NATIONAL CONFERENCE ON PUBLIC EMPLOYEE RETIREE SYSTEMS [NCPERS] – 75th ANNIVERSARY ANNUAL CONFERENCE / EXHIBITS - MAY 15-19, 2016

PREPARED FOR REAOC AND AEROC BOARDS

BY LOU SCARPINO

With nationwide resources from all 50 states plus territories, and industry professionals and practitioners spanning the public retirement systems and investment communities, the intrinsic value of REAOC and CRCEA membership in NCPERS was readily apparent. In fact, continued and potentially increased involvement by the REAOC and AEROC boards appears justified in order to provide greater protection and service to our constituency.

This last statement may appear bold at first reading. However, given the content, resources and contacts available and made, and that will be highlighted herein, I suspect the reader will come to the same or similar conclusion.

In attending this conference I had three goals in mind. Specifically: 1) Assess the value of NCPERS to REAOC / AEROC as well as CRCEA going forward - complete with an assessment of organizational resources and contacts that NCPERS brings to the table; 2) Get a firmer handle on how wide spread and valid a consensus exists that fund revenues will be down for a number of years - as well as the existence and viability of mitigating alternatives; and 3) Get a more concrete handle on the political status and clout of NCPERS. I'll be touching on these throughout the report.

As expected, the conference program was broad based, extensive and heavily detailed in nature. This report, will forgo most detail in favor of first familiarizing the reader with NCPERS, its operations, policies and positions, and second providing the major takeaways, resources and contacts made that should prove useful to REAOC and AEROC in the future. Further, the discussion will center on the following six major categories:

1. **NCPERS Conference and Structure**
2. **Program Drivers, Policies and Operating Environment**
3. **Legal and Legislative**
4. **Costs & Pension Reform**
5. **Investment Performance Analysis**
6. **Investment Strategy Options**

This report is intended to inform and educate the reader, not pitch specific recommendations. For that reason, no executive summary is provided, so with apologies up front for the length, enjoy the read. This is not to say that there are not a number of new opportunities for follow-up activities that could potentially further our work. That, however, should be the subject of further discussion.

1. NCPERS CONFERENCE and STRUCTURE:

Since my attendance was our REAOC Boards' first coverage of this conference as well as first chance to get a better inside look at NCPERS, an overview of the Annual Conference and NCPERS structure is in order.

The Conference format used works exceptionally well. General Session topics of interest were run each day from 8 to 11 AM, followed by a half hour break to allow time to interact with exhibitors on site, as well as refresh. The next two time slots consisted of two sets of concurrent three to four Break-Out sessions that allowed pursuit of specific interests and education track opportunities. Specialized topics as well as the election of the executive board and closing business meetings were held later in the afternoon in recognition of the limited audience for those sessions.

NCPERS makes use of a sixteen member Executive Board representing State Employees and seven specific classifications consisting of Fire, Education, Protective, County Employees, Local Employees, Police and Canadian. A new Executive Board was elected at the conference by delegates from each state and territory. Officers were then chosen by the new Executive Board. A closing business meeting was held late afternoon on the final day of the conference. The Executive Board itself is supported by eight Advisors and NCPERS Staff including Hank Kim, the Executive Director and Counsel, and Dr. Michael Kahn, Director of Research.

Exhibitors consisted of forty-nine firms from the legal, financial, health and other insurance, investing, investing analytics, real estate investing and technology sectors. Of course, firms and participants were free to enhance their networking and pitch their products through evening events they sponsored, as well as at the closing dinner event. While I made clear that I did not have a say on fund investments, I was nevertheless invited to dinner along with NCPERS Executive Director Hank Kim, Alan Marin (who advises OCERS and other systems), and three fund managers. This provided an excellent opportunity to get a sense of how this process works as well as obtain some valuable information that will be discussed later in this report.

Over 800 participants attended including some retirees and many others that sit on plan boards, plan administrators, chief investment officers, and a range of specialty and support plan and financial and legal industry personnel. The median age looked to be about 40 to 45. The general perspective can be said to be very supportive of defined benefit plans, but not wedded to specific DB plan system parameters in place to the same degree we see with predominantly retiree member groups. Our own Gerard Miller had a prominent role on several General Session presentations and also moderated a closed-door Chief Investment Officer and Internal Investment Staff Forum aimed at strengthening the network of investment professionals within NCPERS on an ongoing basis.

Three categories of Memberships in NCPERS are "Fund", "Corporate", and "Corporate Pension Education and Research Supporter" (CorPERS). This third group, previously unknown to me, were nevertheless, quite visible at the conference with identification badges and an exclusive CorPERS lounge. At $10,000 per year, CorPERS membership is

designed to enhance a corporate member's visibility by increasing involvement in NCPERS and furthering the education and research mission. Of the eight perks listed, preferred status for CorPERS Member presentation and article proposals, as well as education webinar proposals are noteworthy.

2. PROGRAM DRIVERS, POLICIES and OPERATING ENVIRONMENT

Thirteen NCPERS Resolutions are in place and serve as an anchor and driver for the organizations ongoing program activities as well as, to some extent, their conference programs. These are worth summarizing briefly as follows:

RESO. 1:

- Support retirement benefits composed of a DB plan, an add-on DC plan, retiree healthcare benefits, and life insurance coverage to ensure retiree standard of living;
- Take the lead in fighting to protect and ensure the retirement and health benefits of retirees and in-service employees through education of its membership and education of elected government officials;
- Offer member fund group life insurance and group long-term care insurance to help fulfill the retirement needs of public employees.

RESO. 2:

- Support sound actuarial valuations practices for valuing public pension funds;
- Oppose using financial economics or market valuation of liabilities for public pensions.

RESO. 3:

- Reaffirm its opposition to all present efforts to require mandatory Social Security coverage of non-covered state and local government employees;
- Publically oppose all attempts on the part of the US Congress or federal administrative agencies to mandate Social Security coverage for all state and local government employees.

RESO. 4:

- Go on record in opposition of establishment of private retirement within the Social Security System;
- Publically support continuation and stabilization of the Social Security system and reaffirm support to improve the financial security of the Social Security system without the establishment of private retirement accounts.

RESO. 5:

- Endeavor to support DB systems for all workers.

RESO. 6:

- Call on sponsors to make their ARCS;
- Work with plans and plan sponsors during this economic crisis to ensure that public plans are well funded and will continue to thrive well into the future.

RESO. 7:

- Work to introduce and enact legislation to establish Secure Choice Pensions (SCPs) for the Private sector;
- DB based, the (SCP) proposed design is envisioned to provide retirement security to private sector workers using a public private partnership model.

RESO. 8:

- Support only those efforts whereby a DC plan is an optional additional supplement to a DC plan;
- Strongly oppose efforts to use DC plans as replacements for DB plans for any reason and further oppose DC plans that erode DB plan trust fund assets through conversion;
- Continue efforts toward strengthening DB plans, adequate and timely funding, maintenance and improvement of benefit levels, and support of DC plans where used as a supplement to DB plans.

RESO. 9:

- Encourage member funds to exercise their proxy voting in a manner that is consistent with fiduciary responsibility, including the welfare of all Americans affected by corporate performance.

RESO. 10:

- Member funds and their participants urge their members of Congress to approve corrective legislation to eliminate undue tax regulation and application of ERISA principles that threaten constitutionally protected pension rights;
- Affirm its support for the right of state and local governments to self-determination in the design and administration of their retirement systems;
- Encourage all public plans to make available, to their participants, information on their benefit and investment portfolios on a regular basis.

RESO. 11:

- Support additional improvements to the healthcare system that encompass the principles of health coverage for all citizens, cost containment, quality-of-care improvements, equitable financing, and simplified administration;
- Work with the National Coalition on Health Care and other organizations to achieve these principles through legislation;
- Support Medicare, that has successfully provided health care to millions of seniors for more than 50 years, to remain fundamentally unchanged.

RESO. 12:

- Support allowing retirees and employees near retirement to roll over assets form a governmental plan, such as 401(a), 403(b), 457 plans, into qualified medical trust or voluntary employees' beneficiary associations for the sole purpose of purchasing health care in retirement.

RESO. 13:

- Publically thank all attendees, sponsors, speakers and exhibitors for their role in making this year's Annual Conference and Exhibition a success.

NCPERS Code of Conduct – Update by Hank Kim

In 2015 NCPERS issued a 10 Point "Code of Conduct" (Code) with the goal to have DB Pension Plan service providers sign on to commit to all 10 points (Attachment 1) Hank Kim provided both a basic outline and status of signatories that now number in excess of 50 organizations. The driving purpose of the Code is to provide a tool to public plans to help identify conflicts of interest between Public DB plan Boards and their service providers, and in the process, strengthen commitment to DB Plan use.

While the first eight points of the Code, that draws heavily from the CFA Institute's Code of Ethics and Standards of Professional Conduct, address norms for a fiduciary, it is the 9th and 10th points that are key. These are designed to ferret out service providers that do business with DB Plan Boards and then use some of the proceeds earned to fund opponents' efforts against public plans. Hank pointed out that, NCPERs' acknowledges that reforms are necessary to ensure sustainable plans for another 150 years. But they also recognize that in some instances where plans are clearly sustainable and viable, opponents are still pushing reforms – too often unreasonable. Therefore, Point 9 requires signatories to the Code of Conduct to Not Advocate for diminishment of public DB plans. Point 10 requires disclosure of all contributions made to entities that advocate for diminishing public DB plans including all entities listed in "Schedule A" of the Code (Attachment 2) Hank provided the inaugural list of 49 signatories and two that could not sign due to contractual issues with clients.

Schedule A entities are those identified by NCPERS' members as holistically, as an enterprise, anti DB plan advocates. These include various foundations, think tanks and non-profits that publish and / or actively advocate against DB plans to policy-making bodies and the public. Schedule A groups have all gone beyond normal critiquing and even include groups identified as progressive. The criteria for getting on the list includes such things as:

- Advocates for the unsustainability of DB Plans
- Advocates for DC plans to replace DB plans
- Advocates for poorly designed DC plans
- Links poor school performance evaluations to its DB Plan

Finally, it is recognized that there is value in understanding that Code of Conduct signatories may have non-pension related relations with one or more Schedule A groups. The code only requires that donations be identified and categorized accordingly.

The Annual update process relies on members for input using the Code of Conduct submission form for Staff to vet for submittal to the NCPERS Executive Board for approval.

For fund members that believe protecting DB plans is a part of their fiduciary responsibility, NCPERS asks that they reach out to service providers to hopefully endorse the Code of Conduct. Hank will be happy to give a presentation. More information is available at www.ncpers.org/conduct .

TODAY'S ENVIRONMENT AFFECTING POLICY:

Hank Kim reported that, in this 75th anniversary year of NCPERS:

- 40 states now participate Social Security;
- Defined Benefit payments have been paid out to teachers of NY City (the NCPERS President's client) for 99 years, yet we are still fighting to protect pension systems that have existed for over 150 years;
- The Secure Choice Pension proposal for the private sector is being looked at by 12 states;
- Are engaged in trying to ensure that service providers are not taking our money and giving it to pension opposition groups;
- Are squaring off against foes at every turn by responding consistently and taking on foundations and think tanks that are creating intellectually dishonest and biased works;
- Are stewards for over many Trillions of dollars;
- Would like to see all public funds use their influence and proxy votes in companies to fight back;
- NCPERS Education Fund is active (e.g. $100,000 Cesar Chavez award, to help build confidence, competence and future);
- NCPERS Encourages members to take time to share stories and move public pensions forward.

Robert A. Wylie provided a presentation on *Flexible Defined Benefit Designs for Next Generation of Public Employees,* with a focus on the South Dakota Retirement System. Notably, the system has remained well funded with a statutory determined contribution rate that does not get adjusted. Good governance, an independent investment board, and statutory requirement to adjust benefits if certain thresholds are exceeded, all are part of the success of this system. This last point was one that caused me concern.

Gerard Miller – OCERS, Chaired a panel with Alan Martin, NEPC and Scott Simon, Colorado Fire & Police Assoc. Plan, entitled: *Investment Governance – A Family Discussion.*

Salient points noted:

- Size matters. For example, Orange County does not move markets but rather uses what is available;
- Good Governance is critical - deciding who makes decisions and developing and documenting processes to do so are key;
- **We are in a 2% most probable return environment. (This theme was repeated in a number of presentations).** This environment implies more diversification and addition of non-traditional asset classes, associated increased complexity including, for example, more use of emerging markets. Along with this comes the need for more managers and more oversight as highly volatile markets may demand more frequent timely actions regarding manager hiring, funding, defunding, terminating, etc.;
- One size does not fit all. Successful investment programs can include outsourcing. While a great tool, internal staff can also be great and cost effective. Staff provides

a lot of opportunity if you have a governance structure to take advantage of them;

- Must also have a strong philosophy regarding the long-term goals of the program and long-term behavior of capital markets. This requires a stable supportive governing board, knowledgeable fiduciaries, alignment of responsibilities with capabilities, - fortitude to withstand short term bumps in the investment performance of funds, confidence to appropriately delegate matters to staff and the ability to design reporting systems for oversight;
- Estimated value added by good governance is 100 - 300 bps;
- Staff Management of the fund managers is key. If the plan board chooses fund Managers and goes around staff, won't work;
- Most boards focus solely on goals and investment strategy. But you need a well educated / briefed board, staff, consultants, legal and actuarial professionals in the mix. And new board members need history indoctrination and training, so education events are important, not beauty presentations from fund mangers;
- Goals and objectives must be strategic and aligned;
- Must be clear role delineation, accountability, staff resources continuity and appropriate use of external resources including generalists and specialty consultants;
- Must question what we are getting for expense, not just the expense. Hedge funds have not proven to live up to their stated purpose. (This theme was echoed in other presentations as well as known and hidden cost burdens in these and other investment types).
- Use investment managers to educate and not just make "beauty presentations". Include in your RFP's the few ways to qualify and the many ways not to qualify, so you get substantive down to earth proposals;

Pension Obligation Bonds - do have a window of opportunity when their use makes sense. Essentially, this is in the trough period of a cycle when bond proceeds can be invested in the stock market and earn more than they pay – that is, without facing stock prices even or lower than purchase price in inevitable subsequent economic recessions – i.e. a positive arbitrage. Of course, this involves some amount of market timing and stock vetting, so is not for the uninitiated or faint of heart.

3. LEGAL AND LEGISLATIVE

Legal:

Alternative Investments: - There is a general consensus that alternative investments need to be used going forward in order to attract higher returns. While hedge funds are looked upon as less favorable, they too are still in use, but will probably be used less as more performance information becomes apparent. From a legal perspective, alternate investments especially pose legal risks that go well beyond equity and bond investment vehicles, especially when the investor is a limited partner. Equity and bond investments are protected by federal and state laws. Alternate investments, especially through limited partnerships, do not back plan boards as they are tied to contracts and not backed by government. Too late many LLC partner investors learn that they have given LLC partner

management all their fiduciary responsibilities. Accordingly, investor plan boards must include in any LLC agreement terms for an LLC manager to be responsible for honoring the plan board's fiduciary responsibility, and disclosure requirements that are in securities law - or even greater.

U.S. Supreme Court: The passing of Justice Scalia and absence of his conservative voice on the court, as we know, is now a major political football. In addition, 3 to 4 more vacancies will likely occur in the next presidential administration. The Supreme Court has had a strong interest in security cases and stability for investors – thereby supporting investor rights. Justice Scalia authored a decision that was not opposed to investor rights but more opposed to class action suits that made it more difficult to pursue class action suits.

Shareholder Appraisal Actions - allows shareholders to go to court to contest valuation of shares. This type of action is aimed at protecting against management buy-outs, take overs, etc. Grounded in state corporate law, the action does not accuse fraud or wrong doing, it just contests the fair value of shares. It pits your evaluation experts against the company's. The risk in this action is that the fair value could be less than the acquisition price offer. Also, getting a contingency deal for counsel is difficult unless the amounts involved are high.

Breach of Fiduciary Duties - is a kind of action. Court looks to see if a value falls within a range of fairness. Plaintiff alleging an $11 per share value would lose with $9.10 offer if the range of fairness is $9 to $11 per share. Also, money could be tied up for years, but the interest is mandated by statute. While contingency deals are more readily available, this form of litigation has a spotty track record, and shareholder could lose money.

International Actions – by nature are more complicated and come with so many moving parts that contingency deals are problematic. Litigation funders have emerged to take on these kinds of cases. These entities pay hourly rates and losses, but also take 30% to 40% on average and as high as 60% of the proceeds in particularly risky cases. Boards involved in this kind of action need to be certain that their Litigation funder entity knows and abides by internal discipline and procedures that fully outline the players, environment and issues involved.

Fee Shifting – is an issue that has developed over time and is sometimes controlled by contract or bylaw provisions. The Delaware Supreme Court ruled that the Board of Directors could fee shift. There is a legislative fix proposed that thus far has been stopped by lobby efforts. Currently, the Governor wants to hear from investors. Fee shifting provisions for alternate investments will likely require federal legislation.

SEC Concern for Transparency and Accountability – NCPERS believes their voice has been heard and helped prompt the SEC into action. More to come on this topic.

Federal Regulatory Updates – noted efforts to push such things as a Unity Accumulation Plan and Accumulation Retirement Plan. While only briefly outlined, these plans do not appear viable, would be proposed to crowd out or replace DB plans, and are opposed by NCPERS. Annuity plans and plans allowing only employer contributions were also discussed. In general, none appeared palatable.

GASB Update – While an excellent historical update presentation, nothing that we are not already aware of was offered.

Proposed New 113 of Bankruptcy Code – by the Manhattan Institute, would allow states to petition bankruptcy courts to override existing law so that pension benefits could be cut. It is not surprising to see this development form this group, and NCPERS and all other pension security advocates will have to work to ensure their proposal does not get traction.

Legislation:

Windfall Elimination Provision (WEP) - law since 1983, House Ways and Means Chair Kevin Brady has introduced HR 711 (Republican-Tx) that would repeal this provision. This bill will be added to the REAOC 2016 Legislative Tracking Report.

Other Federal Legislation and Regulatory Changes – A number of regulatory and pending IRS rulings were discussed, none of which I could identify as relating to REAOC concerns. What is of concern is attacks in proposed legislation that cast such things as a discount rate of 7.5% rate, for example, as unreasonable and therefore, presumably, unusable.

4. COSTS AND PENSION REFORM

Costs:

At the Monday breakfast I met Alan Torrance, Principle at CEM Benchmarking - a firm that audits both plan administration costs and plan fund fees and other costs. After some questioning about the effectiveness of recent pushes for cost transparency, Alan noted that their audits routinely find "thousands" of cost line items not readily apparent. He linked me up with several articles on the subject that I found confirm his general assertion. Alan is scheduled to conduct an OCERS fund audit in the near future.

Follow-up on this topic should net some significant opportunity for reform that REAOC, CRCEA and NCPERS may want to help champion. Of course, the extent that NCPERS can take the lead and be effective, given its close relationship with investment firms, is an obvious topic for discussion.

Reform:

Brad Heinrichs – who is an Actuary, presented and opined on the limited opportunity for pension reform by breaking down the areas in a typical public DB plan that can be impacted. He asked that if you have to undergo reform, how can it be approached?

Brad noted that the well know pension formula: Benefits + Expense = Contribution + Investment Revenue (B + E = C + I) is a good starting place. Cost drivers include actuarial assumptions – that can change annual costs but not actual costs, administrative expense, timing, demographics, entry rules etc. Since I know the REAOC board generally

understands cost drivers in the pension system let me skip to the general thesis espoused.

Specifically, Brad used an example of an average system structure from his clients. After drilling down to just those elements that are susceptible to change, he proposed that the savings magnitude each possible change would produce should be considered.
In addition to crunching the numbers, Brad opined that plans considering reform should:

1. Work to eliminate inequities – for example joint and survivor benefit married couples in some systems receive higher value at no additional cost to individual unmarried retirees. This should not be free.

2. Stay true to career employees through decisions such as extending vesting periods, removing early retirement subsidies, and making sure disability benefits are not too rich so as not to incentivize disability cases.

3. Be sympathetic to those closest to Retirement. If pension reform, allow for higher contributions to keep current benefits

4. Be clever - projections can be your friend and can be used to get positive headlines.

Health Care – Over Age 65 Costs (Basics) – Presenter: Troy Simmons, Nationwide Insurance

Troy did an excellent job detailing the cost components of out of pocket costs, including premiums, that 65 and older individuals will spend over their remaining life. Again, since most of the medicate cost structure is known to REAOC Board members, suffice it to say that it was credibly demonstrated that life time costs easily add up to between $259,000 and $398,000 in today's dollars. In the first year baby boomers started retiring, healthcare costs in the U.S. reached $1.5 trillion. A serious burden exists for plans on the hook for paying these costs. Likewise, efforts to reduce OPEB or actual pension amounts paid out would increase the burden on individual retirees without vested health support from their retirement plans or employer.

For our members it is worth noting that Medicare Part B has been increased for 2016 to $121.80 or up $17.00 per month from the 2015 rate of $104.80.

Economic Volatility: Hidden Societal Costs of Prevailing Approaches to Pension Reform - Michael Kahn, PhD, NCPERS, Director of Research, Presenter, and Contributor to this study.

Author's Note: Dr. Michael Kahn sat next to me at the closing Wednesday night dinner. We ended up having a lively and very informative discussion on the national and local economics of pensions and implications for national policy. With a solid background in academia and economics and his position of NCPERS Research Director, Dr. Kahn is well positioned to help define and market parameters that influence the current raging pension debate. Our

discussion included more detail on the Economic Volatility study that will be discussed below, my thoughts on Alan Greenspan's heavy weighting of savings as critical to GDP growth component (DB pensions funds being a major part of those savings); and potential study concepts that could influence national policy toward DB plan use expansion, (Some of which I previously sent to Diane Oakley of NIRS and pension economist Dr. Teresa Ghilarducci – both colleagues of Dr. Kahn). After about an hour of discussion, Dr. Kahn asked if I would be interested in joining his advisory board as well as attend events such as one the Dr. Ghilarducci will be playing a prominent role. I told him I would be happy to consider this, and would take it up with my boards.

Moving to the study itself, this new Economic Volatility study is next in the ongoing series of NCPERS works that focused last year on individual impacts. It was born from the reality that little solid research has been done on the adverse societal and associated economic consequences of shifting to DC Plan's and dismantling public pensions. The study does not provide hard modeling information going forward to show the U.S. economy projected in future time increments with and without DB plans, but it does provide valuable historic and cohesive information and conclusions that gets at the negatives look forward models would be expected to show.

Using historical data, this study examines the calculated volatility increases since 1980 for the national level in three major areas:

- Economic Volatility - as measured by changes to the median income
- Financial Volatility – as measured by changes in S&P returns
- Revenue Volatility – as measured by changes in revenues.

At the national level, the study found that for each 1% shift of the workforce to DC plans:

- Economic volatility rises by 2%
- Financial volatility rises by 8%
- Revenue volatility rises by 54%

At the state level, the study examined the relationship between negative pension changes, such as cuts in benefits and increases in employee contributions, and conversion of DP plans to DC plans. The study found that for each negative pension change a state makes:

- Economic volatility in that state increase by 10.5%, and;
- Revenue volatility in that state increases by 65.1%.

These findings were tested and found to hold true even when controlling for other variables that may impact economic or revenue volatility.

In addition to the demonstrated volatility increase findings, this study concludes that that undermining DB plans increases volatility specifically:

1. By undermining financial economic stability provided by pension funds during economic and financial downturns. Put another way, when others run from the stock market, pension funds are long term investors that do not run;
2. By undermining the economic cushion that pension checks provide to local

economies during economic downturns;

3. By increasing the probability of an irrational rise in asset prices driven by inexperienced investors' mistakes. This in turn creates bubbles that burst causing ripple effect harm to all;
4. By increasing the exposure of inexperience investors to the economics of manipulation and deception. While market forces tend to balance and more reputable resources may ultimately get employed, there is no guarantee, and the risk of substantial long-term damage to individual retirement savings is high;
5. For a variety of reasons, income inequality is exacerbated.

In addition to the above, a major finding of the study is that the move of some 36 million workers away from DB plans has resulted in $7 trillion of DB and DC plan savings combined. This is half of the $14 trillion projected if the conversion to DC plans had not taken place. While not covered in the study, given the demonstrated importance of savings to GDP growth, this $7 trillion amount of lower savings is ripe area for research. The dominant question is, what growth impact would the revolving continuous investment of an additional $7 trillion of savings in the US economy have.

5. INVESTMENT PERFORMANCE ANALYSIS

Five investment risk measurements are major components of modern portfolio theory. These were constantly referenced by investment and investor professionals in numerous presentations throughout the conference. The measures are intended to better assess risk for given investments used to chase after returns. At the risk of being redundant for those familiar with these measures, and for the benefit of those not familiar, below is a brief outline of their purpose.

1. Alpha: Simply stated, Alpha is often considered to represent the value that a portfolio manager adds or subtracts from a fund portfolio return. A 1% positive or negative alpha indicates the investment has over or underperformed its index comparison by 1%. Therefore, the higher positive the Alpha, the better;

2. Beta (Beta Coefficient): Measures volatility or system risk in comparison to the market as a whole. A Beta of 1.0 indicates the investment's price will move in lock step with the market. A Beta of less than 1.0 means the investment's price will be less volatile than the market and more than 1.0, more volatile. Conservative investors looking to preserve capital want low Beta investments. Investors willing to take on more risk in search of higher returns should look for high Beta investments.

3. R-Squared: This is a statistical measurement that represents the percentage of a fund portfolio that can be explained by movements in a benchmark index. The index for fixed-income securities is the U.S. Treasury Bill. The index for equities and equity funds is the S&P 500. R-Squared values range from 0 to 100. Values between 85 and 100 correlates closely to the index. A 70 or less value would not perform like the index. Accordingly, an actively managed mutual fund with a high R-Squared ratio might be considered a "closet" index fund. Put another way, why

pay management fees when you get the same results from a lower cost index fund.

4. Standard Deviation: Measures the dispersion of data from its mean. Essentially, the more the data is spread apart, the higher the difference is from the norm. In finance, Standard Deviation it is applied to the annual rate of return or an investment to measure its volatility (risk). A volatile stock would have a high Standard Deviation. With Mutual funds, the Standard deviation tells how much the return on a fund is deviating from the expected returns based on its historical performance.

5. Sharp Ratio: This measure tells investors whether an investment's returns are due to smart investment decisions or the result of excess risk. It is very useful to determine investments that produce returns with or without excessive risk. The greater the Sharp Ratio, the better its risk adjusted performance. The actual ratio is derived by: subtracting the risk-free rate of return (the U.S. Treasury Bond rate) from the investment rate of return, and then dividing the investment's Standard Deviation.

***PENSION OBLIGATION BONDS*:** Hank Kim – Moderator; Greg Smith, Colorado Public Employees Retirement Association (COPERA;) Jim Link, PFM (POB consultant); Gerard Miller, CIO, OCERS

Pension Obligation Bonds, touched on earlier, were the subject of a panel discussion that provided a frank discussion of the many complex issues involved. While each participant provided somewhat differing perspectives on the issues, the following salient points came out of the discussion.

- POBs are issued for the arbitrage value that, in today's investment environment requires use of alternative – potentially more risky investments.
- Issuing POBs replaces a soft liability with a hard liability (but it is only soft liability if, for example, members are willing to take a 20% haircut if a fund remains 80% funded);
- POBs cannot be ignored as they are a liability that must go on the balance sheet;
- POBs must be issued on a taxable basis;
- Financial advisors pitch that arbitrage will always be earned, but the business cycle will not allow for fixed rates, so if fund at the wrong time or in the wrong way, the overall plan liability will increase. Various mistakes to be avoided were discussed.
- Arbitrage modeling projections need to take into account that the average bear market lasts only so long, so actual arbitrage earnings will be around 80% to 85% of top market.
- Issuing POBs, then not paying the ARC, is a formula for disaster. Accordingly, bond issues should borrow from the private sector practice by including covenants to require or otherwise incentivize the ARC to be paid. Sample language will be distributed to CIO's. Essentially, the language proposed would make not paying the ARC a technical default that then gets reported to the national registry that then hurts next time a legislature goes to market. Therefore, there is no dictate, just a

price tag issue wherein the cost of capital gets raised.

- Timing of the market cycle – namely, issue POB's during the trough period of economic down turns just before the upturn starts (tough call at best);
- Multiple POB issuances can mitigate risk, but won't know the final outcome until the final bond is paid off;
- For the retirement plan, getting a lump sum POB contribution must be coordinated as a plan does not want to be on the hook to credit revenue not being earned. Planning, modeling, and ongoing assessment and communication with all players is critical to success.
- If pay the UAAL using POB's to become 100% funded, you run the risk of opening the door to benefit increase political pressures and for calls not to pay the ARC.
- At the end of the day, use of POBs are the employer's choice.

Gerard Miller opined that Orange County as thus far taken a hatchet approach with respect to using POB's, and thrown the baby out with the bath water. He concluded that POB's are viable when put in place at the right time and in the right way. As his job and inclination is to get a close to being fully funded as soon as possible, he has begun the modeling process to get context. The intent is to help answer question like what is going to happen if you bond your way out with respect to employer contributions and funding levels. It's a tough sell so complete information is essential.

Gerard also asked the question - what is difference between re-amortizing vs. the county going out and selling new bonds. He did not opine further on this, but I can only surmise that he was speaking about the debt service on a POB being roughly comparable to increased costs associated with a re-amortization. Of course, this would seem to ignore the positive effect of arbitrage earning.

On the question of what a plan should do with bond proceeds, the strategy each speaker would employ was different. Greg stated he would put proceeds in a 75 / 25 portfolio using the 25 as a hedge. Gerard responded that since it would be all new money he would propose dealing with it differently. While it would be the subject of intense internal discussions, modeling and education, one possibility would be to establish a special pension fund reserve invested differently. The reserve, might, for example, be used as a secondary source to pay annual obligations under specified circumstances. In short, the question is complex with multiple answers.

The overarching take-away from this discussion was voiced by Gerard. Specifically, it is not always clear that issuing POBs constitutes a fix, but the use of POBs is inherently not as evil as some think, and their use requires fundamental discipline. He sees only a few plans that would use POBs at this time and advises that they work many months in advance, start with modeling, begin discussions early and make sure all players / decision makers stay totally informed. In short, this is a very good strategic planning topic.

Why Global Diversification Matters Now – Moderator: John Niemiee, Fairfax County Prof. Firefighters & Paramedics, Speakers: Mary Bowers, HSBC Global Assets Management; Tendai Musikavanhu, One Stone Capital

This session made a strong argument that changes in the worldwide investment landscape requires significant restructuring of investment firm staffing and management to better take advantage of those changes. Failure to do so incurs significant opportunity costs in unrealized revenue. The key premise is that the U.S. investment industry and investors tends to utilize existing structures that are pre-disposed to stick with what the know. As a result, the opportunity cost from unrealized revenue is high. Some of the major study findings:

1. Greater Diversification produces benefits to asset allocation and revenue.
2. World changes should impact investment decisions include population distribution. But, for example, while European countries are considered a major investment target, the world's top 10 populations are not in European countries.
3. U.S. investors need to diversify staff & asset managers who will be able to tap into the unfamiliar, reduce asset management concentration through diversity, and increase revenues. Diverse Fund manager structures produce higher funding ratios – 15% due to Gender diversity, and 35% due to Ethnic diversity.
4. 6% per year lost performance by not investing in emerging markets is the estimated opportunity cost;
5. The U.S. focus results in missing 40% global high yield market.

I asked the question about how the lack of rule of law and stable institutions impacts the diversification thesis – especially in emerging markets. The basic answer from the participants was that vetting is key, but you first have to have managers and staff that are comfortable getting into the non-traditional diversified investment landscape. Vetting then takes the form of recognizing and dealing with the culture as misrepresentations come in many forms. In the U.S., a suit wearing professional takes you to lunch. In Africa, you meet with a player with an AK 47 slung over his shoulder. Vetting needs to be disciplined and cognizant of the fact that things can go wrong. Ultimately, it comes down to the difference between reality and perception, but that is where people make money. JP Morgan enticed people into investing - and made money.

In the vetting process, knowing the population and politics is critical. For example, Isis has not attacked Brazil. In fact, they are only attacking certain countries investors should stay clear of. One purpose of their attacks is to destabilize countries' economies – but they generally are not successful. While investing in terrorist hatching grounds is ruled out, it is important to note that many come up with reasons not to invest in Asia, Korea, etc., but taking this approach is counterproductive.

Perspectives of Market Return – Moderator: Peter Carozza, Jr., Uniformed Professional Fire Fighters Association of Connecticut. Speakers: Dinah Koehler, UBS Asset Management; Richard Yasenchak, INTECH.

This session presented study data that can best be summed up by the closing statement:

"The Revolutionary Idea That Defines the Boundary Between Modern Times and the Past is THE MASTERY OF RISK"

(Recall the 5 Volatility Risk Measures)

In support of this, data was produced that showed the increasing number of fund drawdowns (aka losses) and the component breakdowns. The data shows that Low Volatility Strategies, for example, produced a 23% drawdown compared to a 29% drawdown for strictly Managed fund strategies. In addition, the recovery time is different – with some strategies taking much longer to recover. And, compounding losses over a shorter recovery time vs. a longer time is a significant and powerful component

The importance of managing risk is critical. Absolute-risk strategies are out there and go by many different names. Their one common shared goal is to provide investors exposure to equity markets and their potential – but with lower levels of risk. Note that the Global Financial Crisis resulted in a 51% drawdown that took 3 years to regain back to the 105% level. Absolute-risk strategies provided a lower than market risk profile though time.

Dinah Koehler provided insights on factors to better ensure sustainability in investing. She pointed out that company financials, certainly, need to be examined when investing. However, in this modern age, Environmental, Social and Government (ESG) factors, can be as critical as financial statements.

Typically, companies can deal directly and effectively with government regulators, tangible assets, etc. However, now they must be concerned with their brand image when dealing with environmental and social issues. They must also take care to ensure that their governance structure and philosophy does not alienate customers. The ESG factors have proven a vulnerability for companies and therefore needs to be included in the vetting of them as a sustainable investment. Unfortunately, if a company sows the seeds to alienate their customer base, the result will ultimately show up in the market results, and not in historical company financials.

6. INVESTMENT STRATEGY OPTIONS

All Aboard the Alts Train: Allocating to Alternatives in a Low Return World - Moderator: Pat McElligott, NCPERS. Speakers: Tony Gould, J.P. Morgan; Jennifer Pedigo, TIAA-CREF

Tony Gould set the stage for this discussion by noting that there is something wrong – engine trouble if you will, with the drivers of GDP growth. Funds projected at say 7.25% now are at 6.25%. All over the world GDP growth is proving elusive and assumptions are proving wrong along demographic lines and others. Funding is lower, asset values down, liabilities are up, benefits are up, longevity is up, expectations are hardening, more contributions are needed but too hard a sell to rely on. Investment revenues are now paying (or expected to pay) 70% or so of the total retirement pie, so how can we reasonably expect to get more.

Today's return planned expectations average 7.7%, but the general expectation is that this

will come down. So against all of this, Tony poses 7 ideas to help get on the Right Track and minimize the expected earnings rate drop.

1. Leverage to gain additional asset exposure and at the same time reduce risk;
2. Allocate to alternatives that employ leverage - such as private equity (i.e. Typically has some leverage built in);
3. Direct investments in illiquid assets;
4. Invest opportunistically;
5. Invest with active managers - working in scale can uncover more hidden investments;
6. Increase alternative beta exposure (i.e. risk) - add return streams with low correlations to traditional market factors.
7. Add tactical overlay - systematic beta and less overlays.

Jennifer Pedigo advises to "Find a Station". By this she means define the types of investments Real Estate (core, value added, opportunistic), Private Equity (equity, securities, debt in companies not publically traded) and Real Assets (farmland, energy, agriculture, agribusiness, energy and infrastructure). Especially look for overlap synergies when picking investments.

Dropping her train analogy (that did not work well for me), Jennifer next advised to identify the key entities to be involved in your investing strategy (investment funds, investment advisors, management companies, Limited Partners and General Partners). Next comes decisions to invest directly in operating companies, invest in a co-investment often minority capacity, invest in a Closed-End Master or Feeder Fund, or Open-End Fund that is a collective investment vehicle which can issue and redeem shares at any time.

Fund raising and fund closing timelines involve marketing, term negotiation, initial and subsequent closing activities that can span a year plus total. Investment and Distribution timelines typically involve four to six years. Portfolio investments can be single or multi strategy. The bottom line is that pension funds need to realize more returns, as more contributions are difficult to get. Alternative investments can do that with the right portfolio construction and management.

A question was raised regarding the roles of private equity vs. venture capital. In the response, it was noted that private equity (PE) market is 25 times larger than the public equity market This led the responder to offer the conclusion that: "therefore", use of investment managers becomes critical (– though the obvious linkage of these two points eludes me). A follow-up point made was that appreciation happened while Google, Apple & Facebook were non-public private entities. So investing while they were private paid off big for initial investors. Finally, one potential of investing in private companies is the possibility of more control and therefore, potentially less risk.

Finally, the point was made that the market is being forced to change to better deal with transparency. Open Ended Real Estate (RE) funds have investors serve in advisory groups. Sometimes brokers, who have a lot of clients in investment in a company, need to be involved in the company to see what is happening.

The concluding point was that investing in alternatives is all about relationships – aligning with managers, asking good insightful questions to get behind the numbers. This approach can produce home runs

Charting the Future of Public Plan Investments: A Conversation with Plan Investment Officers – Moderator: Mark Anson, Common Fund, Panelist's: Eric Baggesen, CalPERS; Stephen Sexauer, San Diego County Employees Retirement System.

Eric Baggesen started this discussion by noting that world governments have issued $8 trillion of debt that now trades at negative interest rates. There are indications that actual debt may be closer to $22 trillion. As there are always winners and losers in any policy, the obvious question is who does this hurt. Pensions and other individual savings obviously fall into the hurt category due to lack of interest earnings.

While this panel got into a lot of technical detail, from my perspective, and I frankly missed part of it due to a bad sound system that did not reach my seat (I figured it out and moved after a while), some points I did catch and worth reporting came through loud and clear (pun intended).

- Too much money is chasing any alternative to get return simply because targets are not being met;
- 12,000 firms are advising or selling investments, and make a lot of money for themselves, not necessarily for the client as returns are not consistently generated;
- Hedge funds had equity risk like overall portfolios and therefore did not perform as advertised. CalPERS did not get the diversification needed;
- The hedge market proved not to be scalable enough and came with baggage of private equity (i.e. contracts and high costs) without offsetting advantage;
- The National Securities Improvement Act has forced adaption to complications, but has not cured all problems;
- Sophisticated processes for cash flow is used by some plans where they must sell something to buy something (I tried that on my wife, she mentioned divorce…);

<u>The Hidden Cost of Indexing</u> – Presenters: Greg Behar, Indexing Manager; and Shawn Murphy both of Legal and General Investment Management America

I met both Shawn and Greg at the dinner I was invited to on Monday night of the conference. Greg and I spoke in detail of the hidden fees issues and he noted he and Shawn would be covering it in their presentation the following day. In our discussion I explored the extent to which their company was sensing that the piling on of costs was potentially killing the golden goose - since less return increases liability and feeds DB opponents' arguments. There was at least a tacit recognition of this possibility, and may be part of the rationale for their focus on Hidden Costs. That said, highlight points made during the presentations follow in no particular order.

- Legal and General Investment Management America is the 11th largest global asset manager;
- There are, in fact, hidden costs of Indexing;
- 35% of Emerging Market investments are in index funds;
- Advice offered is to go for the lowest management fee, but recognize these fees are not all costs. Hidden fees are equal if not more significant;
- Indexing is all about getting the lowest management fee;
- In asset allocation, design matters. Data on their study sample showed active management resulted in lower returns over 18 years = 22% and $2.2 billion;
- Quality buys make a difference;
- When getting involved in index funds compare managers, fees and structures, as structures incorporate fees differently;
- Disclosure of fees is an expensive issue and disclosure requirement changes still need to be made even though Dodd Frank law requires more disclosure on cost. (This message was consistent from Shawn, Greg and Alan Torrence, the fund auditor I noted earlier);
- Fees are levied for Trustees, Fund Accounting, Fund Custodian, Legal, Audit, Index Licensing Fee and others. They are different for each provider and there is a myriad of costs within each.
- To get to an actual expense ratio, a myriad of questions must be asked. Questions should include explorations of expense ratio for each fund invested in, how expense is determined, any expense cap and how applied, expenses that fall outside any cap, expenses that fall within the fund but outside the expense cap, expenses that are charged direct to the client, expenses charged to the fund internally, and how often costs changes vary year to year. Get full lists and answers.

Equity Investment Strategies – Moderator: Patricia Reily, Teachers' Retirement System of the City of New York. Speakers: Doug Foreman, Kayne Anderson Rudnick; George Mathews, Analytic Investors

Doug Foreman led off this segment with a presentation on his company's philosophy and process to pick only "Quality" companies' stocks – something he maintains most companies do not do. He notes that the stocks and companies in their portfolio are not necessarily sexy or glitzy, but are solid long-term consistent performers. The Quality portfolio of companies offered after the vetting, have proven much more stable and produce better returns at lower risks by large margins.

This high quality portfolio has lost money only 2 times in 23 years, and both times recovered in only 5 quarters. Money from Wall Street is not needed for his portfolio offerings, and the stocks in the portfolio just rolls on.

My reaction was, sound great, but how does this work? The answer is somewhat old school involving a structured analysis and good old-fashioned shoe leather. Specifically, a candidate company is vetted using criteria in five separate assessment categories developed by and proven over time by Doug's company. The goal, and actual track record, is to retain the company in the portfolio for 10 + years without losses and with

solid performance. The assessment looks like this:

1. Management Excellence – Management must have developed and adhere to core competencies and disciplined capital allocation;
2. Income Statement – Must demonstrate durable earnings growth and high return on capital;
3. Cash Flow Statement – Must have a high free / self-financing cash flow;
4. Balance Sheet Statement – Must have a low capital intensity and low debt balance sheet;
5. Market Control – Ability to develop, nurture its market and must have effective competitive differentiation.

Companies involved in one of five "high quality business models" are sought after for this portfolio. These models are:

- Brand Franchise – e.g. WD-40, Huggies, Apple, etc.;
- High Customer Switching Cost – e.g. like the major ATM software supplier and other companies not generally known to the public;
- Network Effect – e.g. Visa;
- Scale Cost Advantage – e.g. Amazon, Costco, T-J-Maxx;
- Route Density – e.g. WM-Waste Management.

This "Quality Portfolio" vetting protocol is both intuitive and the first investment approach I heard, that did not appear to have an element of Vegas style betting (a point Doug Foreman readily agreed to and amplified upon in my one-on-one with him after the presentation). The approaches value was enhanced in my estimation when the two investment company members on the panel were asked about their company's experience with company turnover within their respective portfolios. As opposed to a nearly 50% turnover, the Quality Portfolio had very minor turnover often keeping companies in the roster 10 + years and adding new names at a very slow pace. Given costs of change to investors and losses implied from some discarded companies, this element represents a potential gain. Further, the high quality portfolio boasts that quality and credit go hand in hand. Put another way, when prices decline, poor quality stocks go way down. Quality Portfolio stocks go down less and come back faster - similar to real estate.

The next speaker on this panel demonstrated that, due to compounding, a major goal must be to limit losses. This is done, by reducing risk. And, contrary to conventional wisdom, increased risk does not consistently produce increased revenue. So there are two reasons to utilize a low risk strategy. Said in reverse, by not losing money, you end up with a larger base for compounding.

Finally, suffice it to say that a variety of other points were made, by this panel and others, that reducing risk volatility is important.

Why and How to Invest In Real Estate – Peter Palandjian, Intercontinental; Christopher Macke, American Reality Advisors

Peter and Christopher are competitors that run real estate investment funds. They provided insights on the current real estate market and the structure and analysis they go through that is critical to their success. In the process, they discussed various funding approaches, including developing closed and open-ended funds. Money raised is most often raised to leverage bank or other institutional money. Both companies operate on the premise of investing in core, value added, and, to a lesser degree, opportunistic investments. Both also prefer markets that can be entered and exited relatively easily preferably quarterly - as opposed to a 12-year marriage. Some additional points made:

- The major advantage of an open end funding approach is that it allows taking advantage of cycle change opportunities with respect to inflation and deflation;
- While typically both companies prefer primary markets like Orange County due to its ease of getting in and out, they recognize that the short supply does make secondary markets, like the adjacent Inland Empire (IE), attractive. However, sectors become important. So, when multi-family (apartments) becomes too expensive in OC but affordable in the IE, those IE investments become attractive;
- New factors are in play. Transportation issues, and the millennial group's tendency toward unconventional choices now have to be taken into account. When many work at home, more three bedroom apartments need to be in the mix;
- Less office and retail space (due to working at home and on line buying) is needed.

We are advised to follow a disciplined protocol when investing in RE.

1. Ask what you want RE to do;
2. Next look at your expectations on what the economy is going to do going forward. Will it be increasingly aggressive or deflationary;
3. Assess what you believe the economy is going to do going forward. Will it increase aggressively or go into deflationary mode;
4. And especially important, dig into details of existing funds allocations in sectors, primary or secondary markets, fund status, project status etc. If don't know fund positioning, you won't know how to react.

Two final points on the current market. First, RE has outperformed equities by only a small margin 2011 to 2015. In that same time period, "Core" RE has returned between 10.6% and 14.5% against an expectation of 8% to 10%, with the 2014 and 2015 returns being 13.2% and 13.7% respectively. This trend makes it difficult to justify taking on additional risk by taking on value added or opportunistic RE investments that risk dragging down the overall RE portfolio return.

ATTACHMENT 1

NATIONAL CONFERENCE ON PUBLIC EMPLOYEE RETIREMENT SYSTEMS

CODE OF CONDUCT FOR PUBLIC PENSION SERVICE PROVIDERS

Companies, firms, and other entities that provide services and products to public sector pension plans must:

1. Act in a professional and ethical manner at all times in dealings with public plan clients.
2. Act for the benefit of public plan clients.
3. Act with independence and objectivity.
4. Fully disclose to public plan clients conflicts of interest that arise that may impair the ability to act independently or objectively.
5. Act with reasonable care, skill, competence, and diligence when engaging in professional activities.
6. Communicate with public plan clients in a timely and accurate manner.
7. Uphold the applicable law, rules, and regulations governing your sector and profession.
8. Fully disclose to public plan clients all fees charged for the products or services provided to said client.
9. Not advocate for the diminishment of public defined benefit plans.
10. Fully disclose all contributions made to entities enumerated in Schedule A that advocate for the diminishment of public defined benefit plans.

CERTIFICATION OF SERVICE PROVIDER
The undersigned acknowledges receipt of the NCPERS Code of Conduct for Public Pension Service Providers and certifies that it agrees to abide by the provisions of the Code.

Signed: _____

Print Name: _____

Print Title: _____

Print Company: _____

Date: _____