State of California
Public Employee Post-Retirement Benefits Commission

California Public Pensions
at the Turn of the 21st Century

April 26, 2007

Paul Angelo, FSA, FCA, MAAA, EA
The Segal Company
San Francisco

4013021

SEGAL

Outline

- Funding retiree benefits
  - Elements of cost
  - Pensions vs OPEB (Retiree Medical)
- The Public Pension environment
  - The DB vs DC debate
  - Financial Economics
  - California's public pension systems
- Recent history in California
  - The Turn of the Century (TOC) market spike
  - Surplus and related funding policies
  - Pension inequities and the new benefit levels
  - Collective bargaining environment
- Issues now under discussion
  - Funding policies
  - Benefit adoption procedures
  - Future benefit levels

Funding retiree benefits

C + I = B + E

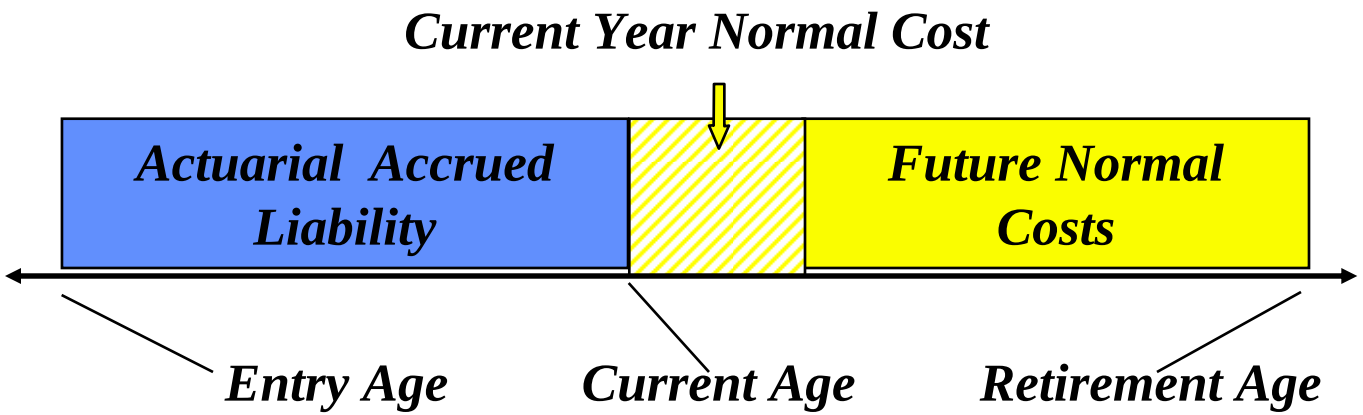
Contributions plus **Investment income** equals **Benefit payments** plus **Expenses**

- Long-term, “C” is the actual long-term cost, and is determined by actual investment income and actual benefits and expenses.
- Short-term, “C” is the current contribution requirement, based on:
  - An expected long-term cost, using assumed earnings, benefits and expenses
  - Funding policies that determine how much of that expected long term cost should be paid this year
- The “No Free Lunch” rule: actuarial assumptions and methods affect the timing of when the long-term cost gets paid.

- Note: throughout this section, the same terminology is used for both cash funding requirements and for GASB expensing requirements.

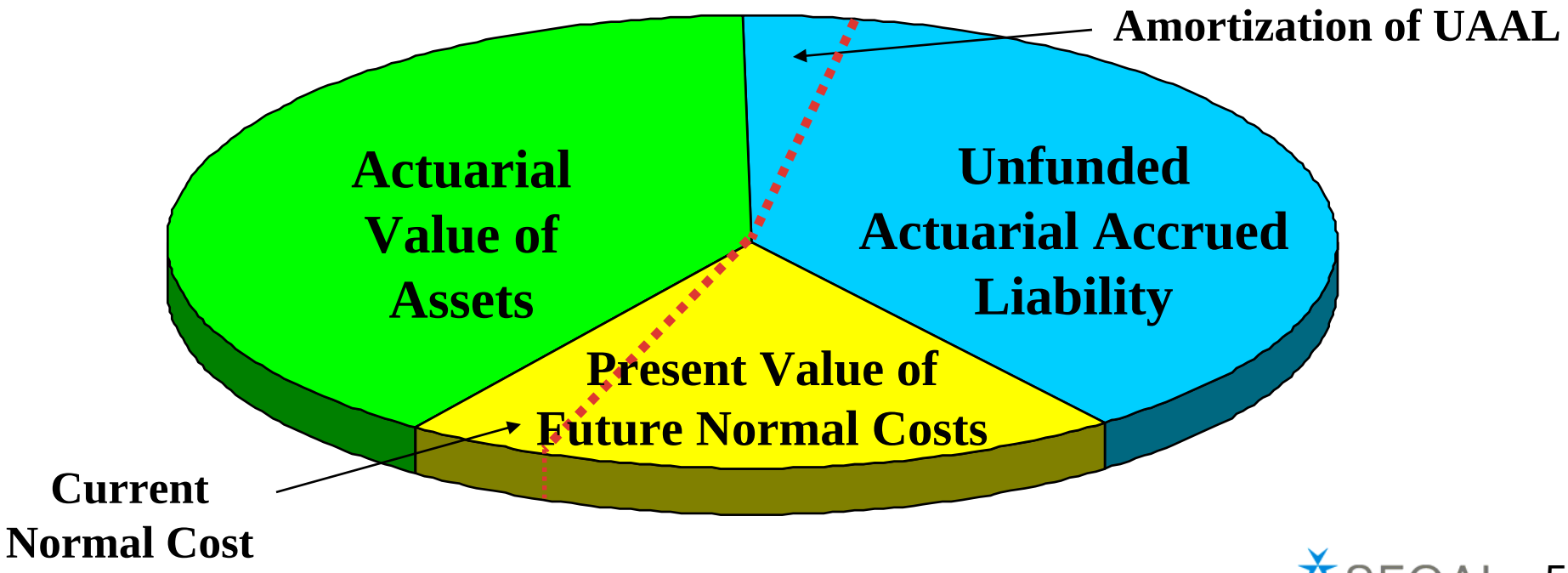
Funding retiree benefits – Elements of cost

- The **Normal Cost** is the portion of the long term cost allocated to a year of service.
  - Not the same as the benefits paid during the year (pay-as-you-go)
  - Surprisingly, also not the same as the value of the benefit earned during the year
  - Generally determined to produce a level pattern of cost over the member's career
- The **Actuarial Accrued Liability** (**AAL**) measures the Normal Costs from past years.
  - How much would be in the fund today if in the past:
    - The current plan, membership, assumptions and methods were always in place
    - Contributions were always equal to the full Normal Cost
    - All of our assumptions always came true
  - Note that the **AAL** includes the full present value of benefits for all retirees and inactives.
  - For actives, the **AAL** is <u>not</u> the same as the value of accrued benefits.



Funding retiree benefits – Elements of cost

- We compare the **AAL** (the "what if" assets) to the actual assets.
  - Asset value is based on market but "smoothed" to reduce short term volatility.
- The **Unfunded Actuarial Accrued Liability** (**UAAL**) is the excess of the **AAL** over the Assets.
  - The current contribution is the **Normal Cost** plus a charge to fund or "amortize" the **UAAL.**
- If Assets exceed the AAL, the difference is the **Surplus.**
  - The current contribution is the **Normal Cost** minus a credit to amortize the **Surplus.**



Funding retiree benefits – Elements of cost

- The UAAL tells how much future contributions will have to exceed the Normal Cost.
- The Surplus tells how much future contributions can be less than the Normal Cost.
- Either way, the amortization period is critical to determine the effect of the UAAL/Surplus on the current contribution.
  - For plans with a UAAL, longer amortization means lower current cost, but also a longer time before the contribution reverts down to just the Normal Cost.
  - For plans with a Surplus, shorter amortization means lower current cost, but also a shorter time before the contribution reverts back up to the full Normal Cost.

Funding retiree benefits – Pensions vs OPEB (Retiree Medical)

- Generally, Pensions and OPEB plans are at opposite ends of the progression from an unfunded plan to a fully funded plan.
- For most OPEB plans, the prefunding / expensing process is just starting.
  - Funding policies and assumptions are being set for the first time.
  - Basic funded status information is not consistently available. Normal Costs and AALs are being calculated for the first time, and AALs are mostly unfunded.
  - There are many open issues including funding vehicles, benefit design, etc., with very little historical practice for guidance.
- For Pension plans, the funding process is well established.
  - Funding policies and assumptions are in place, and are reviewed regularly.
  - Basic funded status information is available, including historical and current Normal Costs, AALs and Assets, and AALs are relatively well funded.
  - There is a great amount of policy guidance to be gained from historical practice.
- As challenging as underfunding may be, overfunding also raises critical policy issues.
  - Understanding the current state of our pension systems involves understanding how they reacted to the Surpluses from the 1990s.

The Public Pension Environment – The DB – DC Debate

- Our task is to convert taxpayer dollars into retirement security for those who spend their lives in service to the taxpayers.
- Remember **C + I = B + E**
- Pensions vs Individual Accounts
  - Pension systems obtain higher Investment Income.
    - During accumulation period: institutional vs individual asset management
    - During payout period: continued active management vs annuitization
  - Pension systems incur lower expenses
- Pension systems have benefit delivery advantages.
  - Investment volatility is better managed by institutions than by individuals.
  - Longevity risk is easily managed, without annuitization.
  - Pensions allow for better retirement planning.
- Other macroeconomic advantages
  - Investment capital
  - Multiplier effect
- Pension plans are a more efficient engine for turning taxpayer dollars into retirement security.
  - Key: unlike corporate plans, public plans and sponsors are permanent.

The Public Pension Environment – Financial Economics

- Corporate pension plan liabilities model a termination scenario.
  - Value only the "accrued benefit" with frozen service and compensation
    - IRS funding rules based on "Current Liability" since 1987 and on "Target Liability" from the Pension Protection Act of 2006
    - FASB accounting rules incorporate an "Accumulated Benefit Obligation" since 1987
  - Both use market fixed income rates so investment cash flows match benefit payments.
- Financial economics argues that all plans should measure liabilities on this type of basis.
  - Accrued benefits only instead of ongoing Actuarial Accrued Liability
  - Fixed income discount rates instead of expected return on assets
- Current debate within the actuarial field: should public plans measure their liabilities according to financial economics?
  - Again, public plans are distinguished from corporate plans by their permanence.
  - Why measure a termination liability for plans that are not going to be terminated?
    - For many public plan benefits, the "accrued benefit" is not even defined.

The Public Pension Environment – California's Public Pension Systems

- CalPERS is largest ($200 + billion) and serves two different roles:
  - Mandated retirement system for most state employees
  - Also serves as retirement system for local "agencies" who elect to join, including counties, cities and special districts
  - Agencies choose from specified benefit alternatives
  - Common investments and funding policies
- County systems follow three structures
  - The 20 1937 CERL systems
    - 14 of the 17 largest counties (by population)
    - LACERA by far the largest system ($40 billion)
    - Others range from $8 billion to 0.3 billion
    - Common legal structure and benefit alternatives
    - Investments and funding policies set locally
  - Two independent county systems: San Francisco and San Luis Obispo
  - The remaining 36 counties are CalPERS agencies (Riverside, Santa Clara are the largest)

California's County Retirement Systems (by County population)

1	Los Angeles	1937 CERL	17	Sonoma	1937 CERL
2	Orange	1937 CERL	18	Monterey	CalPERS
3	San Diego	1937 CERL	19	Solano	CalPERS
4	San Bernardino	1937 CERL	20	Santa Barbara	1937 CERL
5	Riverside	CalPERS	21	Tulare	1937 CERL
6	Santa Clara	CalPERS	22	Placer	CalPERS
7	Alameda	1937 CERL	23	San Luis Obispo	Independent
8	Sacramento	1937 CERL	24	Santa Cruz	CalPERS
9	Contra Costa	1937 CERL	25	Marin	1937 CERL
10	Fresno	1937 CERL	26	Merced	1937 CERL
11	Ventura	1937 CERL	27	Butte	CalPERS
12	San Francisco	Independent	28	Yolo	CalPERS
13	Kern	1937 CERL	29	Shasta	CalPERS
14	San Mateo	1937 CERL	30	El Dorado	CalPERS
15	San Joaquin	1937 CERL	31	Imperial	1937 CERL
16	Stanislaus	1937 CERL	38	Mendocino	1937 CERL

The Public Pension Environment – California's Public Pension Systems

- Independent local systems
  - Includes the three LA city systems: Fire & Police ($13 billion), LACERS ($9 billion), Water & Power ($7 billion)
    - Compare to San Diego County ($7 billion), Orange County ($6 billion)
  - Many other cities and districts, including San Diego City, San Jose, Fresno City
- Independent statewide systems
  - CalSTRS ($140 billion)
  - University of California ($40 billion)
    - Compare to Los Angeles County ($40 billion)
- "Prop 162" governance structure is a model for the nation.
  - Funding policies – including actuarial assumptions - are set by independent boards
  - Enforceable demand for contributions

Recent History of California's Public Pension Systems

- The Turn of the Century Market Spike
  - S&P Annual Returns (%):

1994	+ 1.32	2000	- 9.11
1995	+37.58	2001	-11.89
1996	+22.96	2002	-22.10
1997	+33.36	2003	+28.68
1998	+28.58	2004	+10.88
1999	+21.04	2005	+ 4.91

  - By 1998, many systems were in Surplus, with assets greater than funding liabilities.
- Funding policies magnified the impact of the Surpluses on contribution rates.
  - Surpluses were amortized over periods as short as five years.
  - This produced short term contribution reductions to levels below the Normal Cost.
    - CalPERS policies varied, but for many agencies their valuations showed extended contribution holidays (zero contributions).

Recent History of California's Public Pension Systems

- CalPERS discussions of "Pension Inequities" (Public Retirement Journal, July 1999)
  - Except in the most extreme cases, Surpluses provided contribution reductions only for employers.
  - Other issues included mandatory Tier II for new hires, and benefit levels for non-teaching school employees.
  - Led to development of legislation for new benefit levels
    - Mandatory for state employees
    - Optional for local agencies
  - CalPERS encouraged adoption of new benefits by agencies
    - Increases in "smoothed" actuarial value of assets (AVA) only if new benefits were adopted
    - Initial program was through June 30, 2001
      - » Increased AVA from around 90% to 95% of market value
      - » Mandatory for agencies who adopted new benefits

Recent History of California's Public Pension Systems

- CalPERS AVA Program extended in June 2001 (Public Retirement Journal, May/June 2001).
  - Agencies adopting new benefits were given choice of three options for June 2002 valuation:
    - No adjustment to the AVA produced by the usual smoothing method
    - Increase AVA by twice the value of the new benefits, but limited to **100%** of market value
    - Increase AVA by twice the value of the new benefits, but limited to **110%** of market value
- Collective Bargaining Environment
  - Contribution reductions and holidays reduce budget impact of current and proposed benefits.
  - Sample local CalPERS agency situation
    - Under current plan, no contributions for 11 years
    - Under proposed plan, no contributions for 5 years
  - This resulted from short amortization periods for Surplus and from special increases in asset value only when new benefits are adopted.
- With a few exceptions, Surpluses proved temporary.

Issues Now under Discussion

- New Funding Policies: CalPERS Employer Rate Stabilization Policies
  - Extensive stochastic analysis by CalPERS actuaries
    - Asset smoothing extended from 3 years to 15 years
      - "Corridor" widened from +/- 10% to +/- 20%
    - Gains and losses amortization extended to 30 years
    - Minimum contribution of Normal Cost minus 30 year amortization of Surplus
  - The immediate impact was to reduce contributions, mainly because of system was in a "loss" position, so longer amortization of those losses reduced contributions.
    - Note that the system is now in a gain position, so new policy produces higher rates than the old policy would have produced.
  - CalPERS analysis shows that under these new policies there would not have been any substantial reductions in contributions during the TOC market spike.
- Funding policy considerations
  - UAAL amortization versus Surplus amortization
  - Amortization periods for past service increases
  - Use of Surplus to fund past service increases
- One lesson from the TOC market spike is that pension plan cost volatility can be managed.

Issues Now under Discussion

- Benefit adoption procedures
  - Some jurisdictions require popular vote for increases in retirement benefits, but recent history is inconclusive as to whether this is needed to control the benefit adoption process.
    - Some jurisdictions that require a popular vote still adopted new benefits.
    - Some jurisdictions that do not require a popular vote still did not adopt new benefits.
  - What level of information should be made available?
    - Long-term and short-term cost impact
    - Future service increases versus past service increases
    - Closely related to funding policy issues
      - Amortization periods
      - Use of Surplus

Issues Now under Discussion

- Future benefit levels
  - At the local level, we are starting to see new, lower benefit levels for new hires.
    - This Includes some that allow current members to reduce member contributions by electing lower benefits for future service only.
  - Statewide proposals for mandated new hire benefits
    - Lower accrual rates
    - Later retirement ages
    - Requires many new design choices
    - What about jurisdictions that have not changed benefits?
  - Consider an alternative to a single statewide mandated new benefit design
    - New design based on local plan in effect prior to some date
    - Defers to local benefit history and practices
    - Reduces statewide discussion to choosing a date