative speakers. If you missed the keynote presentations, here are a few highlights and key takeaways from these valuable sessions.



Frank Kelly was welcomed to the SACRS stage by his long-lost cousin and SACRS member Dan Gallagher, Chief Investment Officer, Ventura CERA.

**FK:** We have to work on insuring the long-term viability of Social Security. You guys [SACRS] are the backbone. The one constant is going to be you guys with pensions. Let's break this down, the social security deadline was 2032 but was revised to 2036. It reminds me of the Holy Grail "Bring out your dead!" Medicare is the same, extended to 2036. The fact is people are living longer. From an investment perspective we have to tweak things. We have to deal with Social Security reform and Medicare reform, and highway reform (if we are headed for electric vehicles) – these are really tough economic decisions and it's going to hurt.

**SACRS Magazine:** You brought up several other big problems that must be solved in the near future.

**FK:** One of the biggest lessons we learned during COVID was that we need to bring back

more industry here to this country. Semi-conductors, chips, bringing it back here will make our country stronger. It's ugly, but we can get through it. Our electric grid needs to be completely re-done. I mean top to bottom. It's becoming a competitive issue. It will be hard, and expensive. We must face it and try to figure it out. Winston Churchill, famously said: *Americans will always do the right thing, only after they have tried everything else.* Reagan, who I thought was a good leader, he never forgot his failures. Reagan thought that's what defined a leader: humble, pretty good, and never forget the failures.

**SACRS Magazine:** It all seems completely overwhelming and impossible.

**FK:** Everyone seems scared. We live in an age where we wake up to all this political stuff. We need to turn the media way down. There is so much salacious news. We can lose hope very quickly. We have to remember, that life has always been hard. The Civil War. World War II. COVID. We are an amazing country. Don't be scared. Look at the risk and face the risk. There is too much playing to emotion. Just turn it off and go with local news. The best business news is at the local level. If I could give financial advice to my younger self: Save the pension. It beats everything else my broker did. People need longer-term savings. 401(k) is great, but pensions are the way to go.

### FRANK KELLY

“Don't be scared. Look at the risk and face the risk.”

Frank Kelly

**Frank Kelly** is the Founder and Managing Partner of Fulcrum Macro Advisors LLC, a political risk advisory firm based in Washington, DC. Having worked as a senior executive on Wall Street for close to 30 years, as well as having served in senior government roles, Frank brings extensive global experience and insight into the public policy decision-making process and its impact on global markets. Frank is also a Senior Advisor to The Scowcroft Group, a global business advisory firm with an emphasis on emerging markets and an adjunct professor at The Catholic University School of Business where he teaches coursework on Business Intelligence. Frank captivated the SACRS audience with his insights and hopeful outlook.

**SACRS Magazine:** At the conference, you spoke about social security vs. pensions.



**JEFFREY GUNDLACH**

“Always begin with risk managed and know that you are going to get it wrong sometimes.”

*Jeffrey Gundlach*

Keynote speaker **Jeffrey Gundlach** is known as the “Bond King” and is the founder, Chief Executive Officer, and Chief Investment Officer of DoubleLine Capital LP, an investment management firm and is a registered investment advisor. He was formally associated with TCW, where he was Chief Investment Officer, and head of fixed income activities. He is recognized as a leading expert in mortgage-backed securities and investment asset allocation. His investment strategies have been featured in leading publications, including *The New York Times*, *The Financial Times*, *The Wall Street Journal*, *USA Today*, *Barron's*, *Forbes*, *Fortune*, *Pensions & Investments*, and *Institutional Investor*. Candid and insightful, Jeffrey spoke on a wide range of topics at the SACRS conference,

**SACRS Magazine:** How did you get involved in this career, did you set out to become the Bond King?

**JG:** I studied at Dartmouth College, with degrees in Mathematics and Philosophy. I was going to be a professor and had delusions. I thought it wouldn't be political. One day after graduation I looked up “top paying professions”. One of the top 10 was investment banker, but I didn't know what it was. Looking it up in the Yellow Pages, I sent 25 resumes and got three replies. I had very few skills, but I was not afraid to think independently I was confident enough to think and act on them.

**SACRS Magazine:** You are known for your successes, were you always right?

**JG:** No, I was wrong 30% of the time in 12 years (but not in a row). You can't position yourself for only one outcome. You must balance it, because you're going to be wrong. Every strategy, implementation and trade. If this goes wrong what was my thinking? Just make sure the severity of the error is not fatal.

**SACRS Magazine:** Do you have advice for aspiring investors?

**JG:** Always begin with risk managed and know that you are going to get it wrong sometimes. Be sure to have a long-time horizon, you can't invest in a five year horizon. Avoid the “T-bill and chill” – you can get way better than that! Invest in data centers, AI, real assets, and real estate (mostly land). I like Japan and India – India is strongest economy in the world. India is now where China was 30 years ago.

**SACRS Magazine:** Do you have any plans to step down from DoubleLine?

**JG:** We at DoubleLine are very attached to shared success. We don't have tension between people making the product and selling the product. We have set up all our products so no product competes with another product. In that way, no investment team is up against the other one. This allows for everyone to pull the oar in the same direction. DoubleLine has a very strong culture.

No, no plans to retire. I want to see how the movie ends. I want to see it through for my clients.

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## NORAMAY CADENA

“We see a lot of products that are very cool, but they do not have a positive impact; focus on those with a positive impact.”

Noramay Cadena

The motivational session *Women in Tech Making an Impact: Lessons on Staying Ahead of the Curve* was sponsored by Bernstein Litowitz Berger & Grossmann LLP, in honor of SACRS 70th Anniversary. The session featured **Noramay Cadena**, Managing Partner of Supply Change Capital, a venture capital firm investing in healthier and regenerative food and ag systems for people and the planet. Over the last nine years, Noramay has invested in over 75 companies across industries and stages. In 2022, she was recognized as one of 10 women of influence in private markets by PEI. She’s also been named one of 55 rising-star VCs who shook up the industry (2021) and one of 50 renowned women in robotics (2020) and was named one of the top 100 influential Latinas in the United States by *Latino Leaders Magazine* from 2020-2022.

**SACRS Magazine:** How did you get started in your career?

**NC:** It all started with a tap on the shoulder in high school. One day I was pulled out of class to hear a presentation from an alum that went to MIT. I was told “if I can do it, you can do it.” My Mom was illiterate and my Dad was a janitor, but I ended up going to MIT to study engineering, all because someone came and informed me of an opportunity.

Today, I focus on positive sustainability and early-stage companies in the food and ag industry looking at both the supply side (sustainability) and the demand side, because we are changing what we eat and how we buy food.

**SACRS Magazine:** What do you look for?

**NC:** The first and foremost lens is to make money for investors. Then we talk about ag as the last frontier of technology, looking at the intersection of food and health and what will bring us food that is accessible and bring costs down. Every day we make decisions of where to shop, eat etc. This is an extension of that. 75% of what we eat comes from 12 crops and five animals.

As we are making investments today, we need to take a systematic approach: input, output, the box in the middle, cost analysis, lifecycle analysis, etc. We see a lot of products that are very cool, but they do not have a positive impact; focus on those with a positive impact.

**SACRS Magazine:** You talked about the imbalance of gender in the food and ag industry.

**NC:** Women make up just 2% of venture capitalists, yet women are at the backbone of food buying with 80% of purchases being made by women and 80% carrying responsibility for daily shopping. We know women have good ideas on how to improve food: grow it, store it, and supply it.

I have been in male dominated industries my whole career, first aerospace and now as a venture capitalist. I will say that gender disparity is worse in venture capital. The challenge for me has been around the business case for food and ag. I see such a huge opportunity for growth. This is where I see myself for the next 20 years.

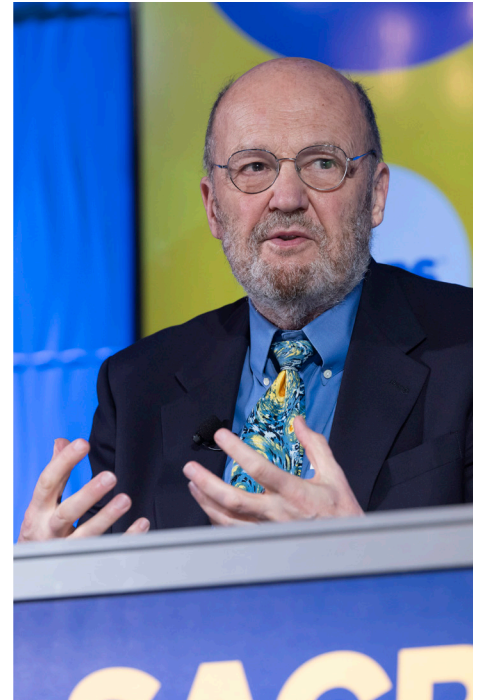




Session moderator Spencer Hunter, Senior Consultant, RVK, Inc.



Christopher Ailman, Chief Investment Officer, CalSTRS



Jim Williams, Chief Investment Officer, J. Paul Getty Trust

**CHRISTOPHER AILMAN, JIM WILLIAMS, AND SPENCER HUNTER**

“The simple definition of a fiduciary is you have to take the bullet first, literally.”

*Christopher Ailman*

The SACRS’ audience listened closely to veteran CIO panelists **Christopher Ailman**, Chief Investment Officer, CalSTRS; and **Jim Williams**, Chief Investment Officer, J. Paul Getty Trust, along with moderator **Spencer Hunter**, Senior Consultant, RVK, Inc. during their session *Lessons from the Past, Reflections on Present, and Advice for the Future*. The panelists reflected on their decades of experience, told stories that included some of their greatest challenges and offered attendees advice on how CIOs could better work with their board members and investment committees.

**SACRS Magazine:** Christopher, during the discussion you emphasized the important role the fiduciary plays and the need to put the beneficiaries first.

**CA:** That’s right. You come into the room representing a group, but I can’t emphasize enough how much you have to wear just one hat. The simple definition of fiduciary is you have to take the bullet first, literally. If you were standing next to one of your beneficiaries, you’re supposed to dive in front of them and protect them. When it comes to money, that means their money comes first. You want to sell, sell the portfolio first. Yours has to wait until the next day.

**SACRS Magazine:** And you don’t call them pensions funds?

**CA:** I stopped calling them pensions. I called them trust funds, because I see it at the state level between red and blue states that there’s a big misunderstanding of who’s money this is. And darn it, it’s a trust fund. It’s not their money. You’re trustees of other people’s money, so to me, governance is black and white. That’s a hard one. And yes, you have to take that career risk early in your career to stay on the hard line.

**SACRS Magazine:** Jim, you highlighted an important role of a trustee. What was it?

**JW:** I wanted to make sure all the trustees really embraced the critical role they play in setting return. The job of the trustee is to provide the staff your risk appetite. Where is your comfort zone? What is the risk profile? The last thing we want to do is be pushed to sell at market. What is the appropriate return, which drives the asset allocation, which is what we work together on, and all of us approve. All the attention that’s focused on the return side. The big driver of everything, what drives asset allocation, is the risk.

**SACRS Magazine:** You both had some great parting advice. Would you both share a little of it here?

**JW:** Managing large pools of capital is being able to think long-term and to think strategically. Be a trustee, hire the best, and delegate!

**CA:** We spend too much time on email and meetings, and that’s time you’ll never get back. I wish I had been more efficient. Take time to think about what you’re good at and what you’re bad at. Work on the bad stuff. Holding yourself accountable is absolutely critical. I love that SACRS has a continuation education requirement. Hats off to SACRS. The quality of education is outstanding!



**STEVEN "BUCKY" BUTOW**

“A good team will work on technology, and when they have a problem, they will tackle it, and they know how to improve it.”

*Steven "Bucky" Butow*

**Steven "Bucky" Butow**, an Air National Guard major general and combat pilot who serves as commander of the California Air National Guard, helped establish Defense Innovation Unit (DIU) in 2015 to identify commercial technology with promising military applications. DIU, based in Mountain View, California, is focused on six technology portfolios: space, autonomy, artificial intelligence, cyber, human systems and energy. For SACRS, Steven presented *Accelerating the Adoption of Commercial Technology for National Security* discussing, among other topics, the pertinent need of the US Government to fast-follow commercial industry, where the most cutting-edge technologies are being developed.

**SACRS Magazine:** One of the focuses of the Defense Innovation Unit (DIU) is to identify commercial technologies with military applications. What makes those technologies so desirable?

**BB:** Exquisite things don't scale. It's become somewhat of an Achilles heel for us in defense that we've become infatuated with exquisite ships, exquisite airplanes, exquisite things. These exquisite, highly specialized things are often cutting edge, but they don't scale. For example, you have a supercomputer in your pocket. It roams. It uses architecture from different companies. You can talk to people who have completely different phones than yours. Commercialization has brought all these things together,

integrating them, and making it so it's affordable and scalable. Commercial is the best path for us to reduce cost, increase scale and move with speed. NASA doesn't own any rockets. They use commercial markets. It's all commercially contracted. In that way, government has the best capacity at a reduced cost. It's a nice healthy balance.

**SACRS Magazine:** How do you select technology companies?

**BB:** How we pick companies, and I think this is really important, is based on something we learned from venture capitalists. They always choose the team over the technology. And the reason why is if you fall in love with a technology, but the team is not so good, they're just going to keep trying to sell you the technology, rather than try to improve it. A good team will work on technology, and when they have a problem, they will tackle it, and they know how to improve it. Everything is agile. Because the rate of change in technology is so steep, you can't just introduce something and sell it and say: here. Your product or service has to be maintained, it has to be tightly coupled to the current state of the art of technology. Otherwise, somebody else will come along and push. And we see that every day, right? We see that a lot in the space industry.

**SACRS Magazine:** You talked about first movers and fast followers.

**BB:** We say there's first movers and then there's the fast followers. First movers usually take extraordinary risk, and they produce something and have advantage over others. But other companies will follow their technological breakthrough to try to improve it in ways faster than the company that invented it did. What's the most disruptive about all these things is their software defined. In fact, look at a company like SpaceX. The makers of SpaceX think of the technology as a software application wrapped in stainless steel. It's like most of the companies we deal with. They really see themselves as software companies that are using hardware to deliver what they're doing. And it is so odd. Most of the weapon's systems that I've flown and operated in my military career are the exact opposite. They're hardware things and then, you know, we use software, but software is kind of like the afterthought, or it's kind of inconvenient, and an awkward integration after the fact.

In our 2022 National Defense Strategy, one of the primary tenets says that the Department will be a fast follower of commercial technology. Being a fast follower means that we'll be readily adopting all these new and emerging capabilities from the first movers. Sometimes the first mover is the Defense Advanced Research Projects Agency. But a lot of time that first mover is a new company that's doing something extraordinary.

**SACRS Magazine:** Do you have any tips for SACRS investors?

**BB:** One of the things that we're working on, and this might be a good thing to follow as an investor, is which of the traditional defense companies out there are building a bridge to the newer companies? If you can do that, what you get is this sweet spot that we're trying to do right now at DIU. We are trying to get this fusion, this integration of people who really know how to make stealth fighters and people who really know how to deliver world-class software that can change the world. That would be amazing. And that's going to happen. It is stitched into our strategy and our doctrine, but you know, saying it or having it on a PowerPoint is easy. Actually doing it is difficult because you need everybody at the table.



**HONORABLE MALIA M. COHEN**

“One of our top priorities in education is for financial literacy.”

*Malia M. Cohen*

State Controller **Malia M. Cohen** was elected in November 2022, following her term of service on the California Board of Equalization (BOE). She was elected to the BOE in November 2018, served as Chair in 2019, reelected to Chair in 2022, and was the first African American woman to serve on the Board. As Controller, she continues to serve the Board as its fifth voting member. During her time on the SACRS stage, Malia spoke on a variety of topics of interest to the SACRS audience.

**SACRS Magazine:** What is the role of the State Controller’s office and what are a few of your key priorities?

**MC:** I spent about eight years in the San Francisco retirement system. Public service has been in me since day one and I have been down this pathway ever since. The state controller is like the state’s accountant. I am responsible for money as it leaves the state coffers, making sure it goes where it is supposed to go, whereas the State Treasurer handles money as it comes into the state. When it comes to economies, California is almost poised to overtake Germany. We would then be only fourth to the United States, China and Japan.

Our priorities include protecting seniors, a state nutrition program, and education. I sit on 70 different boards and commissions, and I always look through a fiduciary lens.

**SACRS Magazine:** You mentioned work on a financial literacy initiative.

**MC:** One of our top priorities in education is for financial literacy. In the state of California, financial uncertainty flows in 10-year cycles. We feel financial literacy is a game changer. It will pivot and shift how young people think about money. There is a financial literacy initiative that is going to require every public-school child to receive a course in financial education and that is huge.

(EDITOR’S NOTE: In June, Governor Gavin Newsom signed AB 2927 into law requiring school districts to offer a stand-alone, semester-long course in personal finance, with the option for districts to require a full-year course starting in the 2027-28 school year. California now joins 25 other states in adding personal finance as a high school graduation requirement.)

**SACRS Magazine:** You talked about being a working Mom and what a challenge that can be.

**MC:** I love working with working moms because I know that push and pull. But we shouldn’t just focus on the mom, but parents. To men, the dads, they need to serve as role models mentoring our daughters. We all need to look around and ask: How many people of color? How many women on the board? We all know women make great decisions; we make sound decisions. We need that diversity of thought. We want to be sure the decisions we are making are for the future, for our children and for our children’s children.

## SPECIAL GUEST MODERATOR **KELLIE DEMARCO**



Emmy-award-winning journalist **Kellie DeMarco** once again brought her nearly two decades as a news anchor – most recently at the NBC affiliate, KCRA in Sacramento – to the SACRS stage asking insightful questions of the speakers and engaging the audience.

# SACRS CELEBRATES 70!

Attendees of SACRS Spring Conference 2024 were treated to an extra special Wednesday Night Event. Gentle ocean breezes and the dressed-up Hilton Santa Barbara Beachfront Resort's Plaza and Rotunda set the stage, as everyone gathered together to celebrate SACRS 70th year as an association. The 70th Jubilee party featured a perfect night under the stars, beautiful ocean views, wonderful SACRS companions, and an exciting drone show, especially designed to commemorate the event.



What an exciting moment when the skies were lit up with the SACRS name!



Hilton Santa Barbara Beachfront Resort's Plaza and Rotunda provided a beautiful setting with glimpses of the Pacific Ocean and swaying palm trees.



David MacDonald and Sulema Peterson, SACRS Executive Director share a happy celebratory moment.



The drone show was a highlight of the evening with its mesmerizing movements, articulate formations and bright lights



Whether connecting with long-time colleagues, sharing a table with new friends, or relaxing after the conference day, event goers relished their time together with lots of talking and laughter.



A special toast was made by David MacDonald, SACRS President & Contra Costa CERA Trustee in recognition of 70 years of SACRS as an organization.



Congratulations to all involved with SACRS, as we commemorate 70 years and still going strong in our unwavering support of educating those that provide retirement security to California's public employees. This is an incredible milestone!

## "SHARK TANK" STRATEGY PITCH COMPETITION

There was much laughter and clapping during the SACRS Spring Conference 2024 special Affiliate Breakout Session designed for SACRS Trustees and Investment Staff to attend. The session featured select "Minnow" contestants that had to jump into the "tank" with a two-minute verbal presentation showcasing how best to pitch various investment strategies of their choice to consultants and plan sponsors. Each presentation was followed by a three-minute Q&A from the "Sharks" on the panel. The competition was divided into three categories Public Markets, Private Markets and Niche.

With its unique rules of no slides, no handouts, nor specific product nor fund pitches, the contestants had to rely on creative ways to get their pitches across using costumes and props. The Minnows appeared to relish the Shark Tank format, including the pulsating "Shark Tank" music and hot seat moments with the Sharks.

## CAST OF PLAYERS IN THE FUN AND INFORMATIVE SESSION

### The Sharks:

David Sancewich, Meketa; Trevor Jackson, Aksia; and Chris Tessman, Wilshire.

### The Minnows:

**PRIVATE MARKETS:** Peter Swan, Apollo; **Ryan Swehla**, Graceada; Chris Nordsiek, Napier Park; and Jeff Ennis, Ocean Avenue Capital.

**PUBLIC MARKETS:** Anthony Woodside, LGIM America; **Cameron Tripp, Ninety-One**; Galen Haws, Lord Abbett; and Ramon Gonzalez, William Blair.

**NICHE:** Larry Pokora, Tilden Park Capital; **Amanda Montgomery & Satya Kumar**, Sycamore Tree Capital; Philip Lawson, Adrian Lee & Partners; and Erin Lane, ICG.

*\*Winners for Best Presentation appear in bold.*



Satya Kumar did a highly entertaining turn as a Money Tree alongside adventurer Amanda Montgomery, both with Sycamore Tree Capital.



Ramon Gonzalez, William Blair, used props to get his points across.



LGIM America's Anthony Woodside promised to keep his presentation "short and sweet."

## SACRS AWARDS CEREMONY

During the Fall Conference, David MacDonald, SACRS President and Trustee, Contra Costa CERA, recognized outstanding SACRS volunteers and presented the Spring Conference Community Hero Award to a local non-profit making an impact within the community of Santa Barbara.



SACRS Volunteer Award Recipient Brian Williams, Trustee, Sonoma CERA and SACRS Board Member, shown with David MacDonald.



SACRS Volunteer Award Recipient Paul Angeles, Senior Partner, Actuary, Segal, shown with David MacDonald.



The Community Hero Award went to The Santa Barbara Foundation. Accepting the award on behalf of the Foundation was Susie Willett, Director of Development, Santa Barbara Foundation. ([www.sbfoundation.org](http://www.sbfoundation.org))

REGISTER NOW!

# SACRS 70 ANNIVERSARY

## FALL CONFERENCE NOV. 12-15, 2024



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# UPCOMING CONFERENCE SCHEDULE

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## **FALL 2024**

**Nov. 12-15**

Hyatt Regency Monterey Hotel and Spa  
Monterey, CA

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## **SPRING 2026**

**May 12-15**

Resort at Squaw Creek  
Olympic Valley, CA

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## **SPRING 2025**

**May 13-16**

Omni Rancho Las Palmas Resort & Spa  
Rancho Mirage, CA

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## **FALL 2026**

**Nov. 10-13**

Omni Rancho Las Palmas Resort & Spa  
Rancho Mirage, CA

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## **FALL 2025**

**Nov. 11-14**

Hyatt Regency Huntington Beach Resort and Spa  
Huntington Beach, CA

