SUMMER 2022

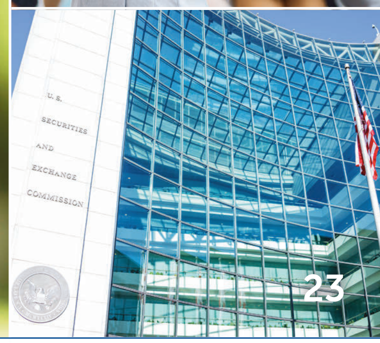
# SACRS

STATE ASSOCIATION *of* COUNTY RETIREMENT SYSTEMS

# CONTENT

SUMMER 2022







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FROM THE EDITOR

# All in One Place... **SACRS!**

Summer is flying by and fall will be here before we know it. Before it slips away, I want to report on SACRS' wonderful summer Public Pension Investment Management Program 2022 that we held in July. From July 17-20 we had 50 members gather together (24 were new trustees) to take advantage of the UC Berkeley Haas School of Business Modern Investment Theory & Practice for Retirement Systems course. It was great to have the mix of faculty, practitioners, and SACRS members all together in-person to learn and network. We are really proud of this program and the vital information it provides. Here is what a few of the attendees had to say about the program:

*"There is a wealth of knowledge gathered in one place for a short time. The face-to-face interactions go a very long way. It is an opportunity to learn and to clarify any ideas or thoughts you may have been wondering about."*

*"It was a great program and I will recommend it for new trustees, as well as for continuing education for experienced trustees."*

*"The program provides good insights into the mechanics and philosophical underpinnings of the duties of a retirement system trustee's role - especially in the area of investing."*

If you didn't get to attend this summer, be sure to try next year. It has become the hallmark of our SACRS summer!

Opportunities to be together, even for a brief time, can yield long-term benefits. One of the reasons for the richness of our time together is, just like the Berkeley program attendee said, is the *"wealth of knowledge gathered in one place."* We have amazing members and this is an important asset of SACRS membership: Our people. At our events, on our committees, or as part of a SACRS program you are exposed to people like Thomas Kim, Investment Officer, San Bernardino County Employees' Retirement Association (SBCERA). Just recently, *Institutional Investor's* editorial team chose a few Rising Stars from a pool of talented allocators nominated by their peers, bosses, and industry experts to be honored at the fifth-annual Allocators' Choice Awards on September 13 in New York City. Thomas Kim is one of the 10 selected allocators! We are very proud of him. According to the publication's selection team, "It isn't easy to excel in this investment environment. The highest inflation in decades, rising interest rates, geopolitical concerns, and the threat of a recession have dominated the past year for allocators. And yet, *Institutional Investor's* 2022 Rising Stars rose to the challenge."

Thomas was nominated for his "immediate impact" on SBCERA's innovative team after joining in 2020. Thomas, whose background is in hedge funds, has helped SBCERA build strategic partnerships and grow its geographic footprint into areas like the pan-Asia credit markets. His nominator believes, "He is a natural fit to be considered as one of the next generation CIOs."

Fall is just around the corner, and your next opportunity to meet members like Thomas is coming up. Will I see you this November 8-11 at the Hyatt Regency Long Beach? I hope so. Registration is open and all details for the Fall Conference can be found on SACRS website.

*Sulema H. Peterson*

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

## **Featured** SACRS Member

The Contra Costa County Employees' Retirement Association (CCCERA) is a public employee retirement system established by the County of Contra Costa on July 1, 1945. The day-to-day operation of CCCERA is delegated to Chief Executive Officer Gail Strohl and a full-time staff of approximately 50 employees. CCCERA is a defined benefit plan with approximately $11 billion in assets (as of March 31, 2022).

Contra Costa CERA active members are doing positive things for their community. Knowing that many low-income families are struggling to make ends meet and cannot afford back-to-school expenses, the Contra Costa County Department of Child Support Services staff brought smiles to the faces of children and parents during their 6th Annual Backpacks for Kids distribution on July 27. The staff of Child Support Services relied upon internal fundraisers, individual donations, and the support of some local businesses to fill 115 backpacks with supplies and books for K-12 kids in their community to help them get the most out of their educational experience.

Knowing that they are helping children start the year off right with the tools they need, the dedicated staff members of Contra Costa County Department of Child Support Services find the annual **Backpacks for Kids** a rewarding experience.

# COMMUNITY FINANCIAL LITERACY... REACHING BEYOND OUR FIDUCIARY DUTY

> *"Our fiduciary duty goes beyond the boardroom, beyond our members interests beyond the fund itself...we each have a duty to the communities we live in as a whole"*

As public sector employees, we are fortunate to have a defined benefit pension that gives each of us financial retirement security. As trustees of our pension plans, we have a fiduciary duty to the fund and our members to ensure the fund's financial health and meet the promised pension benefits.

Consider this: "Doesn't our fiduciary duty extend beyond our boardroom decisions, our members' interests, the fund itself, and into our communties?"

If you attended SACRS past Spring Conference, you might recall that I spoke about our duty to educate beyond just our members on the second morning. I also touched on "financial literacy" and how so many have yet to plan for their financial future. It seems we are all living day-to-day and trying to make ends meet. Saving? Who can do that?

Here is where our fiduciary duty comes into play. As trustees, we carry a wealth of knowledge about finance and preparation for our retirement futures. We must educate our communities one person at a time. Sometimes an unplanned two-minute conversation with a person can change their entire financial future. It is as simple as helping someone understand that saving five dollars a month can mature into a portion of their retirement.

Not everyone is fortunate to have a defined benefit retirement, but everyone can be educated about planning and saving for a secure retirement.

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***Vivian Gray**, President of SACRS & LACERA Trustee*


# BEYOND SYSTEM READINESS:

# 4 TIPS FOR A SUCCESSFUL GO LIVE

Pension administration system implementation projects are long and complex. It's natural to focus narrowly on the readiness of the system; that's why the project is undertaken. However, there are many non-system areas of readiness work that are just as essential to success as the readiness of the system itself. Often these preparations are given low or no priority, but if any one of them is not ready or simply overlooked, the whole project may be put at risk.

Some of these areas include aspects of staff member and internal stakeholder readiness, data readiness, user support readiness, external stakeholder readiness, plan sponsor readiness, management of deferred functionality, and decision-maker readiness (at the Go/No-Go decision point). This article will address four of these critical areas, the risks associated with them, and present some possible mitigation strategies.

> *"Your staff members must be ready to use the system in the context of the new business operations model, which goes far beyond navigating and clicking buttons."*

## 1 STAFF MEMBER AND INTERNAL STAKEHOLDER READINESS

Staff members need more than just system use training. Software vendors will typically provide that in their scope of work. But what they usually cannot provide is the development of and training on new operational processes in which the system will play a part. Your staff members must be ready to use the system in the context of the new business operations model, which goes far beyond navigating and clicking buttons. Transitioning from an older legacy system to a new, automated tool introduces new processes; you do not want your staff members to be unable to complete a task because they do not understand its context within a larger business process. Without the development of end-to-end business processes and proper training, staff will more likely have difficulties, especially under stress, and then lose trust in the new system, impacting productivity.

Developing a future state target-operating model is an important migration strategy. It is paramount that staff members are given operational process training in conjunction with system training. The best time to start developing new operational processes is in the very beginning of your project, based upon your business objectives. These processes are then carried forward as early models, and they are modified and expanded throughout as the new software is developed. When your system is ready, so is the operational model in which it will be used.

## 2 DATA READINESS

Many difficult data decisions must be made in the course of pension administration system (PAS) projects, and your organization needs to understand the full operational impact of each one, in the context of your new system's operation. The only way to make an educated choice is to have a clear and detailed understanding of your data. If data is not complete or accurate enough to support business functions (which is typical, as newer automations usually require data points that may not have existed in your legacy system, or greater levels of detailed historical completeness to function well), your system may not work as expected. Imagine the ramifications of inaccurate benefit calculations that impact a portion of the population that aren't immediately recognized.

Data validation and cleansing should start in the early stages of a project. It is your responsibility to ensure that the legacy data is correct, not the vendor's. This is time-consuming, critical work that must be complete before the data can be converted.

## 3 EXTERNAL STAKEHOLDER READINESS

Members and employers are the most important external stakeholders, but external business partners like actuaries, auditors, custodial banks, and third-party administrators must also be ready for Go Live. If you do not communicate to these business partners what is changing because of your project or you don't understand the impact on these stakeholders, they may be unable to support your future vision and your project may be perceived as a failure. By not engaging these stakeholders, you run the risk of recreating the legacy process in the new system, thereby missing an opportunity for optimization.

Your organization's entire implementation may be put at risk, if needed optimizations cannot be realized because external stakeholders' needs are poorly understood. For instance, you may want to take advantage of a banking service that you did not previously use. Banks will typically need significant lead-time to participate in testing, and vendors will need to incorporate this testing into their implementation plan. If you fail to communicate clearly and early with banks, you will run the risk of incorrect integration files potentially delaying your project schedule.

The formation of working groups that bring external stakeholders to the table early in a project will both help *you* understand what constraints these partners have and help *them* to understand how your project may improve their operations. Employers and actuaries are two good examples of external stakeholders who will benefit from system modernization and improvements to the data sets.

## 4 DEFERRED FUNCTIONALITY

"We'll deal with this after we Go Live." This sentiment is prevalent on many projects because of deadlines. In these situations, required functionality will be delayed to a future release and workarounds will be defined when necessary.

Delaying Go Live vs. delaying functionality can be one of the most important questions in any implementation project. It is not unusual that certain functions, such as large annual processing, will be deferred with enough lead-time before the functionality is needed. However, processes that must be executed regularly cannot be deferred without a viable workaround and significant impact analysis.

The management of mid-stream cases, called "work-in-flight," is further complicated by the need for temporary workarounds. It is critical to consider these temporary processes when planning the work-in-flight strategy. Not doing so will adversely impact member service and frustrate staff.

Going Live with a workaround is not as simple as it may seem. It requires complete design, detailed documentation, and staff member training on the temporary process. You will also need to plan the "sunsetting" of the workaround when functionality is ready to be implemented after Go Live, including another round of work-in-flight planning. It is also very important to have a realistic understanding of the total staffing required to support the workaround. Failure to do so can result in the accumulation of backlogs and further frustrations.

## ULTIMATELY

PAS projects are challenging. Going Live with a new core system is a project that pension administrators generally face only once in a career. You would do well to remember that although your new automation system may be ready, there are many parts that require careful planning and work to ensure a successful Go Live.

***Mary Anne Walker** has served in many roles for Linea Solutions over her 20 years with the company, helping to build early consulting practices and developing Linea's client service methodologies. She continues this work in her current position on the Leadership Team as the VP of Consulting Services, while also serving as a Senior Principal Consultant for her clients. Walker's areas of specialization include the management of automation system projects, leading endeavors from procurement to post-implementation optimization of organizational structures. She has managed a broad spectrum of projects for her clients, including both technical and business foundation building. They have included strategic technology planning, operational model development, business process reengineering, compliance, and workflow.*

FEATURED STORY

# Electric Vehicles Have Shifted Into HIGH GEAR

*"Believe it or not, at the start of the 1900s, 38% of cars in the U.S. were electric."*

After idling for decades, electric vehicles (EVs) are finally ready to race ahead. Changes in the regulatory landscape, decreasing costs, and a substantially wider range of buying options have transformed the industry and created a powerful secular growth trend.

Believe it or not, at the start of the 1900s, 38% of cars in the U.S. were electric. Their heyday was short lived, however, as gas-powered vehicles proved to be more practical – they were cheaper, easier to refuel, and traveled farther.

These same three issues (price, charging, range) have dogged the EV industry ever since, but thanks to a confluence of structural economic changes, and the rapid embrace of Tesla by consumers, electric cars finally appear poised to make their long-awaited resurgence.

## EV HISTORY: THE CHICKEN OR THE EGG?

To understand the challenges facing the EV industry, it is helpful to consider the chicken and egg problem. Anytime a disruptive new product enters an established market, manufacturers are hesitant to mass produce the item as they are unsure of demand. With limited supply, sales are muted, which reinforces the status quo.

Electric vehicles are a textbook example of this phenomenon, particularly because they also require an extensive infrastructure investment (i.e., charging stations). Historically the EV industry has grappled with multiple challenges that have slowed its evolution:

- Auto manufacturers have been hesitant to ramp up production due to uncertain demand. And that hesitancy has been warranted, as consumers have been slow to adopt EVs due to concerns about limited range and lack of charging stations.
- EVs are expensive, which has restricted the market opportunity to high-end buyers. Batteries are the most costly components of EVs, but without sufficient revenues to fund research, battery costs have declined slowly.

Given the circularity of these issues, it is not hard to see why EV penetration was slow to take off. Progress was made in fits and starts, including the GM EV1 in the late 90s and the Nissan Leaf in 2011, but it has only been within the past few years that EVs have experienced any sustained momentum.

## THE FUTURE: A SECULAR GROWTH TREND BUILT FOR THE LONG RUN

In contrast to the early days, most analysts believe that EVs have hit an inflection point, and expectations for the industry are higher than ever. We share this view and believe EVs are poised to become a major secular growth trend, similar in scale to mobile phones or the internet. Like those other innovations, EVs are a fundamental paradigm shift that we expect both consumers and businesses to embrace for years to come.

In our view, there are four primary drivers that are creating the secular tailwinds for EVs:

- Government intervention
- Falling battery prices
- Increased commitment from auto companies
- Customer preferences

The climate crisis was the catalyst that changed the trajectory of the industry, but going forward we believe each of the above trends will contribute to a powerful flywheel effect that should sustain growth of EVs for the foreseeable future.

> *"Probably the single biggest change in the EV landscape in the past few years has been the increased role of governments around the world."*

## GOVERNMENTS ARE DRIVING DEMAND

Probably the single biggest change in the EV landscape in the past few years has been the increased role of governments around the world. Motivated by a desire to reduce fossil fuel consumption, regulators have used a combination of carrots and sticks for both car companies and consumers to increase the quantity of EVs that are manufactured, sold, and purchased.

In 2009 the EU began to pass regulations aimed at reducing CO2 emissions. One of the most meaningful was a 2014 law that mandated CO2 emissions of new vehicles had to be below 95 g/km by 2021. Practically speaking, this meant that auto companies had to start thinking about developing more hybrids and electric vehicles if they wanted to meet these targets. Non-compliance was technically "legal," but the fines were so high that it was not economically feasible.

At the same time, many EU nations have been providing meaningful financial incentives to consumers who buy EVs. Sensing an opportunity to stimulate the economy and push green initiatives, Germany increased its subsidies to as much as 9,000 EUR per car, which lowered prices without reducing manufacturers' revenues. For example, the Renault Zoe can be purchased for less than 20,000 EUR or leased for as low as 39 EUR/month! These factors led the Zoe to be the best selling EV in Europe in 2020.

China, home of the world's largest EV market, has taken a similar approach to the EU to boost EV adoption. The government has relied on tools such as subsidies, tax exemptions, and faster access to license plate registrations for consumers, while also levying increasingly stringent CO2 emissions standards. EVs made up nearly 6% of China's car sales in 2020 and accelerated to nearly 15% of sales in 2021. The country appears ahead of schedule on the government's goals of making EVs 20% of sales by 2025 and 40% by 2030.

In the U.S., governmental initiatives to push EV adoption lagged behind Europe and Asia during the Trump administration, but that mindset has shifted dramatically under President Biden, who has prioritized EV and clean energy in his agenda. President Biden's bipartisan infrastructure plan includes $7.5 billion dedicated to building out EV chargers amidst the administration's broader goal of rolling out a national network of 500,000 charging stations. The President has also pushed for additional EV tax credits in his Build Back Better plan. It is yet to be seen whether this plan will be enacted by Congress, but it's clear that no more steps backward on EV adoption are expected during Biden's tenure.

As if these initiatives aren't enough, governments throughout the world are establishing hard dates for when they are banning internal combustion engine (ICE) vehicles. California won't allow sales of ICE vehicles starting in 2035. The U.K. has moved up its ban from 2035 to 2030, which aligns with Iceland, Netherlands, and Sweden. Norway, the current leader in EV sales, plans to eliminate ICE vehicle sales by 2025!

**Figure 1**

Countries/Regions Planning to Ban Pure Ice Vehicle Sales

| 2025 | 2030 | 2035 | 2040 |
|---|---|---|---|
| NORWAY | DENMARK | CALIFORNIA | CANADA |
| | GERMANY | JAPAN | FRANCE |
| | ICELAND | NEW YORK | NEW JERSEY |
| | INDIA | THAILAND | PORTUGAL |
| | IRELAND | | SINGAPORE |
| | ISRAEL | | SPAIN |
| | NETHERLANDS | | SRI LANKA |
| | SLOVENIA | | TAIWAN |
| | SWEDEN | | |
| | UK | | |

The target price to achieve mainstream adoption is far lower – each of the top 10 selling cars in the U.S. has a starting price below $30,000. For EVs to truly compete with ICE vehicles, they have to reach that price point, and the best way to accomplish that is to produce cheaper batteries, which is exactly what has played out.

Thanks to improvements in efficiency, cheaper raw materials, and manufacturing techniques, there have been meaningful declines in battery prices over the past several years.

This is significant because batteries make up 20-30% of the price of an electric vehicle. Five years ago, the battery on a 300 mile-range car cost about $22,000. By 2023, a 300 mile-range battery should cost about $7,500, which would allow car makers to produce an electric vehicle priced below the magical $30,000 price point. In the meantime, government subsidies help bridge the gap to bring the price of EVs roughly level with their ICE counterparts.

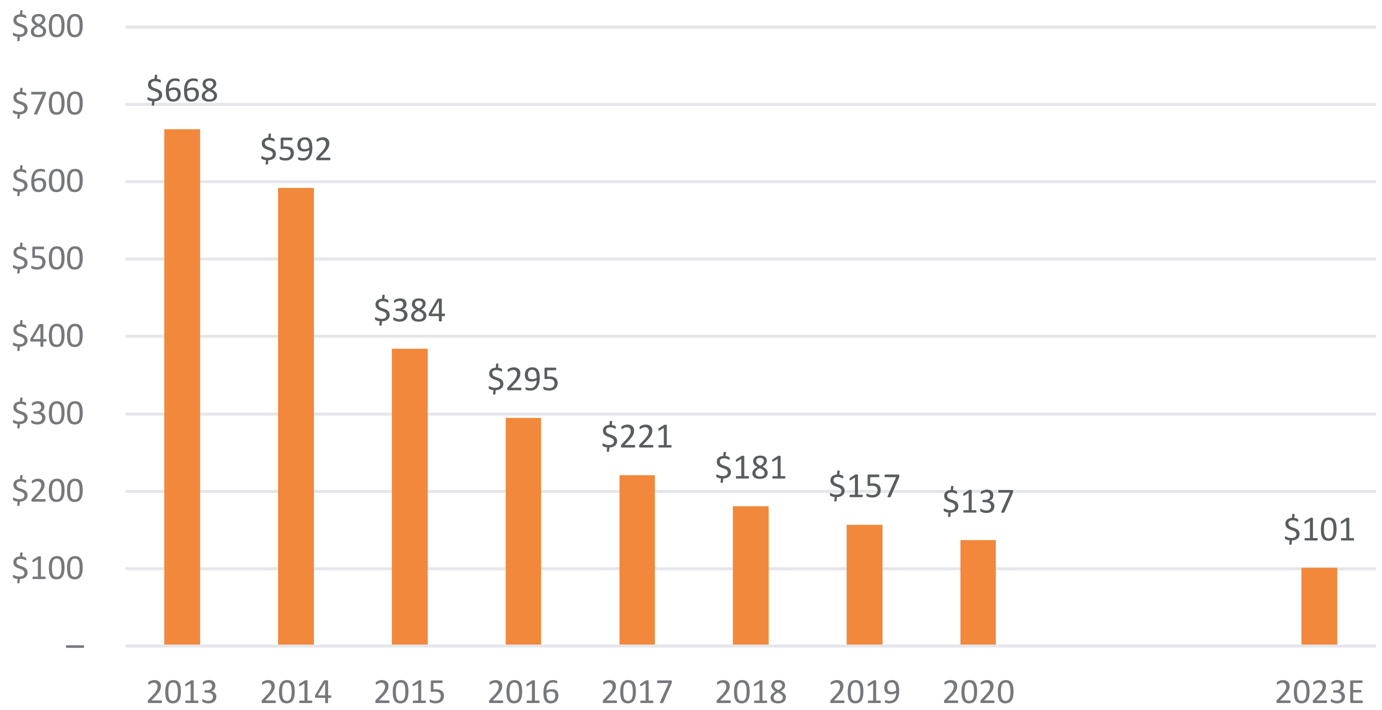
## BATTERY COSTS ARE FALLING

In the early 2010s, it wasn't even feasible to make a car that could reach 300 miles on a single charge – a milestone that was particularly important to Americans, but also of interest in international markets. Enter the Tesla Model S 90D in 2016, the first EV to surpass 300 miles in range. It also cost nearly $90,000, so it was far too expensive for most households to afford.

> *"Bolstered by governmental intervention, technological improvements, and the effect that Tesla has had on the industry, car manufacturers are recognizing they need to go all-in on electric vehicles."*

**Figure 2**

Avg Battery Pack Price ($/kWh)




**Source:** BloombergNEF

*"Car manufacturers released 85 new EV models in 2021 and are expected to release another 36 this year. The more EV models are introduced, the more likely that a given consumer will be able to find an EV that fits their needs."*

## CAR MANUFACTURERS ARE GOING ALL-IN

Bolstered by governmental intervention, technological improvements, and the effect that Tesla has had on the industry, car manufacturers are recognizing they need to go all-in on electric vehicles. They realize that EVs are the future of the industry and cannot hold onto the hope that traditional vehicles come back into vogue.

As seen in Figure 3, car companies are making significant pledges towards an electric future.

**Figure 3**

| Automaker | Commitments |
|---|---|
| BMW | 50% of sales will be electric by 2030 |
| Daimler | 50% of sales will be electric by 2025 |
| Ford | 40% of sales will be electric by 2030 |
| GM | 100% of sales will be electric by 2035 |
| Honda | 40% of major market sales will be electric by 2030 |
| Volkswagen | 50% of sales will be electric by 2030 |
| Volvo | 50% of sales will be electric by 2025 |

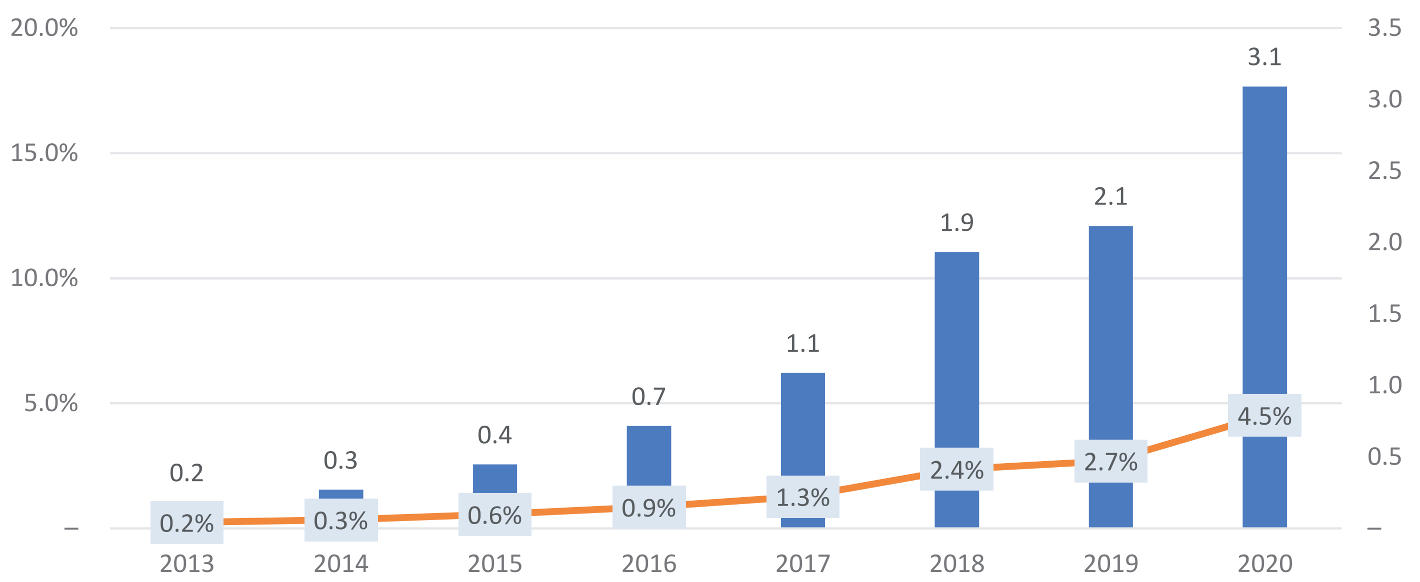
These aren't simply PR moves. These companies are rapidly shifting their capital expenditures (capex) and R&D spend towards developing EVs while running their legacy ICE businesses for cash. GM has committed to spending $35 billion on EV development through 2025 – roughly equal to their capex over the previous five years. Ford announced that they would commit $30 billion of EV spend through 2025 – just shy of their total capex spend over the last five years. These companies are accelerating their push into EVs because they know it is critical to their growth.

As part of this transformation, auto manufacturers have finally started to release a wider selection of models priced for the mainstream. Gone are the days of just the Nissan Leaf and the Tesla Model S. Notable launches in 2021 include Volkswagen's ID.4, Ford's Mach-E, and Hyundai's Ioniq 5 – all are part of the ever-popular compact SUV category, and all priced competitively vs. similar ICE models. (The ID.4 can be purchased for under $30,000 after Federal, California, and local tax incentives!)

This trend is just beginning. Car manufacturers released 85 new EV models in 2021 and are expected to release another 36 this year. The more EV models are introduced, the more likely that a given consumer will be able to find an EV that fits their needs.

**Figure 4**

EV % Car Sales (Left Axis) and Annual EV Sales (mm, Right Axis)




Source: Bloomberg

*"EV's market share of total vehicles sold is still small – 4% of vehicles sold in 2020 and initial estimates of 9% of vehicles sold in 2021 – but in our view that percentage will change markedly over the next few years."*

## CUSTOMERS PREFER ELECTRIC VEHICLES

Even in a year where total auto sales were down 16% due to COVID-19, EV sales managed to grow 43% in 2020. EV's market share of total vehicles sold is still small – 4% of vehicles sold in 2020 and initial estimates of 9% of vehicles sold in 2021 – but in our view that percentage will change markedly over the next few years.

As the industry continues to mature and customers can easily choose between similarly priced EVs and ICE models, we are confident that an increasing percentage of buyers will select EVs because of their many inherent advantages. In addition to reduced carbon emissions, EVs cost much less to charge than an equivalent tank of gas. Furthermore, EVs have significantly fewer moving parts (20 in an EV engine vs 2,000+ in an ICE vehicle) make them cheaper to operate day-to-day and maintain over the years.

With EVs becoming more affordable and accessible, we believe uptake is a long-term inevitability. They run quieter and cleaner, and they are cheaper and easier to maintain. What's not to like? In addition, EVs have an intangible "cool" factor that we expect will motivate younger buyers. And although the automotive industry is cyclical, electric vehicles provide a secular trend with a long growth runway ahead.

Based on our analysis, we anticipate that by 2025 EVs will comprise as much as 20-25% of all car sales. This would translate to 17 million electric vehicles sold, or 5.5x 2020 levels.

## FINAL THOUGHTS

The growth of electric vehicles is an important secular trend that we believe will continue for many years. The transition away from our current gasoline-based transportation infrastructure will be a complex process, and it is already spawning a new generation of companies built for an EV-world.

We will be watching the space carefully, not only because we expect attractive investment opportunities to present themselves, but also because we prefer to invest in companies that have a modest impact on the environment. We believe in ESG investing, and the EV industry is well aligned with those principles.

*Osterweis Co-Chief Investment Officer **Larry Cordisco** is a principal of the firm and a co-lead Portfolio Manager for the core equity, growth & income, and flexible balanced strategies. Before joining Osterweis in 2019, Cordisco was a Co-Portfolio Manager of the Meridian Contrarian Fund at ArrowMark Partners/Meridian Funds. Prior to co-managing the Contrarian Fund, he was an equity analyst for 11 years, most recently as Vice President of Investment Research for the Meridian Contrarian Fund. Before that he was an analyst within the technology group at Bank of America Securities. He was also a business and technology consultant for Accenture in San Francisco and began his professional career in the public sector as local staff for a member of Congress.*

***Andrew Chang** is an Analyst for the core equity strategy at Osterweis. Prior to joining Osterweis Capital Management in 2020, Chang was a Senior Associate at Mill Road Capital. Before that, he was an Associate at Darlington Partners. Chang began his investment career at Goldman Sachs Investment Partners. He also serves on the board of Project Open Hand.*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> “Unless an investor genuinely has a multi-decade horizon, currency movements over five to ten year horizons will have a significant impact on the value of international portfolios and cannot be ignored.”


# THE DANGER OF DOING NOTHING

## ARGUMENT 1.

“It is a zero-sum game and it all comes out in the wash.”

Given that each currency transaction involves a currency pair with a buyer of one and a seller of the other, the holder of the currency which appreciates has an equal and opposite gain to the holder of the currency which depreciates. As such, the sum of the gain and loss is zero hence, a “zero-sum game”.

Further, since currencies exhibit cyclical behaviour it is sometimes claimed that the long-term return impact is close to zero and therefore the impact can be ignored as “it comes out in the wash”.

Let’s examine the evidence.

## RETURN IMPACT OF THE “DO NOTHING” APPROACH

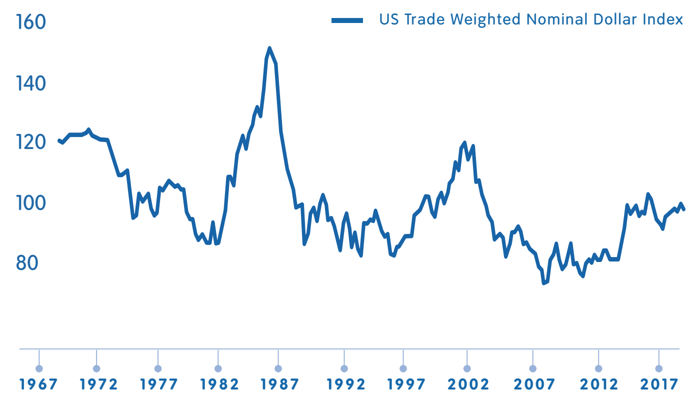
We have seen that the currency market is by definition a zero-sum game and that currencies exhibit cyclical tendencies. It follows that the long-term expected return of a given currency pair should be close to zero.

Indeed, over the last 50 years, while there is clear evidence of cyclicality in the US dollar’s movements versus foreign currencies and a secular downtrend in the dollar’s Trade Weighted value, the net long term average change is relatively small.

However, the magnitude of the movements in the shorter cycles, even spanning multi-year time frames, has been very large as shown in Figure 1 next page. For individual currencies versus the US dollar, the size of these moves has been even greater.

## Figure 1

### MAJOR US DOLLAR MOVES




**Source:** Millennium Global and Bloomberg, 1967 to 2019. Sourced on 31 March 2020

### MAJOR MOVES

| | Period | Percentage Move |
|---|---|---|
| 1 | Oct 1978 - Mar 1985 ( 78 months ) | +48.9 % |
| 2 | Mar 1985 - May 1995 ( 123 months ) | - 35.2 % |
| 3 | May 1995 - Feb 2002 ( 82 months ) | +32.6 % |
| 4 | Mar 2002 - Mar 2008 ( 84 months ) | - 39.5 % |
| 5 | Mar 2008 - Dec 2016 ( 69 months ) | +42.4 % |

Unless an investor genuinely has a multi-decade horizon, currency movements over five to 10 year horizons will have a significant impact on the value of international portfolios and cannot be ignored.

Given the downward trend in the US dollar versus its major trading partners over the long term, it cannot be argued that "it all comes out in the wash" because it rarely reverts to the same level. Furthermore, while the US dollar has oscillated between both expensive and cheap valuations during these cycles, the movements are so large that the impact is significant for international portfolios on a multi-year time frame.

## ARGUMENT 2.

"If you like the international asset, you should also like the currency."

The idea here is that if an international equity market is believed to be an attractive investment opportunity, the expected high return on capital in the equity market will drive capital inflows, which will also lead to an appreciation of the underlying currency.

If this were true, then there would be no need to manage or hedge the currency exposure as leaving the currency exposure unhedged would result in the best return outcome as both the asset and the currency appreciate in unison.

However, the empirical evidence does not support this theory and the theory itself is flawed.

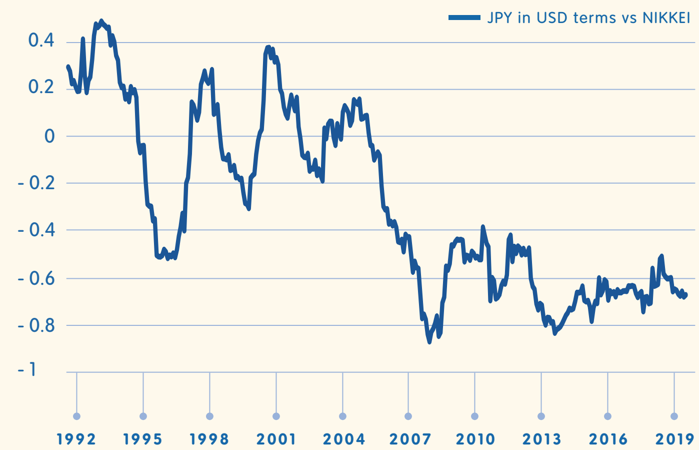
**EXAMPLE:** Japanese equities and the Japanese yen.

The correlation between the Nikkei 225 Index and the Japanese yen has been frequently negative and often significantly so. This means that when the equity market has been strong, the Japanese yen has been weak and so the currency loss has reduced the return from the investment into Japanese equities in US dollar terms.

### CORRELATION OF THE JAPANESE YEN AND JAPANESE EQUITIES

## Figure 2

### THE CHART BELOW ILLUSTRATES THIS VARIABLE AND OFTEN NEGATIVE CORRELATION.

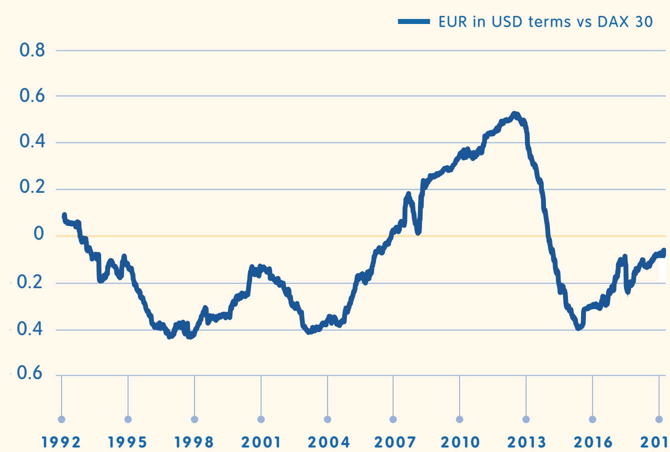



**Source:** 2 year rolling correlation of monthly returns 1990 to 2019. Millennium Global and Bloomberg.

### CORRELATION OF THE EURO AND GERMAN EQUITIES

## Figure 3

### A SIMILAR STORY IS EVIDENT IN THE RELATIONSHIP BETWEEN GERMAN EQUITES AND THE EURO CURRENCY.




**Source:** 2 year rolling correlation of monthly returns 1990 to 2019. Millennium Global and Bloomberg.

In fact, there is a very good reason why there is often a negative correlation between an equity market and the associated currency.

When a currency depreciates, exporting companies get a boost as their products become cheaper to sell in overseas markets and sales volumes go up accordingly. Alternatively, they can raise their prices in domestic currency while keeping prices constant in foreign currency and expand their profit margins. Either way, corporate profits get a boost.

Hence, it is often the case that there is a causal link between an equity market valuation and the currency market valuation as a weaker currency provides a pricing advantage to exporting firms. Japan is a relevant case study as the Japanese equity market has a large proportion of exporting oriented firms.

This is where the "Do Nothing" approach can be a poor choice as gains from foreign equity market appreciation can be offset by currency depreciation.

The case study shown on the right provides a dramatic historical example of this phenomenon.

As such, the claim that "if you like the international asset you must also like the currency" is a fallacy.

In this case it was possible to hedge the yen exposure back into US dollars ensuring that all the Japanese equity return was protected and gaining a small additional yield benefit.

The return on the Japanese equity market hedged into US dollars has the highest return in US dollar terms of all 3 scenarios as Figure 5 shows.

## CASE STUDY

### HOW A GREAT ASSET ALLOCATION DECISION ALSO NEEDED A CURRENCY STRATEGY.

In the 15 months from 30/Sep/2012 to 31/Dec/2013, the Japanese Nikkei 225 Index rose by 83.7% in Japanese yen terms. However, the yen fell substantially versus the US dollar and so in US dollar terms, the Nikkei 225 Index rose by only 37.1%.

The policies that the Japanese government put in place to boost the economy and the stock market also had the effect of depreciating the yen and the yen's weakness was a contributing factor in stock market strength through its positive influence on exporting company earnings.

In this period therefore, the relationship between the Japanese equity market and the Japanese yen was inverse – in fact, you could go further and state that the reason for the very strong performance of the equity market was, at least in part, caused by the weakness in the yen.

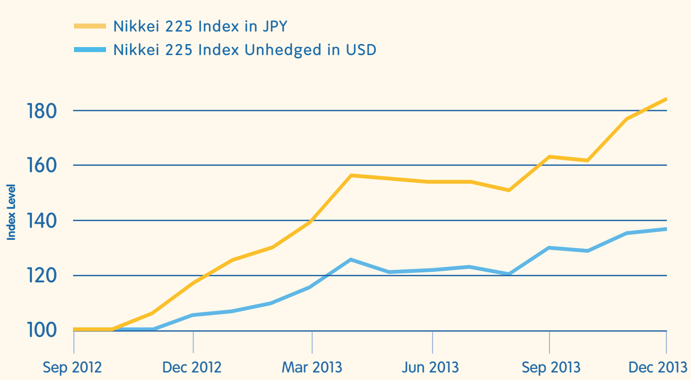
Despite the dramatic impact illustrated in this case study, it is not always the case that the returns in an international equity market move in the opposite direction to its currency - it depends on the particular driving factors at the time.

However, it does imply that the outlook for the currency needs to be assessed independently of considerations around the international equity market or other foreign asset. Separation of currency and asset market analysis is key in the effective management of these two sources of risk and return.

## INVESTMENT IN JAPANESE EQUITIES

**Figure 4**

RETURN IN JPY VS RETURN IN USD

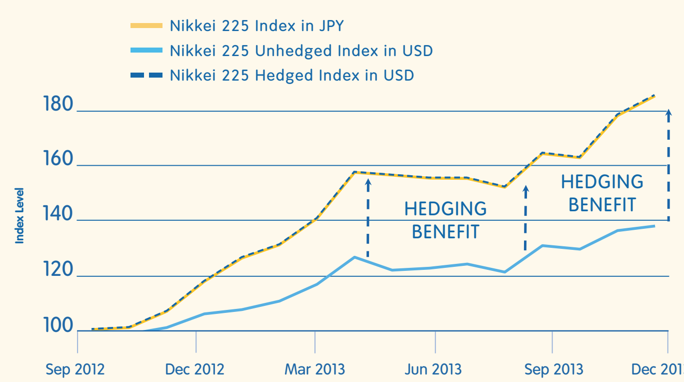



| | Nikkei 225 Index in JPY (Rebased to 100) | Nikkei 225 Index Unhedged in USD (Rebased to 100) |
|---|---|---|
| 30 September 2012 | 100.00 | 100.00 |
| 31 December 2013 | 183.66 | 137.07 |
| Return | 83.66% | 37.07% |

**Source:** Millennium Global and Bloomberg, September 2012 to December 2013. Sourced on 31 March 2020

**Figure 5**

THE BENEFIT OF A CURRENCY HEDGE




| | Nikkei 225 Index in JPY (Rebased to 100) | Nikkei 225 Index Unhedged in USD (Rebased to 100) | Nikkei 225 Index Hedged in USD (Rebased to 100) |
|---|---|---|---|
| 30 September 2012 | 100.00 | 100.00 | 100.00 |
| 31 December 2013 | 183.66 | 137.07 | 184.18 |
| Return | 83.66% | 37.07% | 84.18% |

**Source:** Millennium Global and Bloomberg, September 2012 to December 2013. Sourced on 31 March 2020

## THE RISK IMPACT OF THE "DO NOTHING" APPROACH

The graphic to the right shows the contribution to total risk (as defined by variance) coming from;

**A)** the underlying asset (dark blue)

**B)** the currency exposure (light blue)

IN THE CASE OF:

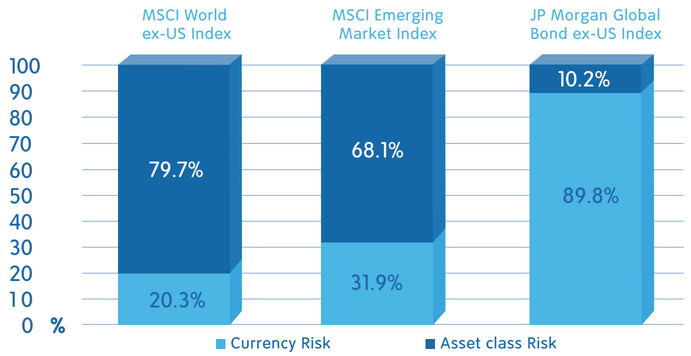
**1)** International Developed Market Equities – MSCI World ex-US Index

**2)** Emerging market equities – MSCI Emerging Market Index

**3)** International Government Bonds – JP Morgan Global Bond ex-US Index

### Figure 6

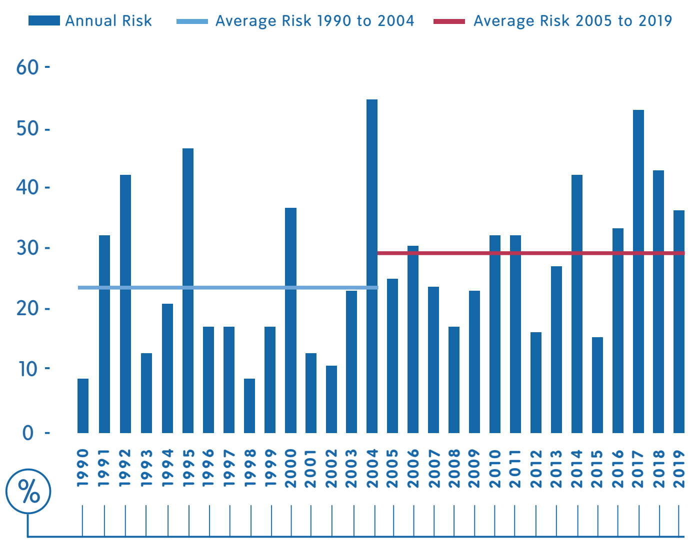
CURRENCY RISK IN INTERNATIONAL ASSET PORTFOLIOS




**Source:** Millennium Global and Bloomberg, December 1998 to December 2019. Sourced on 31 March 2020

### Figure 7

CURRENCY RISK AS A % OF TOTAL PORTFOLIO RISK : MSCI WORLD INDEX EX-US




**Source:** Millennium Global and Bloomberg, 1993 to 2019. Sourced on 31 March 2020.

It is a significant minority contribution for developed market equites, (about 1/5), a higher impact for emerging market equities (about 1/3) and an overwhelming contributor for international fixed income (about 9/10).

In addition, over the past 30 years, the amount of currency risk inherent in international developed market equities (which is the largest overseas allocation by US investors) has been rising.

This is evidenced by the fact that the average contribution to variance from currency exposure was 23.8% in the 15 years, 1990-2004 and 29.5% in the 15 years, 2005-2019. See graph on the right.

N.B. Variance has been used here rather than the usual measure of standard deviation as variances are additive so that it is possible to show the proportion of risk emanating from each source – currency and equity risk in this case. (Variance = standard deviation squared).

## UNCOMPENSATED RISK

The risk contribution coming from the currency exposure in these various asset classes has no corresponding expected positive return to compensate investors for taking on the currency risk when the currency risk is not managed. The expected returns are essentially random and hence, the risk is known as "uncompensated risk".

In absolute terms, the amount of currency risk inherent in a typical international equity allocation, say the MSCI World ex-US Index, is about 7.3% p.a. (the standard deviation of returns of the currency exposures - 2000 to 2019). Given that this passive underlying currency exposure has no expected return, this position is akin to owning an investment vehicle with a 7.3% volatility with random returns and an expected average return of 0%.

If this was proposed as a stand-alone investment opportunity, no investor would willingly make this investment it has certain risk but no expected return. However, this is effectively what is embedded in an international equity allocation and is why the "Do Nothing" approach is not advisable.

## THE RISK OF CATASTROPHIC LOSS

While portfolio risk is typically measured in terms of the annualised standard deviation of returns, another way to consider risk is the incidence and depth of performance drawdowns. The risk of drawdowns will increase the possibility of not having sufficient funds to satisfy the liabilities or meet the needs of the beneficiaries of the portfolio. For many, in practical terms, this is the most important risk of all.

Given the US dollar's rally between May 2011 and December 2016 which was 42.8% in trade weighted terms, a very large currency related loss was made by US institutional investors holding overseas assets with no currency management strategy as the foreign currency values in US dollar terms suffered a precipitous drop.

> "According to Reuters News (July 2015), the US pension industry lost in excess of USD 1 trillion in value during the nine-month period from July 2014 to March 2015 as a direct consequence of the US dollar rally and foreign currency collapse."

According to Reuters News (July 2015), the US pension industry lost in excess of USD 1 trillion in value during the 9-month period from July 2014 to March 2015 as a direct consequence of the US dollar rally and foreign currency collapse. This was largely due to funds having no currency management strategy on a large proportion of foreign asset exposure.

During this time, the flaws in the "Do Nothing" approach were painfully exposed. In fact it is the position of highest risk. As a consequence of unmanaged currency exposure, a randomness is introduced into the portfolio which can have unforeseen and damaging effects.

***Mark Astley,*** *Co-CEO, Millennium Global Investments is a member of the Board of Directors of Millennium Global Investments. His role includes responsibility for product development, marketing and the growth of the firm. Astley has extensive experience in currency management and has written extensively on this subject and is the author of the recently published 'A Comprehensive Guide to Currency Issues for Institutional Investors'. He regularly participates in media discussion of currency issues and has been a frequent contributor to CNBC coverage of foreign exchange.*

### KEY TAKE AWAYS

1) **The impact of currency exposures on international investments can be large in both return and risk terms. History is replete with examples of large negative impacts from unmanaged currency exposure.**

2) **"Doing nothing" is the highest risk option.**

3) **Owning currency exposure injects risk into an international portfolio with no ex ante expected return. In no other asset class would risk be left unmanaged.**

4) **If the currency exposure is not managed then the return impact is essentially random.**


# QUALITY:
## THE COMPOUNDING ADVANTAGE

**Long-lasting investment success in our view comes down to a single word: Compounders, companies whose returns materially exceed their cost of capital year after year through volatile markets and rallies. We believe that portfolios focused on Compounders can offer a steady and resilient path to capital appreciation, and identifying them serves as the primary focus of our investment research.**

*"Quality companies achieve Compounder status when they can sustain their competitive advantage over a lengthy period against competition, market saturation, disruptive business models, and any other challenge that might confront them."*

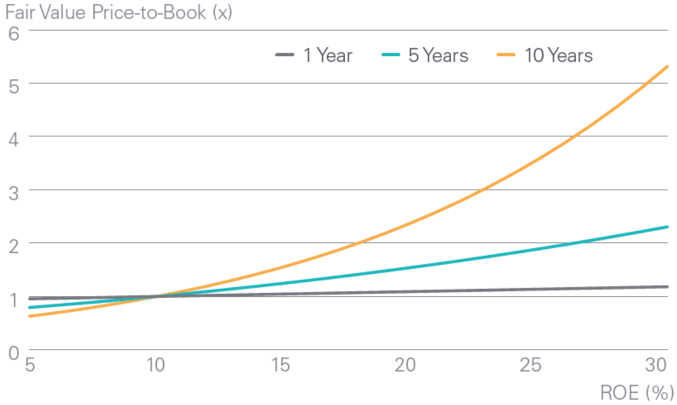
### WHAT MAKES A COMPOUNDER?

Compounders are above all quality companies. Investors, led by index providers such as MSCI, often define quality companies as those with robust and sustainable returns on equity (ROE), clean balance sheets with low levels of debt relative to equity, and a record of stable or rising earnings. While we agree these are typical characteristics of quality companies, our investment process focuses on companies that produce high returns on capital, which we refer to as financial productivity, and then seek to ensure that they can sustain those returns. Companies that sustain high returns generally do so by reinvesting some or all their profits in themselves. Identifying financially productive companies with a durable competitive advantage—dominant market share, an established and respected brand, an innovative new product, manufacturing efficiencies, broad distribution scale, or exceptional intellectual properties—in our view offers the surest way to invest in high quality stocks.

Quality companies achieve Compounder status when they can sustain their competitive advantage over a lengthy period against competition, market saturation, disruptive business models, and any other challenge that might confront them. Our analysis demonstrates that the durability of a company's competitive advantage crucially determines its fair value, particularly for the highest quality companies with the most robust ROEs. (Exhibit 1).

**Exhibit 1**

### How Holding Off the Competition for 1, 5, and 10 Years Affect a Company's Value




**For illustrative purpose only. This information does not represtn any product or strategy managed by Lazard.**

**Source:** Lazard

The y-axis indicates theoretical current fair value price-to-book (P/B) ratio of companies at different levels of ROE during their competitive advantage periods of one, five, and 10 years. The left portion of the chart shows that, for companies with low ROEs, the length of their competitive edge is largely irrelevant to what they are worth. But for companies with a robust competitive advantage, the durability of their edge leads to a very wide range of appropriate valuations. For example, the company with a competitive edge that enables a high ROE that it can maintain for 10 years should be worth substantially more than if it could only maintain the advantage for five years. Likewise, the higher the level of ROE that can be maintained, the more the company would be worth. In other words, for the companies we focus on—those that are the most financially productive—the durability of their competitive advantage matters most, and evidence suggests it matters a great deal.

## VIRTUE IN ADVERSITY

In our view, the secret of Compounders' success lies largely in their resilience during downturns. Thanks to their durable competitive advantages, their businesses and profit margins have typically held up better in recessions, so their stocks have generally defended versus the broad benchmark. And since typically they haven't fallen as much during retreats, they also haven't had to perform as well during rallies to outperform over the long haul.

This comes down to the simple math of compounding returns, where outperformance is simply more valuable during falling markets than in rising markets. Say, to take a simple example, that Quality Manager A and Manager B start out with $1,000 in assets. In their first year of investing, the market drops 50%. Manager B follows suit, leaving him or her with $500. Quality Manager A outperforms Manager B by 5%, leaving him or her with $550, or a -45% return. In year two, say the market goes up 50%, leaving it 25% behind its starting point. This time, Quality Manager A performs in line with the index, adding $275 to his or her assets for a total of $825. Meanwhile, Manager B outperforms by 5%, for a 55% return. However, because Manager B started from a lower base, he or she is left with only $775. In other words, Quality Manager A would still outperform both the index and Manager B despite Manager B's superior performance in the rally (Exhibit 2).

**Exhibit 2**

### Quality Math

| | Starting Capital | Market Falls 50% | | Market Rises 50% | |
|---|---|---|---|---|---|
| Index | 1,000 | -50% | 500 | 50% | 750 |
| Quality Manager A | 1,000 | -45% | 550 | 50% | 825 |
| Manager B | 1,000 | -50% | 500 | 55% | 775 |

For illustrative purpose only.

> *"But while the initial stages of competitive advantage can generate a breathtaking burst of momentum, finding companies that can maintain a competitive advantage that results in superior financial productivity over a long period of time is no small accomplishment."*

## QUALITY OUTPUT REQUIRES QUALITY INPUT

We believe that while the objective of quality investing looks clear cut and every bit as straightforward as growth, value, or momentum investing, these last three styles tend to grab most headlines and investor attention. But while the initial stages of competitive advantage can generate a breathtaking burst of momentum, finding companies that can maintain a competitive advantage that results in superior financial productivity over a long period of time is no small accomplishment. Perhaps the sheer difficulty of defining quality explains why the category has never attained fad status—and why excessive market enthusiasm has never arbitraged away its advantage.

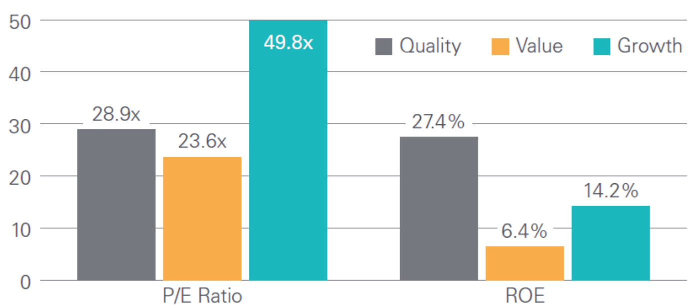
> *"Even with the recent dominance of glamorous tech titans in the growth category, quality has outperformed growth over time, with lower volatility."*

Value captivated investors before the global financial crisis and growth has garnered their enthusiasm ever since. But over the long run, quality companies have outperformed both. Even with the recent dominance of glamorous tech titans in the growth category, quality has outperformed growth over time, with lower volatility. Furthermore, despite a long period of outperformance,

quality stocks do not currently look expensive. Growth stocks have far higher price to equity (P/E) ratios with lower ROE. While quality stocks do trade at a premium to value stocks, they also generate four times the ROE. (Exhibit 3).

**Exhibit 3**

Top of the Charts




As of 31 December 2020

Source: MSCI

## IMPROVERS: POSITIONING FOR A RE-RATING

During their ongoing research into Compounders, our analysts often uncover companies trading at attractive valuations, which they believe have underappreciated opportunities to improve their financial productivity. Companies in this category typically lack Compounders' track record, but our analysts have spotted a specific catalyst—management actions or industry trends, for example—that they believe will enhance the company's financial productivity and warrant a higher valuation for its stock. The analysts are not screening for cheap stocks whose valuation might revert to some theoretical mean. Rather, they actively seek out companies with the potential to decisively improve their financial productivity, and we closely measure their progress against explicit milestones. We hold these "Improvers" until we feel either that the market has factored their enhanced financial productivity into their current valuations, or their progress has stalled.

## QUALITY INVESTING

To emphasize again what we cannot over-emphasize, we believe quality investing is an active pursuit, not an exercise in armchair analytics. It takes intensive fundamental research digging deep past "stock stories" to identify not only a company's competitive advantage but also its ability to maintain it. We believe it calls for hands-on research of companies and industries and for experienced analysis that is sensitive to competitive dynamics—analysis that does not merely project a static past into the future, but also anticipates how the current environment might evolve. Amid the unprecedented uncertainties confronting investors today, we believe this focus can provide a solid foundation for an overall portfolio allocation.


***Louis Florentin-Lee** is a Managing Director and Portfolio Manager/Analyst on various Lazard global, international, and US equity strategies. Prior to joining Lazard in 2004, he was an equity research analyst at Soros Funds Limited and Schroder Investment Management. He has a BSc (Hons) in Economics from the London School of Economics.*


# THE IMPORTANCE OF PRIVATE SECURITIES LITIGATION AS A COMPLEMENT TO 'WORN OUT' REGULATORS

## *Why?*

*"Public pension funds often ask us why they should get involved in securities fraud litigation. They question whether their leadership can really have a meaningful impact in seeking justice for injured investors and holding wrongdoers accountable. Funds want to know if they can make a difference for investors when the Securities and Exchange Commission is regulating the markets. In this article, my colleagues Scott Foglietta and Brittney Balser answer this precise question and share data that objectively demonstrates why institutional investors play such a crucial role in policing the capital markets. The answer turns on both the remarkable successes public pension funds have had recovering billions of dollars for investors, and the limitations inherent in relying on regulators to protect investors. Over my more than 20 years prosecuting securities fraud cases, I have seen firsthand the significant recoveries and governance reforms that institutional investors have secured for harmed investors."*

*– Hannah Ross, Senior Partner, BLB&G*

*"It is investors that incur the largest losses caused by corporate fraud or misconduct that will continue to suffer from a continually overburdened SEC."*

A recently published study confirmed what many proactive institutional investors already know: Private litigation is an integral piece of the securities enforcement puzzle. In the United States, the Securities and Exchange Commission (SEC) is the principal regulator tasked with overseeing the financial markets and the sale of securities.

As with all government regulators, the SEC suffers from limited staffing and resources, and is subject to political pressures, which forces the agency to make difficult choices about the companies and individuals it investigates. Although the need to prioritize investigations and allocate resources is not itself problematic, a recent study revealed that it is the investigations and cases that involve the largest shareholder losses that suffer most as a result of the SEC's backlog. See Samuel B. Bonsall IV et al., *Wearing Out the Watchdog: The Impact of SEC Case Backlog on the Formal Investigation Process* (https://ssrn.com/abstract=3912645) (2021).

In other words, the study concluded that an overburdened SEC tends to neglect the cases involving the greatest harm to investors. Accordingly, private securities litigation—where the law incentivizes investors to pursue cases that involve the largest shareholder losses—remains vital in enforcing the securities laws and serving as an important deterrent to corporate misconduct.

Using statistical analyses, the authors of the study sought to determine the impact that the SEC's case backlog has on the types of investigations the SEC ultimately elects to pursue. The study found, not surprisingly, that a large backlog materially decreases the likelihood that the SEC will open a new investigation.

What is surprising is that the study also found that not all investigations are treated equally when it comes to the prioritization of SEC resources. In fact, while certain cases—particularly those that involve accounting restatements or insider trading—are pursued regardless of backlog status, investigations involving misrepresentations to investors that cause the greatest shareholder harm are the most likely to be neglected by an overstretched SEC.

The study attributes the SEC's case prioritization, in part, to the fact that such investigations take longer to close and are especially costly for the SEC to conduct during periods of significant backlog.

In addition, according to the study, when the SEC is dealing with a significant backlog, companies are generally less likely to be the target of enforcement actions. Even when they are targeted, the penalties imposed are less severe and there is a lower incidence of remedial governance changes.

The study also found that SEC offices with high backlogs are less likely to investigate companies that have recently lobbied the U.S. government, a result suggesting that agency "busyness" may complement the utility of political lobbying for companies that would otherwise be the target of an SEC investigation.

While the study focused on data from 2000 through mid-2017, the SEC's case backlog has not abated. In fact, recently, SEC Chairman Gary Gensler expressed concern that the SEC was "short staffed" and testified to Senate lawmakers that the SEC needs "a lot more people" in order to fully investigate ongoing misconduct.

*"The SEC is expanding its oversight of cryptocurrencies, special purpose acquisition companies or SPACs, and payment for order flow, among other things, which will only further stretch the SEC's already taxed resources."*

Gensler also noted that the SEC is expanding its oversight of cryptocurrencies, special purpose acquisition companies or SPACs, and payment for order flow, among other things, which will only further stretch

*"The role of private litigants is particularly important in light of the fact that the cases they tend to pursue are the very cases most likely to be de-prioritized by the SEC. The Private Securities Litigation Reform Act of 1995 (PSLRA) essentially deputized sophisticated shareholders to privately enforce the federal securities laws on their own behalf and on behalf of other similarly situated investors."*


the SEC's already taxed resources. It is investors that incur the largest losses caused by corporate fraud or misconduct that will continue to suffer from a continually overburdened SEC.

Fortunately for those investors, they have other means of recourse in the form of powerful private rights of action to enforce the federal securities laws. The role of private litigants is particularly important in light of the fact that the cases they tend to pursue are the very cases most likely to be de-prioritized by the SEC. The Private Securities Litigation Reform Act of 1995 (PSLRA) essentially deputized sophisticated shareholders to privately enforce the federal securities laws on their own behalf and on behalf of other similarly situated investors. See 15 U.S.C. §78u-4, et seq. The PSLRA does this by, among other things, granting the power to lead private securities class actions to the investors with the "largest financial interest" in the securities at issue, which is frequently understood to mean the investor that incurred the largest losses. 15 U.S.C. §78u4(a)(3)(B)(iii)(I)(bb).

Those investors tend to be sophisticated institutions with the resources and experience necessary to seek redress from the most powerful corporations in the world. Moreover, by aligning themselves with specialized lawyers who act as private prosecutors willing to pursue these cases on contingency, proactive institutional investors are perfectly situated and highly incentivized to pursue the meritorious cases in which they have suffered the greatest losses—the exact cases that are so often overlooked by the SEC.

The findings from the study may also explain why private litigants often recover larger sums than regulators when investigating or pursuing claims against the same companies and executives. In the wake of the dotcom collapse, private securities plaintiffs obtained recoveries at least four times greater than the SEC in suits against common defendants based on identical infractions. See Nishal Ray Ramphal, *The Role of Public and Private Litigation in the Enforcement of Securities Laws in the United States* (https://www.rand.org/pubs/rgs_dissertations/RGSD224.html) (2007).

This pattern continued after the financial crisis, when private litigants recovered billions of dollars more than the SEC in cases against financial institutions that were impacted by the severe decline in the value of mortgage-backed securities. For example, compare the $150 million obtained by the SEC in an enforcement action arising from the Bank of America/Merrill Lynch merger, with the $2.4 billion recovered by investors through private litigation involving the same misconduct.

The United States boasts the strongest capital markets in the world, reported to fund nearly three quarters of all economic activity in the country. The robust regulatory environment and private investor rights are essential to maintaining the integrity of this complex financial system.

There is no question that the SEC plays a critical role in overseeing the markets and holding wrongdoers accountable, but, as the study has confirmed, the SEC cannot do this alone. Instead, it is private litigants with a track record of recovering over $106 billion for injured investors since the passage of the PSLRA—particularly in cases involving large losses, which the SEC lacks the capacity and resources to pursue—that support meaningful enforcement of the securities laws and create a deterrent effect that far exceeds what the SEC could accomplish alone. In stark contrast to the study's tag line—*Wearing Out the Watchdogs*—private litigants and their lawyers do not "wear out" so easily.



***Scott Foglietta** and **Hannah Ross** are partners and **Brittney Balser** is an associate at Bernstein Litowitz Berger & Grossmann LLP (BLB&G), where they represent institutional investors in shareholder litigation. A version of this article originally ran in the New York Law Journal, and appears here with the publication's permission.*

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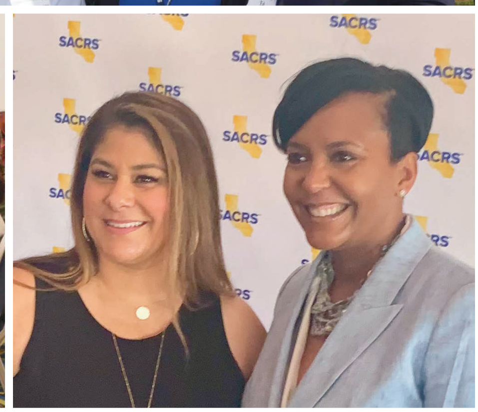
# SACRS

## SPRING CONFERENCE

### PHOTO GALLERY

The SACRS 2022 Spring Conference took place in beautiful Omni Rancho Las Palmas Resort & Spa in Rancho Mirage May 10-13. Here's a visual look back at a few of the inspirational sessions and effective networking events.


SACRS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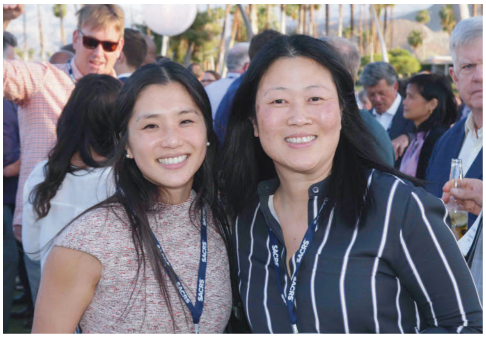
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KEEP GOING
SACRS
FUN RUN
START
&
FINISH
RUN
SLC

# SHORT TAKES

## Conversations with Spring Conference Keynotes

SACRS Spring Conference 2022 had an incredible lineup of insightful and inspirational speakers. If you missed any of the keynote presentations, here are a few highlights and key takeaways.

### KEISHA LANCE BOTTOMS

In her keynote, *Leadership in the Toughest of Times*, Keisha Lance Bottoms, CNN Political Commentator and former 60th Mayor of Atlanta shared insights from her leadership journey, recounting not only how she achieved many accomplishments, but also how she overcame the obstacles.

**SACRS Magazine:** As an elected official, (and as such, a beneficiary), you understand the importance of ensuring the strength and viability of a pension plan. As you entered into the Mayor's office, there were challenges to your own city's pension funds.

**KLB:** Before becoming the Mayor of Atlanta, our city pension funds were 55% under funded. The city could not meet its commitments. We had to look at reform through the lens of providing benefits that the city could promise to keep. We took the city's three pension funds (Atlanta General Employees' Pension Fund, Atlanta Firefighters' Pension Fund and Atlanta Police Officers' Pension Fund) and consolidated them into one plan. Reforming the city's three pension boards into one strong, streamlined and effective board was to the benefit of city workers, taxpayers, and the public. It did not happen, however, without challenges. In the end, our consolidation approach was approved and it allowed the city's pension plan to get back on financial solid footing, be healthy, and sustainable.

**SACRS Magazine:** During your time as Mayor you served in the midst of a global pandemic and a significant racial justice movement. What was it like to be in that position in one of the most challenging times in the history of Atlanta?

**KLB:** During the pandemic in some ways we felt we had time to talk about racial justice, to motivate, to think about strategies for change. Then, all of a sudden, May 29 and the murder of George Floyd. All hell broke loose in Atlanta. As this fire spread across our nation, we lost all benefit of time. In the older people I saw anger and frustration; and the younger were afraid and worried. It was such a tough time for all of us across the country. We had to walk and chew gum at the same time. We had a city to run and services to provide. We needed to protect our city as demonstrations evolved into vandalism. We called for the people of Atlanta, the city made famous for no riots after the 1968 murder of Dr. King, to go home. Putting the pieces back together again in the aftermath of events like the pandemic and George Floyd is very hard.

**SACRS Magazine:** It must have been unbearable to see, at the tender age of 8, your Father, Grammy-nominated singer Major Lance, being led away in handcuffs. How did that inform your thinking as a public servant?

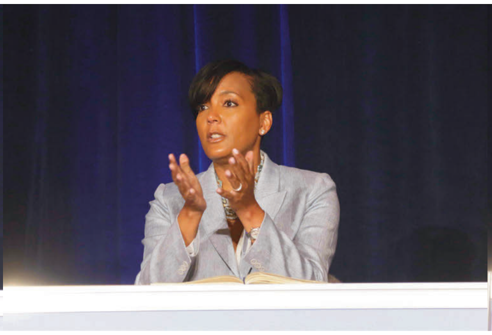
**KLB:** My Father struggled with addiction and went to prison for three years for cocaine possession and dealing. I know what it is like to have and to have not. In Atlanta, we have done away with cash bail for minor offenses, ended cooperation with ICE and raised police pay by 30% while striking a blow against mass incarceration. We cut our corrections budget by almost 60%, and we are converting our city jail into a center of equity, health and wellness.

I know that good people make bad decisions; it shouldn't be the end of the road for them. I hope that my four years of leadership in Atlanta has left a legacy of that.

**SACRS Magazine:** Speaking of legacies, what do you think our SACRS members can do to further justice and be good global citizens?

**KLB:** Use your role as an investor. Use the influence you have through engagement with companies you do business with. Think in the same way you cast a vote for an elected official. Lean into policy you feel is important. The push for that, to be good global citizens, is growing by the day. Recent numbers show 40% of people are involved in a boycott of a product for some reason. The power is in your hands, in the same way that consumers have it.

We have to be the example that we want to see. I also talk about people giving grace, but I have to check myself sometimes. We need to do more of that in our professional and personal lives.



### FRANCES DONALD

At the Spring Conference, Frances Donald, Global Chief Economist and Global Head of Macroeconomic Strategy, Multi-Asset Solutions Team, at Manulife Investment Management, returned to the SACRS stage for her presentation Inflation: *What It Is, Where It's Coming from, and What It Means for Your Retirement Plan. (* Note the following comments are from a May 2022 point in time.)*

**SACRS Magazine:** We are hearing about inflation every day. Do you see it as transitory or permanent?

**FD:** U.S. Consumer Price Index (CPI) jumped 7.9% in February year over year and core CPI, which strips out energy and food prices, rose 6.4% year over year—levels not seen since the early 1980s. While services inflation is starting to rise as price pressures become more broad-based, the bulk of price increases continue to be most prominent in COVID-19 distorted areas, such as cars and goods. Deflation areas during COVID, hotel, airlines, and clothing, are now coming back to pre-COVID levels. For example: We are seeing an 18% increase in airfare. Is this really inflation? We look at that and think COVID inflation is transitory.

We are now, however, moving toward a more nefarious type of inflation. Even as we still see re-opening activity, we now also see pressure coming from higher gasoline spending and food. High prices on housing and used cars are one thing, but higher prices on food and energy will crowd out other spending. Food and energy are items that you cannot substitute away from and they are going to be more painful for the American consumer.

**SACRS Magazine:** Will there be a sharp spending slowdown as a result?

**FD:** I see a materials slowdown across most sectors in the US.

What matters here is where the inflation is concentrated. During COVID, we were seeing it in things I am going to call largely discretionary – home renovations, fences, pools, cars. Things that are not bought every month and things that you can live without.

Right now we need to change the way we think about inflation. We need to recognize that the composition of inflation is changing. In the next three to six months we are going to see the shifting nature of inflation.

What we are actually witnessing here in the US economy is a transition away from COVID inflation and COVID themes toward something more nefarious: conflict inflation and conflict themes.

### MATT HOUGAN

In *Crypto 101: Everything You Wanted to Know But Are Afraid to Ask*, SACRS keynote Matt Hougan, Chief Investment Officer of Bitwise Asset Management, delivered a primer on crypto currency exploring how it derives its value and why many believe its impact on the economy is just starting.

**SACRS Magazine:** Even though crypto currency has become more universally accepted, and is now officially a mainstream asset class, many still do not fully understand the concept.

**MH:** The biggest misunderstanding about crypto is it is not currency; it cannot be used to buy coffee. What it can do is move assets and move it quickly, in minutes not in days. If you have Venmo or PayPal, you know the payment service model. So for Crypto think Venmo or PayPal meets the open Internet.

**SACRS Magazine:** Why is this significant?

**MH:** Crypto is important because you can now move money at the speed of the Internet. Moving money traditionally is very slow. Crypto enables Decentralized Finance (DeFi.) What DeFi does is offer financial instruments without relying on intermediaries such as brokerages, exchanges, or banks by using smart contracts on a blockchain. It gives people a way to own their own money and eliminates the need for a single controlled third-party database owned by, for instance, Wells Fargo. Instead, a blockchain stores information electronically in a digital format that is secure and offers a decentralized record of transactions. Crypto allows the Internet to tackle investment and finance.

**SACRS Magazine:** It sounds very disruptive to the current way of doing things. Why are there so many different kinds of crypto currencies?

**MH:** There are different kinds of crypto because the technology is being optimized in different ways. It is just like software companies, we don't ask why are there so many different software companies?

What needs to happen next is the regulatory piece. How does crypto get incorporated into securities laws, such as the Securities Act of 1933 and the Investment Company Act of 1940? I think we are headed for new legislative action as we move from the early stages towards maturity.

It is an exciting time. We have the technology that allows the Internet to tackle the money and finance market. The big question is: Will it succeed?

## JASON SCHENKER

For his presentation, *The Future of Business in the Metaverse Economy*, Jason Schenker, Chairman of The Futurist Institute and the President of Prestige Economics, shared his analysis, insights, and futurist scenarios for the most significant trends and technologies that will shape the future Metaverse and more. Topics during his talk included AR, VR, XR, NFTs, blockchain, Web3, DeFi, Cold War Two, supply chain, and more. Schenker has written 36 books on emerging technologies, business strategy, finance, and the economy.

**SACRS Magazine:** In your talk you explored the Metaverse, which is tough to explain.

**JS:** Metaverse is a catchall because it has the potential to take many different forms. There are a number of ways it could play out and I shared the possibilities – it could be a "Multiverse Metatverse" that is life in all its aspects that is expanded online. It could be just a "Gamerverse" that will mostly be for video gaming. Or less desirable: "Scammerverse", like a carney midway online or a "Creeperverse" where there is insufficient social controls. It could be "Businessverse" with the use of VR to accelerate training, which is probably where the most ROI is.

**SACRS Magazine:** It sounds fantastical.

**JS:** It does. Metaverse technologies carry a lot of hype. You have to be careful of the shiny. The real value is usually not in the whiz-bang. If you look long-term, multi-year, multi-decade, that is when you can see the long-term economic value of something and it is usually super boring! Investible opportunities lie in (potentially boring) corporate use cases.

**SACRS Magazine:** Do you think the Russian War on Ukraine will turn into Cold War Two?

**JS:** The sides, Russia and China, want to go back to the pre-1945 world map. China has it sights on Taiwan, but China told Russia "you go first." Russia thought taking Ukraine back would be easy. But that didn't happen.

The Russian War on Ukraine seems likely to become a frozen war that turns into Cold War Two. Markets may be able to live with that. Cold War Two could necessitate NFTs* in Supply Chain.

(*An NFT (non-fungible token) is a record on a blockchain with unique identification codes and metadata associated with a particular digital or physical asset and has huge potential for logistics, as it could ensure much more accurate traceability control.)

## BRENDAN AHERN

In the SACRS keynote session *Navigating China and Why It Matters*, Brendan Ahern, Chief Investment Officer at KraneShares provided an overview of the current environment in China. Ahern is a frequent visitor to China and actively maintains daily contact with a deep local research network comprised of investment banks, brokers, and regional and boutique research firms, as well as produces a daily update called *China Last Night.com*, which also appears as a column for Forbes.com.

**SACRS Magazine:** What are the geopolitical risks for China related to the Russia-Ukraine war?

**BA:** Although China imports both Ukrainian wheat and Russian natural resources, higher commodity prices have had a limited impact on the CPI. Overall, the potential trade disruption with Russia is less impactful on Chinese economy. China state-backed banks, including the Asian Infrastructure Investment Bank (AIIB), have suspended Russian activity.

**SACRS Magazine:** You spoke of US interdependence with China, in particular with California, and why China's struggle to reopen after the pandemic is concerning.

**BA:** China did not accept Western COVID vaccines and their vaccine is greatly behind the Western world. Because of this, there are continued lockdowns with low vaccination rates, especially among their elderly, who are most vulnerable. They are very aware of COVID-19 and the Omicron variants potential to overwhelm their hospitals and this is slowing recovery and impacting supply chains.

US and China economies are intertwined with China very geared toward the West. Many U.S. companies have taken advantage of China's urban middle-class. American brands are alive and well, with many American companies, like Apple and Boeing, doing great business in China. For example, General Motors annually sells more cars into China than in the U.S. Overall; California is highly dependent on China.

There is an underestimated risk and lack of debate by politicians and others about this interdependence. It is often ignored. We think of China manufacturing exports, but there is a greater economic impact on the US by China's faltering, not the other way around.

**SACRS Magazine:** How does the market reflect the US-China relationship today?

**BA:** The Goldman Sachs US-China Relationship Barometer Index is at a level of 95.5, near its all time high and close to the maximum of 100. Equity technology sectors have been impacted significantly. Meanwhile, trade tension with China has decreased significantly since its high in September 2018 and is currently at 10% in the index. We, at KraneShares, believe US-China political tensions are already priced in. In short, it has never been stronger.

### RETIRED GENERAL DAVID PETRAEUS

A highly decorated general and one of the most prominent combat commanders in American history, General David Petraeus (U.S. Army, retired) has dedicated his life to public service, leading military campaigns in Iraq and Afghanistan and then serving as the director of the Central Intelligence Agency. In a timely SACRS presentation, General Petraeus, via livestream, offered his perspectives on the Russian invasion of Ukraine, discussed Russia's strategy, and what might lie ahead.

**SACRS Magazine:**

In your opinion, how are things progressing with Russian President Vladimir Putin's efforts to reunify Russia through the invasion of Ukraine?

**GP:** Putin underestimated Ukraine's desire to remain independent and he overestimated his own forces. His deficiencies are quite extraordinary. Russia's army has underachieved in virtually every conceivable area since the war began in February. After failing to capture any of Ukraine's major cities, Moscow was forced to pullback from territory around Kyiv and refocus on the separatist regions in the east. Their logistics proved absolutely abysmal. The level of training of their soldiers and their junior leaders is clearly inadequate.

Of the people Putin has surrounded himself with, there is no one to tell him it isn't going well. No one in Moscow is going to tell him it's time to surrender and get financial systems back from sanctions and protect the economy. The question is: "What will Putin accept?" The West will not negotiate with him until Ukraine President Volodymyr Oleksandrovych Zelenskyy and the Ukraine people have their say. In a war of attrition, increasing damage, and loss of life, over time we might see what is acceptable to both sides. It will be a frozen conflict for some time.

**SACRS Magazine:** How has the Ukraine invasion by Russia impacted NATO?

**GP:** This is the first unprovoked invasion of an independent European country since WWII. It is a battle for rule of law. A battle for democracy. A battle for freedom of the press. While Russia has the goal of reunifying, what has become more unified is NATO. Right now, NATO unity is unparalled. There is a level of cohesion that has not been seen since the 1980s. It is remarkable.

Although, keep in mind that there wasn't complete unity in the 80s. The "good old days" weren't always much "gooder." We have to be careful about that.

**SACRS Magazine:** Given Russia's destructive indiscriminate military tactics, what do you think the likelihood is of military escalation by Putin?

**GP:** We need to go at this clear eyed, which we are. The idea of rationality for Putin might be to act in what may seem irrational to us. He is unconcerned and has no problem violating Geneva Convention. We don't want a situation where Putin has nothing left to lose. We don't want to back Russia into a corner. Chances are much higher now than in the beginning that Putin might use small-yield nuclear weapons. We need to be concerned about that because deployment will be unthinkable.

# CONGRATULATIONS!

During the Fall Conference, the SACRS Volunteer Awards were presented to Thomas (Tommy) Garcia, Imperial County Employees Retirement Systems and SACRS Past Secretary and Harry Hagen, Santa Barbara County Employees Retirement Systems, SACRS Treasurer, and Santa Barbara County Treasurer-Tax Collector. We thank them for their contributions to SACRS!

Vivian Gray, President of SACRS & LACERA Trustee, shares a laugh with Award recipient Harry Hagen (left) and congratulates Tommy Garcia (right) during the presentation of the SACRS Volunteer Award.

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# SACRS

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## FEATURED FALL KEYNOTE

### A Conversation with Admiral William H. McRaven, USN (Retired)

Admiral William H. McRaven is a retired U.S. Navy Four-Star Admiral and the former Chancellor of the University of Texas System. During his time in the military, he commanded special operations forces at every level, eventually taking charge of the U.S. Special Operations Command. His career included combat during Desert Storm and both the Iraq and Afghanistan wars. He commanded the troops that captured Saddam Hussein and rescued Captain Phillips. McRaven is also credited with developing the plan and leading the Osama bin Laden mission in 2011. He is a recognized national authority on U.S. foreign policy and has advised Presidents George W. Bush, Barack Obama, and other U.S. leaders on defense issues. McRaven is the author of two books, *SPEC OPS: Case Studies in Special Operations Warfare and Make Your Bed: Little Things That Can Change Your Life and Maybe the World.* He's a Senior advisor to Lazard Asset Management. Lazard serves investors with a broad range of global investment solutions and investment management services. In a special SACRS keynote session, McRaven will share stories and insights into leadership and risk management.

**Retired U.S. Navy Four-Star Admiral**
**William H. McRaven**

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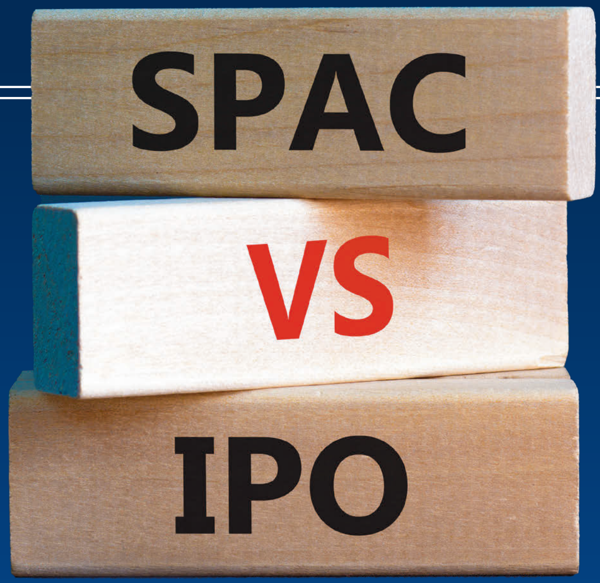


# Jumping on the SPAC train?

## Not so fast. Securities litigation is on the rise.

*"The number of SPAC initial public offerings rose exponentially from 59 in 2019 to 248 in 2020 to an astonishing 498 in 2021, raising over $120 billion this past year alone."*

While the last two years will likely be remembered mainly for the COVID-19 pandemic ravaging the globe, many in the financial space will also remember this time as the rise of Special Purpose Acquisition Companies, more commonly referred to as SPACs. The number of SPAC initial public offerings (IPOs) rose exponentially from 59 in 2019 to 248 in 2020 to an astonishing 498 in 2021, raising over $120 billion this past year alone. SPAC IPOs now make up more than three-fifths of all IPOs in the United States. With this rise in popularity has come greater scrutiny by the SEC and an increase in securities litigation filed on behalf of shareholders. Despite the pace of new SPACs slowing mid-year, by the end of 2021 the market was booming once again and the wave shows no signs of cresting as 2022 progresses.

*"With SPACs being run by the likes of professional athletes like Alex Rodriguez and musicians like Jay-Z, it is easy to get caught up in the hype. There has been so much hype in fact, that the SEC had to issue a warning to 'never invest in a SPAC based solely on a celebrity's involvement."*

In addition to their increasing popularity among institutional investors, SPACs have become a new status symbol for celebrities and financiers alike, drawing in a whole new crowd of interested participants, including retail investors. With SPACs being run by the likes of professional athletes like Alex Rodriguez and musicians like Jay-Z, it is easy to get caught up in the hype. There has been so much hype in fact, that the SEC had to issue a warning to "never invest in a SPAC based solely on a celebrity's involvement." While having name recognition and success in other fields, those promoting SPACs don't necessarily have the financial savvy and experience to pick the most profitable companies.

### So what are SPACs and why are they so popular?

SPACs are essentially shell companies set up by investors for the sole purpose of raising money through IPOs to acquire or merge with other companies and take them public, usually within two years. SPACs have no underlying operating businesses and do not have assets other than proceeds from the IPOs. The founders of SPACs do not identify the targets of the acquisitions before the IPOs, which is why they are sometimes referred to as "blank check" companies. Investors do not know what companies they will ultimately end up investing in.

Once the SPAC acquires a target company, they merge in a process known as a "de-SPAC" transaction, after which they become an operating company with publicly traded shares. SPACs are popular because they frequently result in a large return on investment for the sponsors putting up the initial capital (usually a 20% interest in the SPAC that is converted to shares in the public company after the merger) and they can be easily created without having to comply with the regulatory requirements for traditional IPOs.

In a normal IPO process, a company going public must issue various disclosures about its financial records and history. Because a SPAC is not an operating business at the time of its IPO, it has very little financial information to report, and therefore it is easier to meet disclosure obligations. Further, companies with IPOs are barred from making projections about future earnings so as not to mislead investors with overly rosy forecasts of future success not based on underlying data. SPACs, however, are free to publish financial projections for themselves, which can be inflated and based on very little but hype.

With their quick rise in popularity, and little regulation, it was only a matter of time before there was an increase in litigation. In fact, at least 35 securities class action lawsuits relating to SPACs have been filed since 2019, with the number expected to keep rising each year. Last year, suits involving SPACs tripled. There are two main aspects of SPACs that make them particularly ripe for securities suits and will fuel continued litigation.

## 1 The SPAC structure and environment may encourage fraud.

SPACs are designed with systemic misalignments of incentives that create an environment conducive to fraud. The SPAC sponsors often contribute only a relatively small amount of assets to cover overhead before taking it public, but usually receive a 20% interest in the resulting company. Given the significant rise in the number of SPACs and deals in the last year, the market is flooded with potential buyers, resulting in a shrinking pool of profitable companies to acquire within the two-year time frame. As a result, many SPACs are overpaying for companies and receiving high valuations because of increased demand alone and not their actual value.

Further, the system provides significant incentives for sponsors to exaggerate or overinflate the value of the target company, which can cross the line from hype to fraud. In a speech on December 9, 2021, SEC Chair Gary Gensler noted that "SPAC sponsors may be priming the market without providing robust disclosures to the public to back up their claims. Investors may be making decisions based on incomplete information or just plain old hype."[1] The way SPACs are designed, even if the company ends up being an unprofitable acquisition, sponsors often walk away with a significant profit, frequently making several hundred percent on their original investments, while the return for retail shareholders is usually far less.

Additionally, sponsors may cut corners on due diligence because they are typically looking to merge within two years. SEC Chair Gensler has further noted that investors in SPAC IPOs should be afforded similar protections as those in standard IPOs, but that the "gatekeepers" behind SPACs, such as directors and officers, sponsors, financial advisers, and accountants "may not be performing the due diligence that we've come to expect."[2] Standard IPO due diligence practices can take time. Sponsors have an interest in making an acquisition quickly, regardless of the quality of the operating company they are purchasing, and with limited due diligence, in order to maximize their own profit and ensure an acquisition occurs within the required time frame. If they don't meet the deadline, they need to refund investor money.

The SPAC's underwriting banks also have reason to exaggerate the value of an acquired company and downplay any potential issues with the merger. SPACs are not required to disclose their banks' fees in regulatory filings. But typically sponsors pay such banks a 5.5% fee for underwriting the IPO, part of which is paid upfront, with the remainder paid once a merger is complete. The underwriting banks therefore also have an interest in a merger going through, regardless of the value of the target company. This risk is further compounded by the fact that these same underwriting banks can sometimes earn even more fees if they represent the target company and assist the SPAC in raising additional capital for the merger.

Combine this potential for fraud with limited due diligence and you get the key ingredients for securities litigation. And while it is true that there are fewer registration requirements for SPACs, particularly at their IPO, there are still several disclosure requirements that must be complied with, the violation of which can be the basis for shareholder actions. In fact, as a merger vehicle, SPACs are

uniquely susceptible to certain claims relating to proxy statements that are easier to prove than securities fraud claims.

> *“Plaintiffs’ counsel and frustrated SPAC investors could decide to file whenever an acquired company fails to perform well after the de-SPAC transaction.”*

## 2 Securities claims against SPACs may be easier to prove.

Securities class actions are brought under a variety of laws, chief among them Section 10(b) of the Securities Exchange Act of 1934 (“Exchange Act”) and Rule 10b-5 promulgated thereunder, which prohibit companies from engaging in several types of fraudulent behavior, including making material misstatements or omissions in connection with the sale of a security. To prove a Section 10(b) claim, a class must plead facts showing a strong inference that the company acted recklessly or with the intent to deceive, manipulate, or defraud. Proving intent, which is a state of mind, particularly of a corporation, can be exceedingly difficult and by its very nature can often only be proven through circumstantial evidence. The element of intent, therefore, presents a significant hurdle to successfully prosecuting cases.

With SPAC litigation, the plaintiffs can bring proxy claims under Section 14(a) of the Exchange Act and Rule 14a-9 promulgated thereunder. During the de-SPAC transaction, once a business has been identified for acquisition, the acquisition is put to a shareholder vote. As part of that process, the SPAC must issue a proxy statement through which it discloses detailed information about the target business, including its financial history, operational structure, and financial projections of its expected performance. Section 14(a) prohibits material misstatements and omissions in proxy statements that cause injury to a plaintiff. Unlike Section 10(b) claims, however, Section 14(a) claims only require plaintiffs to show that a company was negligent, not that it recklessly or intentionally lied or omitted key facts. To prove negligence, a plaintiff class needs to show that a company acted with less care than an ordinary company would have exercised under similar circumstances. It is a much lower bar to meet than proving intent and will no doubt result in an increase in securities class actions against SPACs.

The fact that the demand for target companies by SPACs has increased while the pool of quality companies for purchase has decreased will only further contribute to the filing of such actions. Plaintiffs’ counsel and frustrated SPAC investors could decide to file whenever an acquired company fails to perform well after the de-SPAC transaction. SPAC investors could then argue under Section 14(a) that the sponsors and SPAC made misrepresentations and omitted information regarding the financial conditions of the target company to convince shareholders to approve the transaction so that the sponsors could profit and the SPAC could meet the two-year deadline. They would then allege that the SPAC was negligent in doing so, e.g. that it failed to conduct sufficient due diligence, and that they relied on the SPAC’s false statements or omissions in the proxy statement to approve the transaction, suffering injury when the target company underperformed.

Pending securities class actions against SPACs have asserted Section 14(a) claims, as well as claims under a variety of additional securities laws, including Section 10(b) and others. As investors continue to pour more money into a system structurally primed for fraud, and some SPAC-purchased companies turn out to be poor acquisitions, more securities cases will inevitably follow.

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[1] *https://www.sec.gov/news/speech/gensler-healthy-markets-association-conference-120921*

[2] *Id.*

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*__Colin N. Holmes__ is associate counsel with Financial Recovery Technologies. Financial Recovery Technologies is singularly focused on providing investors with solutions that address the growing complexities of the securities class action landscape and ensure clients understand what’s going on with securities litigation and how to make sure they maximize their recoveries with better monitoring, filing, and recovery practices.*

State Association of County Retirement Systems

# LEGISLATIVE REPORT

The Legislature returned from Summer Recess on August 1 and focused on the fiscal committee deadline. For this deadline, all bills keyed fiscal must pass out of the Appropriations Committee of the bill's second house by August 12. To meet this deadline, both the Senate and Assembly Appropriations Committees will hold a "Suspense Hearing" on August 11 where they will dispense with hundreds of bills at once.

After August 12, legislators must pass the remaining bills off the floor of the second house and if applicable, the floor of the house of origin for concurrence, before the Legislature adjourns for final recess on August 31.

The Governor will have until September 30 to act upon the bills on his desk.

## SACRS SPONSORED BILLS

**AB 1824 (Committee on Public Employment and Retirement) – Committee Cleanup Bill.** This bill passed out of the Legislature unanimously on August 18 and is awaiting consideration by the Governor. SACRS submitted a letter formally requesting the Governor's signature on the bill.

**AB 1971 (Cooper) – CERL Policy Bill.** This bill passed out of the Legislature on August 22 and is awaiting consideration by the Governor. Like AB 1824, SACRS submitted a letter formally requesting the Governor's signature on the bill.

In preparation for next year's cleanup bill, the SACRS Legislative Committee will be fielding and reviewing cleanup proposals in the fall.

## OTHER BILLS OF INTEREST

**SB 1328 (McGuire) – Divestment.** This bill would prohibit public retirement boards from investing public employee retirement funds in a company with business operations in Russia or Belarus, among other requirements. Amendments from May narrowed the bill, which included narrowing restrictions on pension investments to companies domiciled in Russia and Belarus, supplying military equipment to Russia and Belarus or companies complicit with the invasion and eliminating requirements that pension funds survey all portfolio companies for compliance with the divestment requirements.

SACRS submitted a letter of concern on this bill.

The bill was set to be heard in the Assembly Public Employment and Retirement Committee in late June, with the Chair of the Committee pushing amendments that would have made the bill a reporting bill. The author was not willing to accept the amendments, so the bill was pulled from the Committee and is now dead for the year.

**AB 2493 (Chen) – Disallowed Compensation.** As initially amended, this bill would have allowed OCERS to adjust retirement payments based on disallowed compensation for peace officers and firefighters under certain circumstances. The bill was later amended to apply to all CERL systems.

When this bill had a hearing in the Senate Judiciary Committee in late June, CSAC was the lead opposition witness and discussed these cost concerns as well as how the bill differs from SB 278 (Leyva) from 2021.

The bill was amended substantially after the author and sponsors worked with committee staff. While SACRS did not take a position, we are aware that some systems submitted their own letters and shared concerns with the Legislature.

The bill passed out of the Senate, but before it was brought up for a final vote in the Assembly, the author pulled the bill from consideration based on opposition from counties and discussions with the Governor's office.

**AB 1944 (Lee) – Public Meetings.** This bill would make changes to the Brown Act to add additional flexibility for board members to teleconference into meetings if certain requirements are met, including that a quorum of members of the body participate in person. SACRS supported this bill.

Before the bill's hearing in the Senate Governance and Finance Committee, the committee offered amendments that the author would not accept, so the author pulled the bill, and it was not heard in committee. This caused the bill to fail the policy committee deadline, so it won't move further this session.

**AB 2449 (Rubio) – Public Meetings.** This bill would allow a local agency to use teleconferencing for a public meeting, if at least a quorum of members of the legislative body participate in person from a single location that is identified on the agenda and is open to the public within the local agency's jurisdiction, among other requirements. Recent amendments add more guardrails for when a board member can participate remotely and add a sunset date, among other changes.

The bill passed out of the Legislature and is on the Governor's desk for consideration.

**Compensation Earnable Bills** – Last session, two bills were introduced relating to compensation earnable - **AB 498 (Quirk-Silva) and AB 826 (Irwin)**. As reported in previous updates, AB 826 was gutted and amended in June of 2021 with the CERL provisions currently contained in the bill. AB 498 (Quirk Silva) was similarly amended at the end of session last year in September.

In late June, AB 498 was gutted and amended again, this time with provisions unrelated to county retirement systems, so it is no longer of interest to SACRS.

AB 826 was amended and pulled off the Inactive File on August 3. It subsequently passed out of both houses of the Legislature and is now on the Governor's desk.

***Michael R. Robson*** *has worked since 1990 in California politics and has been lobbying since 2001 when he joined Edelstein, Gilbert, Robson & Smith LLC. Prior to joining the firm, he began a successful career with Senator Dede Alpert as a legislative aide soon after she was elected to the Assembly in 1990. He became staff director/chief of staff in 1998, while the Senator served in the position of Chair of the Senate Appropriations Committee. He is experienced in all public policy areas with particular expertise in environmental safety, utilities, revenue and taxation, local government finance, education, and the budget.*

***Trent E. Smith*** *worked for over 12 years in the State Capitol prior to joining the Edelstein, Gilbert, Robson & Smith LLC. He started his career in 1990 working for the well-respected late Senate Republican Leader Ken Maddy. He was later awarded one of 16 positions in the prestigious Senate Fellowship Program. Upon completion, he started working in various positions in the State Assembly. He worked as a Chief of Staff to Assembly Member Tom Woods of Redding and later to Orange County Assembly Member, Patricia Bates, who served as Vice Chair of the Assembly Appropriations Committee. In this position, he gained a unique and valuable knowledge of the State budget and related fiscal policy matters. In addition, he has extensive experience in numerous policy areas.*

***Bridget McGowan*** *joined Edelstein Gilbert Robson & Smith in 2018. Prior to joining the firm, she gained policy experience in the California State Assembly. Through internships in the district office of her local Assemblymember and later, in the office of the Chief Clerk, McGowan developed her knowledge of California's legislative process, rules and procedures. A graduate from UC Davis in 2018 with a Bachelor of Arts in International Relations, she is currently pursing a Master of Public Administration from the University of Southern California Price School of Public Policy.*

## PUBLIC PENSION PLAN FUNDING POLICY - PART TWO

# Effectiveness of Amortization Methods Under Projected Investment Scenarios

One of the most important decisions made for public sector pension plans is adopting a funding policy that balances the needs of all stakeholders. In general, larger benefits require larger contributions. For a given benefit level, the purpose of a funding policy is to balance the level and volatility of contributions with the funded status of the plan. In this article, we continue to explore, compare, and contrast various methods of amortizing liabilities and their impacts on the contribution rates allocated to employers.

The first article of this series, *Public Pension Plan Funding Policy: Effectiveness of Amortization Methods Under Deterministic Projections,* developed a framework to help plan sponsors understand the funding policy implications of their choice of amortization method, if all actuarial assumptions are perfectly met. This article expands that discussion to focus on how the various amortization methods handle deviations from expectations. Specifically, this article looks at how the various amortization methodologies react to volatility in investment markets. We selected these particular amortization methods as they are the most commonly used. This is not an exhaustive list of funding methodologies. A plan should use the methodology that best meets the needs of its stakeholders.

## Plan modeled

For purposes of this article, we modeled a "typical" ongoing open public pension plan. We use a 7.0% expected return on assets, which is a common assumption among public pension plans, an entry age normal actuarial cost method, and a fresh start for the amortization of the unfunded liabilities. We then explored multiple amortization methodologies. We set assets equal to 79% of liabilities, which is the aggregated funding level in the Milliman Public Pension Funding Index (PPFI) as of January 1, 2021. Additional key methods, assumptions, and plan provisions are listed in the appendix on page 46.

**"Stochastic testing" involves using a random number generator to perform a statistical analysis where 1,000 or more runs are created to test the likelihood of future events. This is also sometimes referred to as Monte Carlo analysis.**

## Stochastic modeling

In this article we focus on volatility inherent in investment markets. Therefore, we developed 1,000 "random walk" scenarios for the plan's actual asset returns via stochastic projections using a random number generator, the plan's asset allocation, and Milliman's capital market assumptions. "Stochastic testing" involves using a random number generator to perform a statistical analysis where 1,000 or more runs are created to test the likelihood of future events. This is also sometimes referred to as Monte Carlo analysis. In our projections, other than the actual investment returns, we assume that all assumptions are met and that there are no other actuarial experience gains or losses.

The stochastic testing in this article consists of asset return projections over the 40-year period generated using a normal distribution, a 7.00% geometric average annual return, and a standard deviation of 12.00%. The equivalent average arithmetic return is 7.72%.

Throughout the remainder of this article, we look at how each of the amortization methods reacts to sample scenarios from the stochastic projections.

## Results under a single scenario

Often, stochastic testing is used to create a "cone of uncertainty." This valuable tool for risk analysis will be explored in a later article in this series. One limitation of cones of uncertainty is the illusion of smoothness. Therefore, before exploring cones of uncertainty, we focus on the path of single scenarios. As shown throughout this article, the path of a single scenario can be quite volatile and provides insight into how the various amortization methods handle asset volatility.

We examined each amortization method under a single scenario selected from the stochastic projections. When the scenarios are ordered from lowest to highest based on the cumulative return over the 40-year projection period, we selected the 500th scenario and define it as the "median." This median scenario had an annualized compound return of 6.93%, slightly less than the 7.0% expected. Details of the scenario, including the annual returns, can be found in the appendix.

## Funded status

The funded status under different amortization methods over the 40-year projection period for the median scenario are shown in Figure 2. The funded status here is the actuarial value of assets as a percentage of the total pension liability. The actuarial value of assets is a smoothed asset value, based on the market value of assets, but recognizing gains and losses over five years. This smoothing reduces the volatility of the funded status.

The funded status behaves similarly under the different methods. However, near the end of the projection period, the funded status begins to differentiate.

There are two broad generalizations we can make when the funded status is below 100% and all assumptions are met. First, shorter amortization periods lead to a higher funded status. Second, layered funding methods will lead to a higher funded status compared to a rolling method with the same amortization period.

In this scenario, due to the high initial returns, the funded status reaches 100% by year 6 under all methods and maintains a funded status above 100% through year 15. However, over the next 15 years, the funded status deteriorates under all methods, and dips below 50% under Rolling-30 and Layered-30 methods. For the last 10 years of the projection, years 30 to 40, the funded status then improves again under all methods due to the high average returns during this period.

Layered-15 and Layered-20 end up with the largest funded status at the end of the period, while Rolling-30 and Layered-30 end up with the lowest funded status. There is a 51% spread between

**Figure 1:** Employer Contributions (500th scenario)

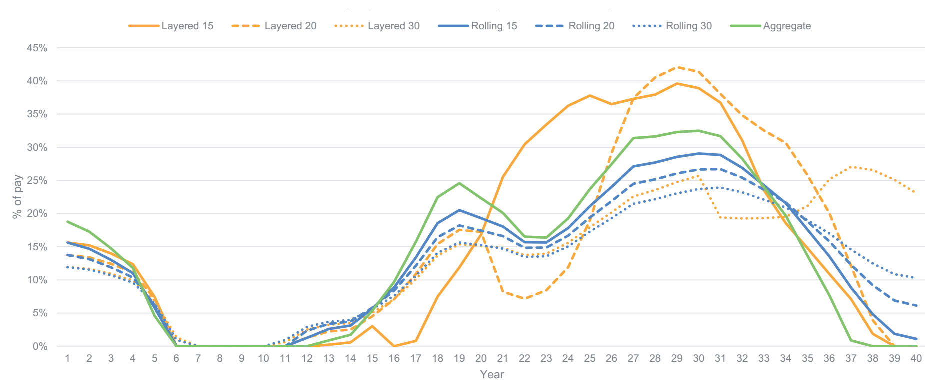
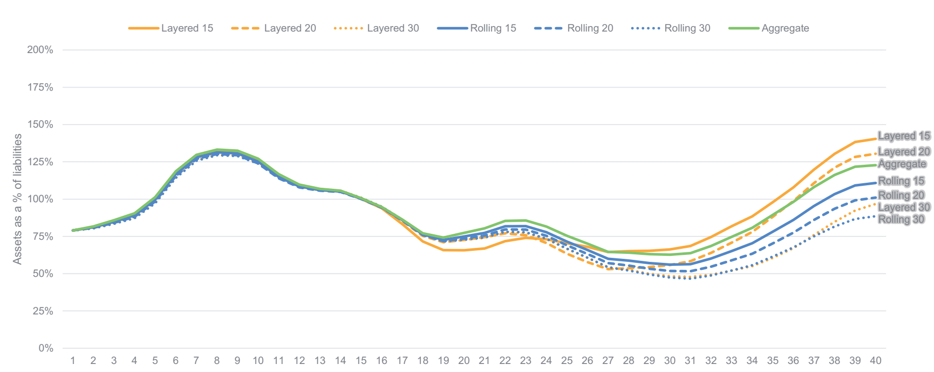



**Figure 2:** Funded Status (500th scenario)



Layered-15 (the highest funded status at 140%), and Rolling-30 (the lowest funded status at 89%). Rolling-30 and Layered-30 don't recover to 100% at the end of the 40-year projection period despite effectively reaching the expected 7% return and having reached well over 100% funded early on in this scenario.

If all assumptions are perfectly met with precisely 7% investment earnings each year, Rolling-30 would end the 40-year projection period at 89% funded, as seen in *Public Pension Plan Funding Policy: Effectiveness of Amortization Methods*. The slow reactions of the long amortization periods may be reason for some employers to move to a shorter amortization period. Note that recent funding guidance from both the Society of Actuaries' Blue Ribbon Panel on Public Pension Plan Funding | SOA and the Conference of Consulting Actuaries' Actuarial Funding Policies and Practices for Public Pension Plans (ccactuaries.org) specifically caution against long, rolling amortization periods.

The purpose of analyzing this scenario is to highlight the volatility that can occur under different amortization methods, assuming no benefit changes, or changes to the funding or investment policies. However, were this a real plan, the funded status under all methods is so high from years 7 to 9, at 125% or higher, that it's possible there would be an increase in benefits provided[1] or changes to the funding or investment policy. Depending on the nature of the benefit changes during good times, the low funded status and high contributions in the following 10 to 20 years could be worse.

### *A note on actuarial versus market value of assets*

If the funded status were instead measured as a percentage of the market value of assets, rather than the smoothed value used above, there would be more volatility. Figure 3 shows the funded status on a market value basis (i.e., market value of assets as a percentage of the actuarial accrued liability) by year for the same median scenario.

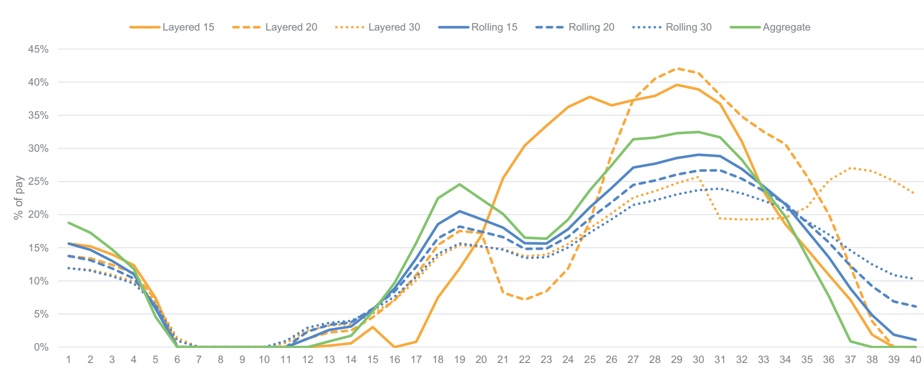
## Employer contributions

The funded status under various amortization methods may move similarly, but employer contribution rates show striking differences between methods, particularly in the second half of the projection. Before the initial layer is eliminated under the layered methods, rolling and layered methods move similarly, although methods with shorter amortization periods experience more volatility. At years 15, 20, and 30, the respective layered methods all have a drop in the contributions. From this point on, the layered methods are more volatile than the rolling methods.

The volatility under layered methods, particularly when paired with shorter amortization periods, may be challenging for plans sensitive to volatility in employer contributions. For example, under Layered-15, the contribution rate increases from 0% to 38% in just 10 years, from years 16 to 25. Under Layered-20, the contribution rates increase from 8% to 42% over a seven-year period, from years 23 to 29, then drop back to 0% over the next 10 years.

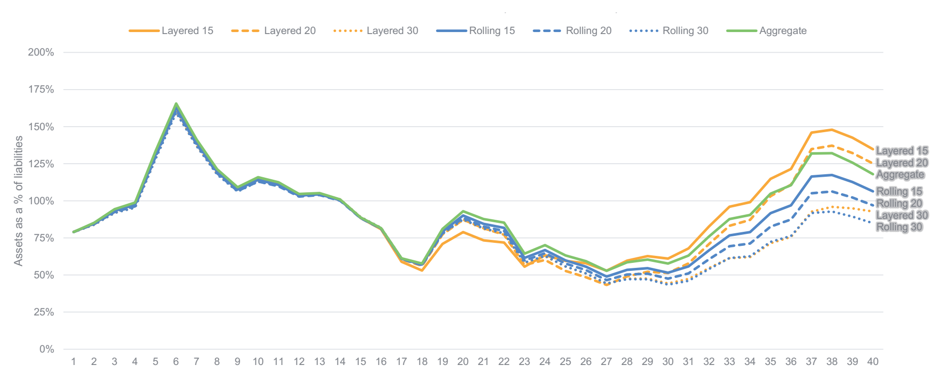
The average employer contributions are 13.7% under both Layered-30 and Aggregate methods over the 40-year period. However, the funded status at the end of the projection period is 97% under Layered-30, and 123% under the Aggregate method. This is primarily due to the relative responsiveness of the

**Figure 3:** Funded Status MVA Basis (500th scenario)




**"The funded status under various amortization methods may move similarly, but employer contribution rates show striking differences between methods, particularly in the second half of the projection."**

**Figure 4:** Employer Contributions (500th scenario)



## Figure 5: Contribution Rates

| 500th Scenario | Layered 15 | Layered 20 | Layered 30 | Aggregate | Rolling 15 | Rolling 20 | Rolling 30 |
|---|---|---|---|---|---|---|---|
| Average | 15.1% | 14.5% | 13.7% | 13.7% | 13.2% | 12.9% | 12.2% |
| Year 40 funded status | 140% | 130% | 97% | 123% | 111% | 101% | 89% |
| Largest 1-year increase | 8.7% | 10.2% | 4.0% | 6.7% | 5.2% | 4.3% | 3.5% |
| Largest 5-year increase | 29.6% | 32.1% | 11.9% | 22.8% | 17.4% | 14.5% | 11.7% |

Aggregate method, which created a higher funded status headed into the favorable return years 30 to 36.

The largest one-year and five-year increases in contribution rates may be challenging for some plans to manage, particularly under Layered-15 and Layered-20, where the increases are the highest.

### *The potential for counterintuitive contributions under layered methods*

Another challenge of layered methods is that the changes in employer contribution rates aren't necessarily related to the funded status or returns at the time. Contribution rates may move in counterintuitive ways, based on what happened 15, 20, or even 30 years ago, depending on the amortization period.

An example in Figure 4 of contribution rates moving counterintuitively is when contributions rates increase almost 10% from years 34 through 37 under Layered-30. During these same years, returns are quite high, and every other method experiences a decrease in the contribution rate, with contribution rate decreases ranging from 5% under Rolling-30 to 20% under Layered-20.

Another example occurs in years 20 to 23, where all methods except Layered-15 have decreases in employer contributions. The increases in employer contributions under Layered-15 are due to the two years of favorable asset experience in years 4 and 5. Using smoothed assets means significant gains in the few years after that. As those layers peel away, the contribution rates increase.

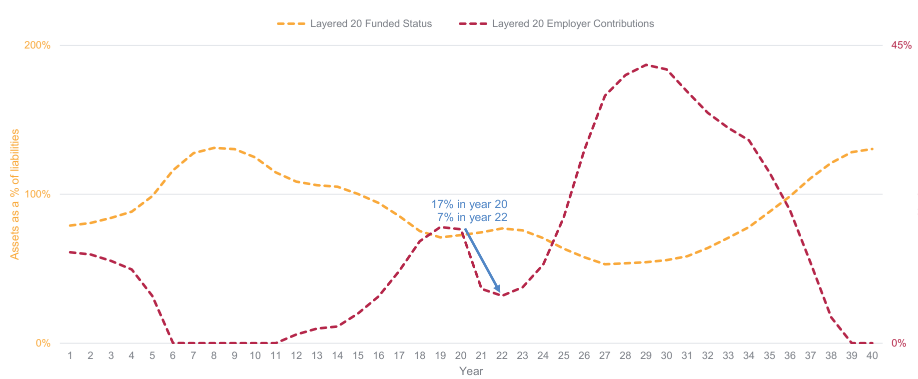
The rolling periods bear a consistent relationship between the contribution rates and funded status, almost mirroring each other. The better the funded status, the lower the contribution rate. However, the relationship between funded status and contribution rates is not so strict with layered amortizations.

In Figure 6, the funded status and employer contributions under Layered-20 are shown to illustrate the nature of this relationship.

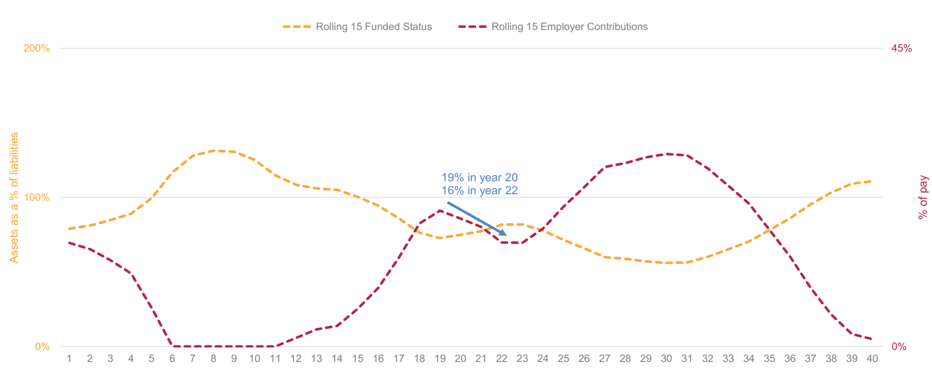
From years 6 through 10, the employer contributions are zero (a contribution "holiday"). The employer contribution rates then increase from years 11 through 19. In year 20, the initial layer drops off, leading to a drop in the employer contributions from 17% of pay to 7% of pay. This occurs even though the funded status is 73%, well below 100%. This drop may seem counterintuitive to employers when the funded status is low and following nine years of increases in contribution rates. To add to the whiplash, after a couple of years of decreases, the contribution rates begin to increase again in year 23 rising to a peak of 42% of pay in year 29. This volatility in employer contributions may be difficult for plan sponsors to manage.

In contrast, the graph in Figure 7 shows the funded status and employer contributions under Rolling-15. Here the employer contributions behave intuitively based on the funded status. When funded status improves, employer contribution rates decrease and vice versa. Instead of a 10% decrease beginning in year 20, there is only a 3% decrease, from 19% of pay in year 20

## Figure 6: Funded Status and Employer Contributions Under Layered-20 (500th scenario)




## Figure 7: Funded Status and Employer Contributions Under Rolling-15 (500th scenario)



to 16% of pay in year 22. This more closely mirrors the small increase in funded status during these years.

Some stakeholders may prefer that contribution rates are not strictly linked to asset performance or current funded status. After all, budgets may be tighter at the same time that investment markets have suffered losses. While this may be the case, there are better ways to approach this issue than allowing the contribution rate to fluctuate based on experience that is 15, 20, or 30 years old. For instance, employers could contribute to a reserve fund when able to contribute more than the actuarially determined contribution and draw upon the reserve fund at other times.

> **"When near 100% funded, there is consistency among the different methods. However, as the funded status moves away from 100% the methods begin to differentiate."**

## The path matters

The order of investment returns can play a key role in the funded status and contribution requirements. The scenarios immediately above and below the median scenario (in terms of cumulative asset returns) show radically different paths for funded status and contribution requirements despite having nearly identical aggregated returns over the period.

Which amortization method would best support the goals of the plan's stakeholders?

In the graphs to the right, the funded status under different methods moves similarly, as also seen in the median scenario studied. When near 100% funded, there is consistency among the different methods. However, as the funded status moves away from 100% the methods begin to differentiate. In each of these three scenarios, layered methods with shorter amortization periods end the 40-year projection horizon with the highest funded statuses.

**Figure 8:** Funded Status (501st scenario)

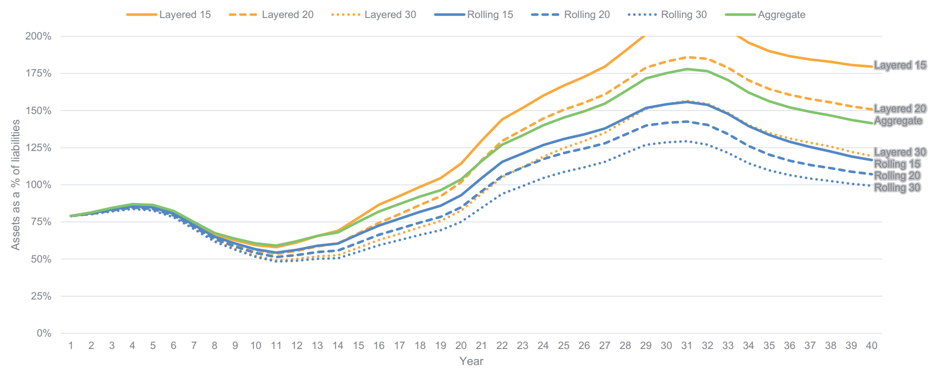



**Figure 9:** Employer Contributions (501st scenario)

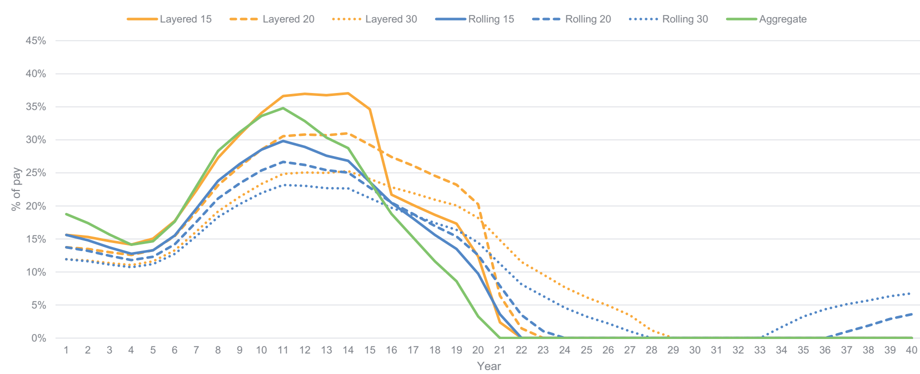
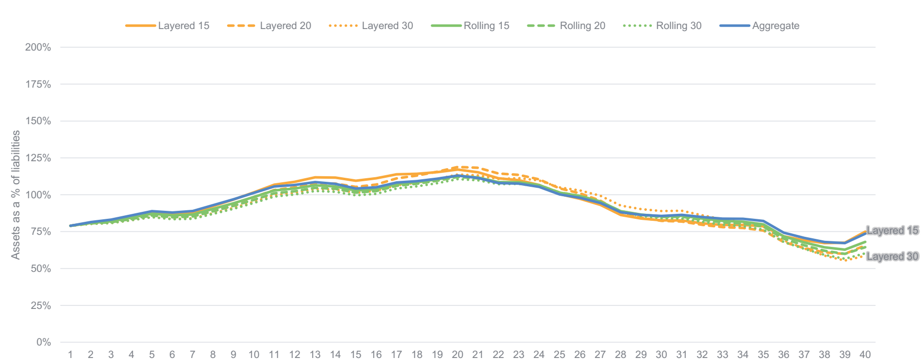
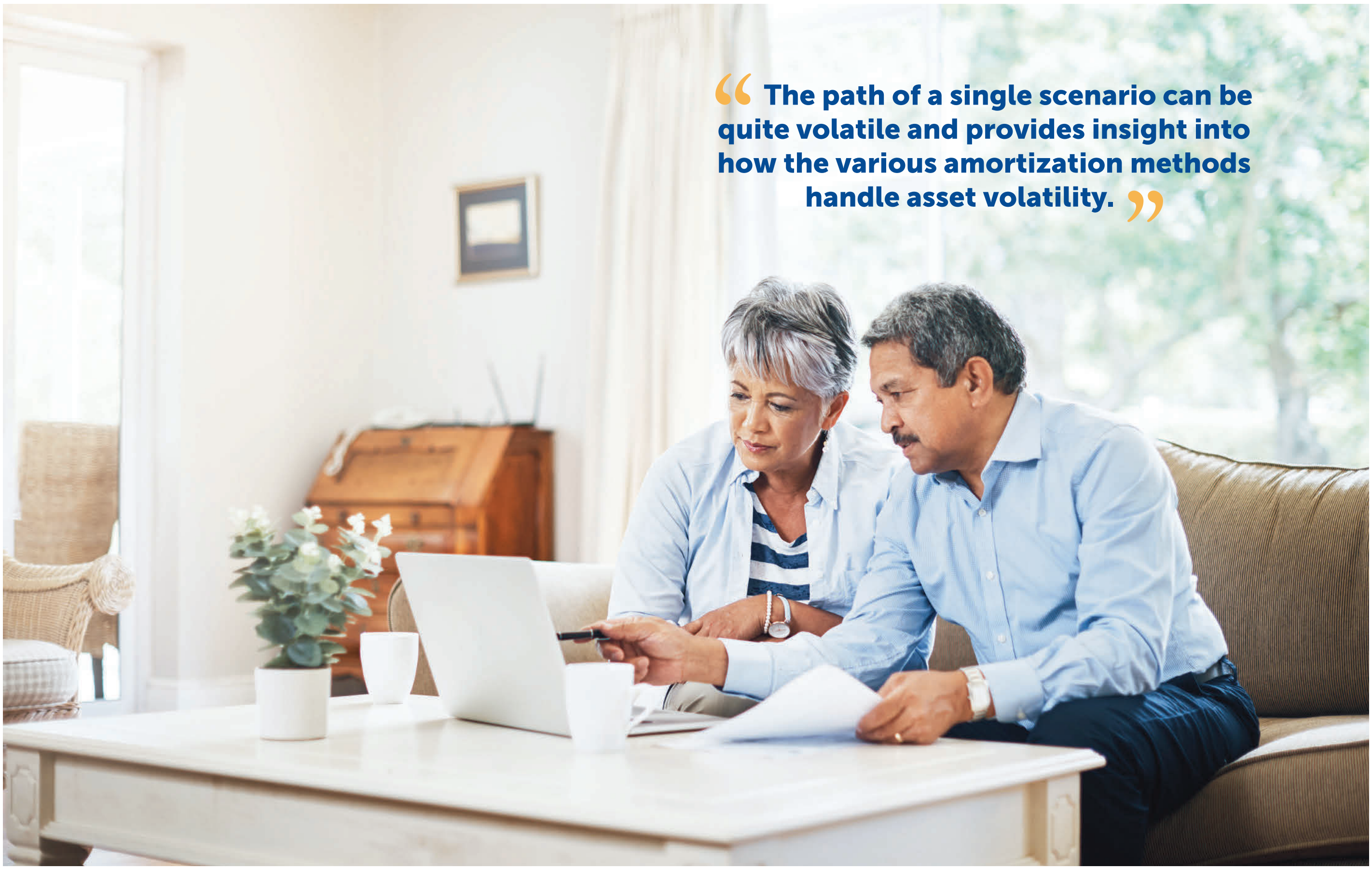



**Figure 10:** Contribution Rates (501st scenario)

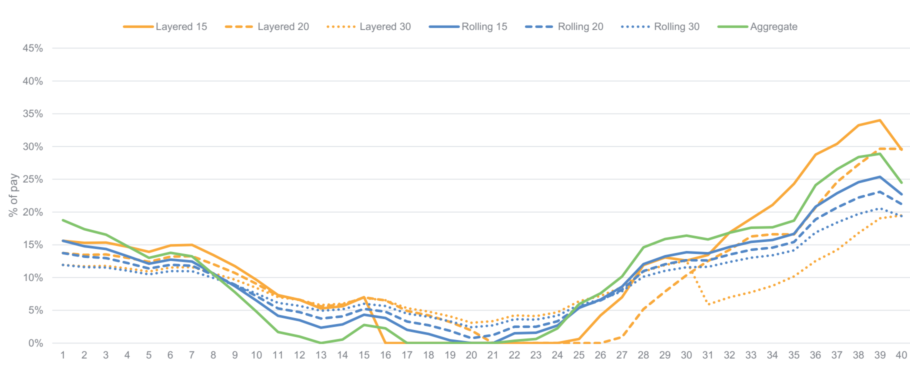
| 501st Scenario | Layered 15 | Layered 20 | Layered 30 | Aggregate | Rolling 15 | Rolling 20 | Rolling 30 |
|---|---|---|---|---|---|---|---|
| Average | 12.0% | 11.5% | 11.0% | 10.6% | 10.0% | 9.9% | 10.4% |
| Year 40 funded status | 180% | 151% | 119% | 141% | 117% | 107% | 99% |
| Largest 1-year increase | 4.9% | 4.0% | 3.0% | 5.4% | 4.2% | 3.5% | 2.9% |
| Largest 5-year increase | 19% | 15% | 12% | 19% | 15% | 13% | 11% |

**Figure 11:** Funded Status (499th scenario)






## Figure 12: Employer Contributions (499th scenario)




## Figure 13: Contribution Rates (499th scenario)

| 499th Scenario | Layered 15 | Layered 20 | Layered 30 | Aggregate | Rolling 15 | Rolling 20 | Rolling 30 |
|---|---|---|---|---|---|---|---|
| Average | 11.8% | 10.3% | 9.0% | 10.8% | 10.1% | 9.8% | 9.5% |
| Year 40 funded status | 75% | 66% | 59% | 74% | 68% | 64% | 60% |
| Largest 1-year increase | 4.9% | 4.3% | 2.6% | 5.4% | 4.1% | 3.4% | 2.7% |
| Largest 5-year increase | 15% | 13% | 10% | 14% | 11% | 9% | 7% |

There is not as much differentiation in employer contributions in the graphs to the left, compared to the median scenario studied. Consistent with the median scenario, contributions under rolling methods move together, and are generally less volatile, while contributions under layered methods are more volatile.

### *Volatility in employer contributions*

Because volatility in employer contributions can be a particular area of concern for some employers, we highlighted the employer contributions for all three scenarios. We first compare Layered-15 to Rolling-15 in Figure 14.

Under layered methods, as time passes, each individual layer gets shorter, and therefore the effective amortization period for a layered amortization will tend to be lower than a rolling amortization with the same “length.” For this reason, it might make more sense to compare Layered-20 to Rolling-15, as shown in Figure 15.

**Figure 14:** Employer Contributions – Layered-15 and Rolling-15

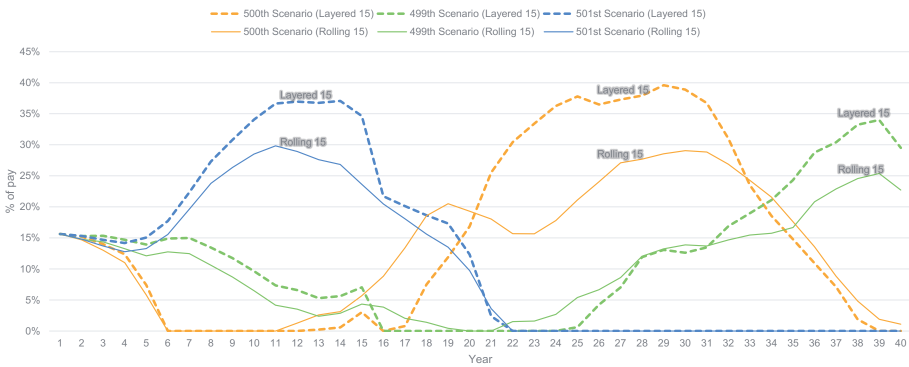
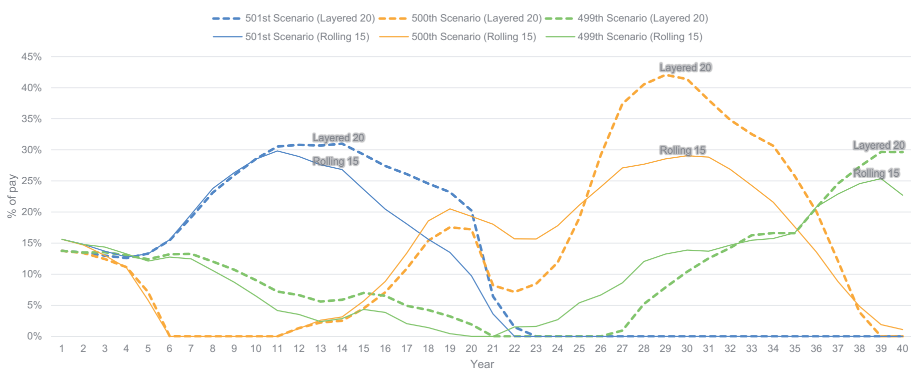



**Figure 15:** Employer Contributions – Layered-20 and Rolling-15




Employer contributions when using layered methods are more volatile, with higher peaks under all three scenarios shown.

## Summary

In this article we examined how the various amortization methodologies react to the volatility inherent in investment markets, with a focus on the path of single scenarios. The path of a single scenario can be quite volatile and provides insight into how the various amortization methods handle asset volatility.

Under all three scenarios shown, the average return effectively met assumptions. However, the order of investment returns had a significant impact on the funded percentage and especially the employer contributions during the 40-year projection horizon.

Under a single scenario, the various amortization methods led to funded statuses that moved similarly over time, but the employer contribution rates show striking differences between methods, particularly in the second half of the projection.

The rolling periods bear a consistent relationship between the contribution rates and funded status, almost mirroring each other. The better the funded status, the lower the contribution rate. Shorter amortization periods are more responsive, while longer amortization periods have less contribution volatility. The relationship between funded status and contribution rates is not so strict with layered amortizations and can be counterintuitive, given the nature of layered amortization methods on contributions. Rolling methods, in contrast, respond to market events as expected and have lower levels of volatility in employer contributions.

While this article outlines some of the limitations of layered amortization methods, future articles will examine alternative funding policies that incorporate its advantages while partially mitigating some of the contribution volatility.

Although there are limitations to layered amortization methods, rolling amortization methods also present concerns. In many situations, plans with rolling amortization methods are more likely to have a "depletion date" under Governmental Accounting Standards Board (GASB) Statements No. 67 and 68. When a rolling amortization is used with a target of 100% funding, the net pension liability is never fully paid if assumptions are precisely met. Whereas, under a layered methodology, 100% funding will eventually be achieved, if all assumptions are precisely met. While we know that assumptions will never be precisely met, there can be negative consequences to having a depletion date under GASB 67/68.

The most appropriate amortization method for a plan will be based on the needs of the stakeholders.

## Appendix: Key methods, provisions, and assumptions

### PROJECTIONS

**Assets:** Assets are valued based on their fair value, with a five-year smoothing of all fair value gains and losses, except where noted. The expected return is determined for each year based on the beginning-of-year fair value and actual cash flows during the year. Any difference between the expected fair value return and the actual fair value return is recognized evenly over a period of five years.

Initial asset values are such that the funded status of the plan at the beginning of the projection period is 79%.

**Investment earnings:** Stochastic projections over the 40-year period were generated using a normal distribution, a 7.00% geometric average annual return, and a standard deviation of 12.00%. The equivalent average arithmetic return is 7.72%.

We generated 1,000 scenarios. The median annualized compound return over the 40-year period is 6.93%. The mean annualized compound return over the 40-year period is 7.00%.

**Actuarial cost method:** Liabilities are valued using the entry age actuarial cost method.

**Data:** The population is made up of 50% active members, 15% terminated vested members, and 35% retired and in-pay members. Within each status group, males and females are equally weighted by count.

The population is not assumed to grow or decline. Future members are assumed to have the same ages at entry and distribution by sex of the present members that they replace.

**Plan provisions:** Normal retirement benefits are equal to 2% of the highest consecutive three years of pay per year of service, up to 30 years. Normal retirement benefits are payable at age 65. Upon retirement, benefits increase annually at 2%.

Early retirement benefits and optional forms of benefits are actuarially equivalent to the normal form of payment.

### YEAR-OVER-YEAR RETURNS

We highlighted several scenarios. We ordered the scenarios from lowest to highest based on the annualized compound return over the 40-year period and defined the "median" as the 500th scenario. We then highlighted the two scenarios closest to this median scenario (the 499th and 501st scenarios). The returns by year under these scenarios are in the tables below.

*500th (median) Scenario Returns*

Mean return: 7.78%
Annualized compound return: 6.93%

| Year | Return | Year | Return | Year | Return | Year | Return |
|---|---|---|---|---|---|---|---|
| 1 | 12.65% | 11 | 1.04% | 21 | 2.09% | 31 | 22.49% |
| 2 | 15.98% | 12 | 8.51% | 22 | -19.38% | 32 | 18.76% |
| 3 | 10.23% | 13 | 3.47% | 23 | 15.82% | 33 | 7.19% |
| 4 | 42.06% | 14 | -4.91% | 24 | -4.38% | 34 | 20.98% |
| 5 | 31.45% | 15 | -0.81% | 25 | -1.44% | 35 | 11.14% |
| 6 | -8.53% | 16 | -18.65% | 26 | -6.82% | 36 | 26.34% |
| 7 | -7.40% | 17 | 1.00% | 27 | 13.31% | 37 | 6.95% |
| 8 | -2.44% | 18 | 45.60% | 28 | 5.91% | 38 | 2.41% |
| 9 | 15.19% | 19 | 18.84% | 29 | -1.84% | 39 | 1.47% |
| 10 | 5.16% | 20 | -1.37% | 30 | 11.54% | 40 | 11.39% |

*499th Scenario Returns*

Mean return: 7.57%
Annualized compound return: 6.93%

| Year | Return | Year | Return | Year | Return | Year | Return |
|---|---|---|---|---|---|---|---|
| 1 | 11.47% | 11 | 11.16% | 21 | 11.84% | 31 | -16.72% |
| 2 | 1.78% | 12 | 17.32% | 22 | 14.62% | 32 | 8.16% |
| 3 | 17.92% | 13 | -2.77% | 23 | -7.07% | 33 | 18.47% |
| 4 | 5.74% | 14 | 1.44% | 24 | -4.34% | 34 | -13.34% |
| 5 | -11.62% | 15 | 17.76% | 25 | 15.30% | 35 | -14.36% |
| 6 | 29.11% | 16 | 20.17% | 26 | -0.06% | 36 | 7.01% |
| 7 | 14.67% | 17 | 3.20% | 27 | -1.85% | 37 | 9.29% |
| 8 | 14.95% | 18 | 3.64% | 28 | 14.52% | 38 | 29.11% |
| 9 | 8.00% | 19 | 7.61% | 29 | -2.23% | 39 | 26.08% |
| 10 | -2.36% | 20 | -0.51% | 30 | 26.88% | 40 | 12.79% |

*501st Scenario Returns*

Mean return: 7.49%
Annualized compound return: 6.93%

| Year | Return | Year | Return | Year | Return | Year | Return |
|---|---|---|---|---|---|---|---|
| 1 | 11.29% | 11 | 22.43% | 21 | 7.93% | 31 | -3.32% |
| 2 | 10.37% | 12 | 10.82% | 22 | -5.10% | 32 | -4.87% |
| 3 | 5.68% | 13 | 10.51% | 23 | 14.66% | 33 | 9.35% |
| 4 | -8.59% | 14 | 21.32% | 24 | 19.16% | 34 | 6.21% |
| 5 | -12.06% | 15 | 4.33% | 25 | 11.76% | 35 | 16.21% |
| 6 | -15.20% | 16 | 11.44% | 26 | 9.62% | 36 | -3.03% |
| 7 | 7.61% | 17 | 11.77% | 27 | 7.02% | 37 | 0.46% |
| 8 | 24.50% | 18 | 7.33% | 28 | 14.07% | 38 | 9.36% |
| 9 | -17.34% | 19 | 36.46% | 29 | -0.19% | 39 | 7.92% |
| 10 | 2.87% | 20 | 21.74% | 30 | 10.58% | 40 | 4.33% |

## VALUATION ASSUMPTIONS

*Contributions*

**Member contributions:** Employee contributions are 6% of pay annually, regardless of the funded status of the plan.

**Employer contributions:** Service cost plus amortization of Net Pension Liability (NPL) minus employee contributions, but not less than zero. Note that for the aggregate actuarial cost method, the service cost is defined under that actuarial cost method, and there is no component for the amortization of the NPL.

*Demographic assumptions*

**Mortality:** PubG-2010 general amount-weighted mortality rates projected with MP-2019.

**Termination:** Service-based rates starting at 20% in the first year of service and grading to 1.5% at 22 or more years of service.

**Retirement:** Rates vary by age and service based on retirement eligibility up to 100% at ages 70 or older.

**Disability:** Age-based rates starting at 0% and grading to 0.1% at retirement eligibility.

**Discount rate:** Based on a 7.0% annual investment return.

**Projected payroll increases:** Total plan payroll increases by 3.0% per year. Individual members receive increases due to promotion and longevity.

## EDITOR'S NOTE:

The first in this series, *Public Pension Plan Funding Policy: Effectiveness of Amortization Methods Under Deterministic Projections,* can be found on page 39 of the Spring 2022 issue of SACRS Magazine.

[1] *As an example of how common benefit improvements are when funded statuses are high, we look back to the last time that funded statuses were as high as 120%, just before the dot-com bust of 2000-2002. Consider findings of a survey conducted by the Wisconsin Legislative Council, the "2002 Comparative Study of Major Public Retirement Systems." The report compared significant features of major state and local public employee retirement systems in the United States. The report considered retirement benefits provided to general employees and teachers. According to the survey, 30 of 85*

*plans increased their benefit multipliers between 2000 and 2002. In addition, 32 of the 85 plans studied increased their benefit multipliers between 1996 and 2000 (some appeared both times).*

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