

APPENDIX R

The Regents' Actuary – Segal

- Pension Plan Funding
- UCRP Funding Policy
- Glossary of Funding Policy Terms
- Role of Investment Performance in UCRP

Pension Plan Funding

I. General Discussion of Pension Plan Funding Policies

A pension plan funding policy is designed to determine how much should be contributed each year in total by the employer and the active members to provide for the secure funding of benefits in a systematic fashion. The funding policy starts with an actuarial cost method that allocates a portion of the total present value of the members' benefits to each year of service. In theory, contributing that "Normal Cost" for each year of service will be sufficient to fund all plan benefits, assuming that all actuarial assumptions are met including the assumed rate of investment return. In that ideal situation, plan assets will always be exactly equal to the value today of all the past Normal Costs (the Actuarial Accrued Liability or AAL), and the current contribution will be only the current Normal Cost.

Segal's glossary of these and other funding policy terms is provided at the end of this section. See Appendix B for the Report glossary.

In practice, for a variety of reasons, the assets will be greater than or less than the AAL, leaving the plan overfunded (i.e., with a surplus) or underfunded (with an Unfunded Actuarial Accrued Liability or UAAL). The funding policy adjusts contributions to reflect any surplus or UAAL in a way that reduces short term, year-by-year volatility, but still assures that future contributions, together with current assets, will be enough to provide all future benefits.

A comprehensive funding policy is made up of three components:

- 1) An **actuarial cost method**, which allocates the total present value of future benefits to each year (Normal Cost) including all past years (AAL).
- 2) An **asset smoothing method**, which reduces the effect of short term market volatility while still tracking the overall movement of the market value of plan assets.
- 3) A **contribution policy**, which determines the total funding policy contribution for each year based on the Normal Cost, the AAL and the smoothed value of assets.

For UCRP, as for many plans, the **actuarial cost method** and **asset smoothing method** are well established and reflect current industry standards. For that reason, recent discussions of funding policy have mainly focused on the **contribution policy** component. With that in mind, the more general term "funding policy" will continue to be used throughout this document.

For governmental or public defined benefit plans, like UCRP, there are no specific external funding or funding policy requirements such as those established for single employer (corporate) and multi-employer (Taft-Hartley) defined benefit pension plans under the Employee Retirement Income Security Act (ERISA) and the Internal Revenue Code (IRC). The accounting standards promulgated by the Governmental Accounting Standards Board (GASB) define an Annual Required Contribution (ARC) that, despite its name, is actually the amount of accounting expense that the employer must recognize each year. Also, the GASB accounting standards provide considerable policy latitude when determining the ARC.

Even though this leaves governmental or public plans relatively free to set funding policy, it is worth noting that all long term funding policy structures – corporate, multi-employer and GASB – take the same form, at least for underfunded plans (plans with a UAAL):

- 1) Contribute the Normal Cost for the year, and
- 2) Contribute an additional amount that will fully fund (“amortize”) any UAAL over a period of years.

Implicit in this form of policy is a *funding target of 100 percent*, since at the end of the amortization period the plan will be fully funded. This is in contrast to “corridor” methods that allow contributions equal to only the Normal Cost as long as the plan is within, for example, 5 percent of being fully funded. The funding policy adopted by The Regents in September 2008 is based on the UAAL amortization method because it is well established for all types of pension plans as it targets 100 percent funding of the AAL and is consistent with the Regents’ prior action in 2006 to establish a target of 100 percent funding.

II. UCRP Funding Policy

As discussed earlier in this report, the “Full Funding Limit” adopted by The Regents in 1990 called for contributions to be suspended when the Plan’s surplus is enough to cover the Plan’s Normal Cost. This funding policy defined the conditions under which contributions would be suspended, but did not provide a framework for restarting contributions.

In March 2006, The Regents adopted a long-term targeted funding level of 100%.

In September 2008, the Regents approved a funding policy for UCRP. The new funding policy is based on the UAAL (Unfunded Actuarial Accrued Liability) amortization method. A funding target of 100 percent is implicit in the UAAL amortization method, since at the end of the amortization period the plan is expected to be fully funded.

The specifics of this funding policy are shown below:

- 1) The new funding policy would be effective with the July 1, 2008 actuarial valuation and would determine total funding policy contributions starting with the Plan Year beginning July 1, 2009.
- 2) Each year the funding policy contributions would be effective for the Plan Year starting one year after the date of the actuarial valuation.
- 3) Each year the Regents would determine both the actual total contributions and the split between Member Contributions and University Contributions based on the total funding policy contributions and various other factors, including the availability of funds, the impact of employee contributions on the competitiveness of UC’s total remuneration package, and collective bargaining. In no event would the University Contributions be lower than the Member Contributions.
- 4) The new funding policy would determine total funding policy contribution rates based on an actuarial valuation of the non-laboratory segment of UCRP (e.g., campuses, medical centers and Hastings College of the Law). The Lawrence Berkeley National Laboratory would contribute on the same basis as determined for the non-laboratory segment of UCRP, subject to the terms of the University’s contract with the Department of Energy. The Lawrence Livermore National Laboratory and Los Alamos National Laboratory Retained Segments in UCRP would be subject to the funding policies outlined in the University’s contracts with the Department of Energy. Throughout this section the term “UCRP” shall refer to the non-laboratory segment of UCRP.

- 5) The total funding policy contributions to UCRP would consist of the Normal Cost plus an amortization charge for any Unfunded Actuarial Accrued Liability (UAAL) or minus an amortization credit for any surplus.
- 6) Consistent with current practice, the Regents' Consulting Actuary would conduct an annual actuarial valuation of UCRP. The Normal Cost and the Actuarial Accrued Liability (AAL) in each actuarial valuation would be determined under the Entry Age Normal Actuarial Cost Method, using actuarial assumptions adopted by the Regents.
- 7) Consistent with current practice, the asset smoothing method used to determine the Actuarial Value of Assets would be based on the Market Value of Assets adjusted for "unrecognized returns" in each of the then last five years. Unrecognized return is the difference between actual and expected returns on a market value basis and is recognized over a five-year period.
- 8) As of the effective date of this policy, any initial surplus as of that date would be amortized as a level dollar amount over a period of three to seven years, as was specified by the Regents in the adoption of this policy. The proposed period is three years.
 - a. Any changes in surplus after the effective date due to actuarial gains and losses (including contribution gains and losses) would be amortized as a level dollar amount over 15 years.
 - b. Any change in surplus due to a change in actuarial assumptions, cost method or asset smoothing method would be amortized as a level dollar amount over 15 years.
 - c. Any change in surplus due to a Plan amendment would be amortized as a level dollar amount over 15 years.
 - d. In the first year after the effective date when UCRP has a UAAL (as opposed to a continuation of the current surplus condition) all amortization bases would be considered fully amortized and contributions would be determined under the remaining provisions of this policy.
- 9) For any future year when UCRP has a UAAL (as opposed to a continuation of the current surplus condition), the calculation of the UAAL would be maintained by source (as listed below) and each new portion of or change in UAAL would be amortized as a level dollar amount over a fixed amortization period.
 - a. Any initial UAAL (after a period of surplus) or change in UAAL due to actuarial gains and losses (including contribution gains and losses) would be amortized over 15 years.
 - b. Any change in UAAL due to a change in actuarial assumptions, cost method or asset smoothing method would be amortized over 15 years.
 - c. Any change in UAAL due to a Plan amendment would be amortized over 15 years, unless the nature of the Plan amendment would suggest a shorter period.
- 10) For any future year in which UCRP has a surplus (other than a continuation of the current surplus condition), such surplus would be amortized as a level dollar amount over 30 years, and all prior UAAL amortization bases would be considered fully amortized.
- 11) This new funding policy would supersede any previous funding policies.

III. Normal Cost

The UCRP funding policy retained the “Entry Age Normal” actuarial cost method for determining the plan’s Normal Cost and Actuarial Accrued Liabilities. This method has been used by UCRP for over 20 years and is the most common actuarial cost method used by public sector pension plans. In the 2009 public fund survey published by the National Association of State Retirement Administrators, about 74% of the large public retirement funds surveyed used the “Entry Age Normal” actuarial cost method in their 2008 valuations.

The Normal Cost should be regarded as a “basic” or minimum cost of the pension plan. As determined in the July 1, 2009 valuation, the Normal Cost was about 17% of pay (assuming beginning of year payment) or \$1.3 billion for the campus and medical center segment of UCRP.

IV. Amortization of UAAL

As noted earlier, for a variety of reasons, the assets will be greater than or less than the AAL, leaving the plan overfunded (surplus) or underfunded (the Unfunded Actuarial Accrued Liability or UAAL).

Setting an amortization policy involves a few choices in addition to selecting the amortization periods. Here is a brief description of the alternatives, followed by the bases for the policy adopted by the Regents in 2008.

- Single amortization layer for the entire UAAL or surplus, or separate amortization layers for each source of UAAL or surplus.
- Closed (fixed) period amortization or open (rolling) period amortization.
- Level dollar or level percent of pay amortization payments.
- For separate amortization layers, when is it appropriate to “restart” the amortization layers.

For any future UAAL, the new policy is to use separate, fixed period amortization layers for each source of UAAL. This has the advantage of tracking separately each new portion of underfunding and identifying a date certain by which each will be funded. This is the structure required by the ERISA/IRC rules for corporate and multiemployer plans, and is increasingly common for public pension plans, especially in California.

For any future surplus the policy uses a single rolling amortization period for the entire surplus. In effect, each year of surplus is treated as the first year and reamortized over the full amortization period. The reasons for this different treatment stem from industry experience over the last several years suggesting that surplus should be used sparingly when producing contribution levels less than Normal Cost.

Level Dollar vs. Level Percent of Pay Amortization

The amortization payments may be patterned in one of two ways, as a level dollar amount or as a level percentage of pay. The ERISA/IRC rules for corporate and multiemployer plans require level dollar amortization, similar to a typical home mortgage. However, by far most public plans use level percent of pay amortization where the payments increase each year in proportion to assumed payroll growth. That means they start lower than the corresponding level dollar payments, but then increase until they are higher.

The level dollar method is more conservative in that it funds the UAAL faster in the early years. For the same reason it also incurs less interest cost over the amortization period. The new policy uses level dollar

amortization. For years when UCRP has a UAAL it provides somewhat earlier funding, consistent with The Regents' generally prudent approach to funding policy issues. Furthermore, for the current surplus condition it provides a somewhat more gradual restart of contributions, since the amortization credit starts out greater than it would be under level percent of pay amortization.

Another advantage of level dollar amortization is that it avoids the possibility of "negative amortization." With level percent of pay amortization the lower early payments can actually be less than interest on the outstanding balance, so that the outstanding balance increases instead of decreases. For typical public plan assumptions, this happens whenever the amortization period is longer than about 17 years. Level dollar amortization precludes the possibility of negative amortization, regardless of the amortization period.

When is it appropriate to "restart" the amortization layers

The new funding policy includes conditions where all the amortization layers are wiped out ("considered fully amortized") and the series is restarted based on the UAAL or surplus at that time. This happens whenever the total UCRP funded status goes from surplus to UAAL, or from UAAL to surplus. This is done to avoid possible anomalies as well as results that might fail to comply with the GASB accounting standards.

In particular, under the layered approach, it is possible for a plan with a UAAL to nevertheless have a net amortization credit in the current year. While that result is actuarially consistent it is also very counterintuitive, since a UAAL would seem to require a net amortization charge. In fact, for that very reason this result would fail to meet a GASB requirement that a plan with a UAAL must have a net amortization charge. Both those drawbacks can be readily avoided by the policy of treating each "new" UAAL or surplus condition as the beginning of a new series of amortization layers.

Amortization Policy: Selection of Amortization Periods

Currently, UAAL amortization periods for public plans typically range from 15 to 30 years, with 30 years being the maximum allowable period under the GASB accounting standards. The amortization period should not be set so short that it creates too much volatility in the contributions yet it should not be so long that it contributes a shift of cost to future funding sources.

Plans that amortize the UAAL in layers by source (like UCRP) sometimes use different amortization periods for different sources of UAAL. Generally such plans amortize actuarial gains and losses over shorter periods (15 years or less) and UAAL changes due to assumption or method changes over longer periods (often the 30 year GASB limit). This is also the approach used in the ERISA/IRC rules for multi-employer plans and also for corporate plans prior to the 2006 overhaul of the corporate pension funding rules. However, this policy also leads to inconsistencies and even short term conflicts with the GASB 30 year standard. For that reason the policy uses the same periods for all sources of UAAL.

As for selecting the period, here again, recent experience is instructive. By the late 1990s, as plans came close to being fully funded or even over funded there was a trend toward amortization periods as short as 10 or even 5 years. For example, in 1987, the ERISA/IRC rules for corporate plans were changed to reduce the amortization period for gains and losses from the original 15 years to 5 years. This led to rapid reductions in contributions when the large investment gains from that period were recognized over such short periods. The investment losses in the early 2000s led to similar cost increases except for public plans that lengthened their amortization periods substantially once those losses started to arise.

Based on this experience the new policy uses a 15 year amortization for actuarial gains and losses and for changes in UAAL resulting from assumption or method changes. For plan amendments the policy is the same 15 year period, unless the nature of the plan amendment would suggest a shorter period.

V. Relationship Between Funding Policy and Actual Contributions

The funding policy defines how “total funding policy contributions” are determined. Each year, the Regents set actual contribution level based on available funding and other factors.

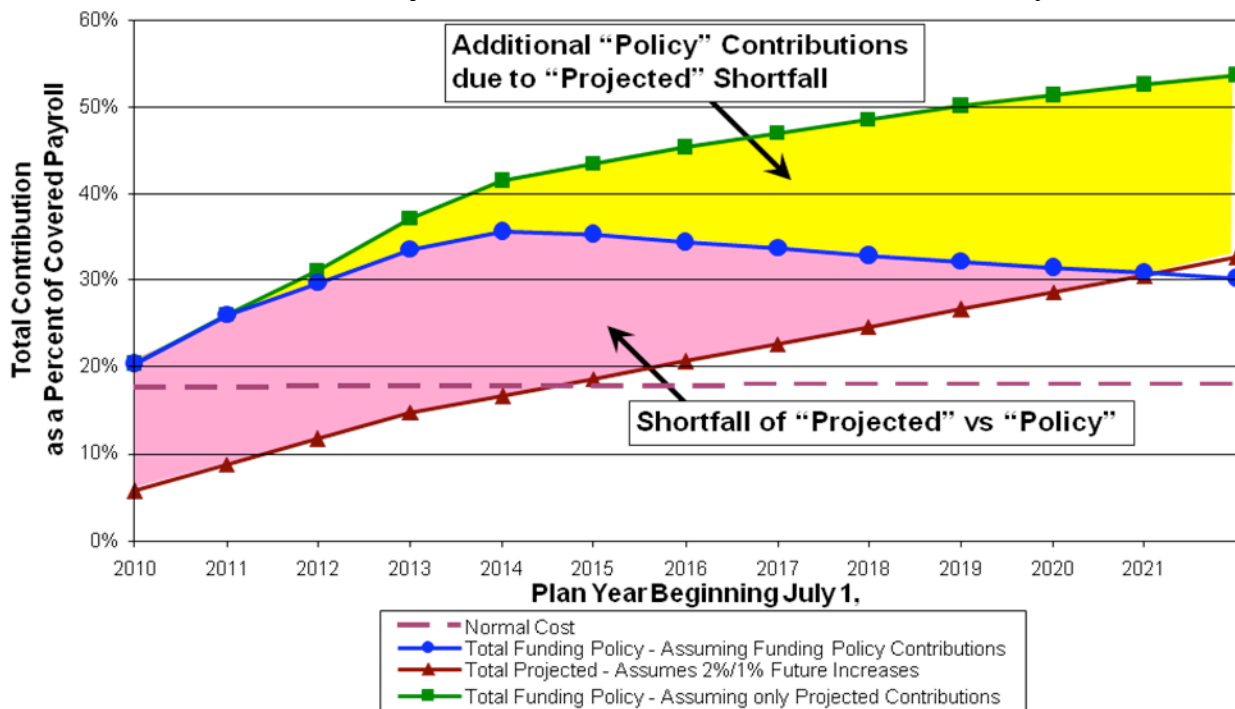
The Regents adopted employer and employee contribution rates for FY 2009/2010 and FY 2010/2011 (through June 30, 2011) in February 2009. The employer contribution rate is 4% starting April 15, 2010. Rates for FY 2010/2011 will continue at the 4% level. Employee contribution will also start at around April 15, 2010 at amounts currently redirected to the DC Plan, which is about 2% for most employees. Rates for FY 2010/2011 will continue at these rates. These are substantially less than the total funding policy contribution rates of 11.61% for FY 2009/2010 and 20.40% for FY 2010/2011.

Each year, the total funding policy contributions are determined as though all future actual contributions will be at the funding policy level. Since actual contributions are less than the funding policy level, this creates an additional UAAL which in turn will increase future funding policy contributions. This increase in future funding policy contributions shows the cost of not making funding policy contributions.

Below are the “projected” and total funding policy contributions for campus and medical centers only, assuming 7.5% market value return per year beginning July 1, 2009. The projected contributions assumed in the projections start from the contributions approved by The Regents as noted above and then factor in the following increases for illustration purposes:

- Employer contributions increase 2% per year
- Member contributions increase 1% per year
- Maximum of 5% (current CalPERS rate)

Projected UCRP Contributions: Actual vs “Policy”



As the chart shows, there is a significant increase in the total funding policy contribution rate due to the shortfall of the “projected” vs “policy” contributions for many years.

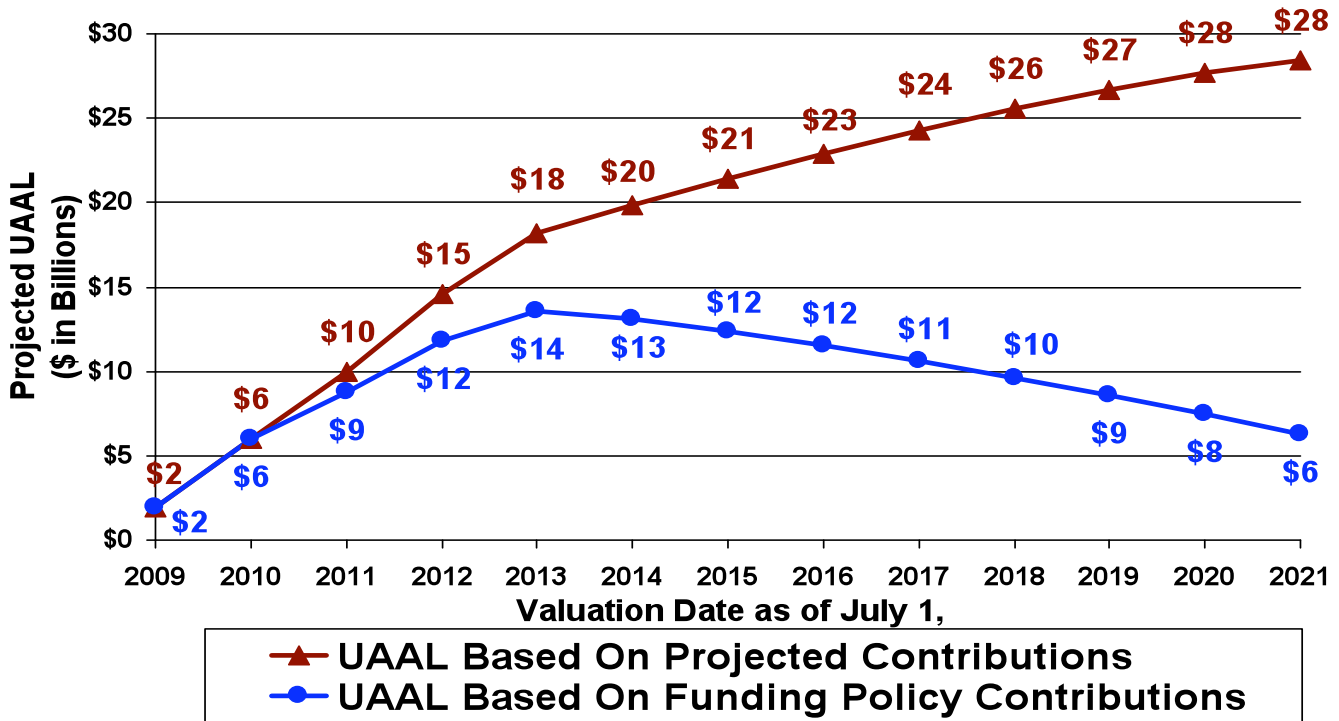
The total funding policy contribution rates shown by the blue line increase for a few years because of the recognition of deferred market value losses and the one-year delay between the calculation date and the actual date for the contributions. As noted above, each future funding policy contribution rate shown on the blue line assumes that prior years' contributions were actually made at those funding policy levels.

The shortfall of projected contributions shown by the red line relative to the total funding policy contribution rates on the blue line is illustrated by the pink area. Over the time period shown on the graph, the shortfall of projected versus funding policy contributions (pink area) is about \$14 billion. This shortfall represents an additional UAAL that was not anticipated when the "blue line" funding policy contributions were determined.

This means that actual future funding policy contribution rates will increase even further so as to fund this additional UAAL. These higher funding policy contributions are shown by the green line. Over the time period shown, the additional future cost of the shortfalls is illustrated by the yellow area. These total about \$17.5 billion over the time period shown and would extend further out until the projected contributions shown by the red line eventually intersect with the green line.

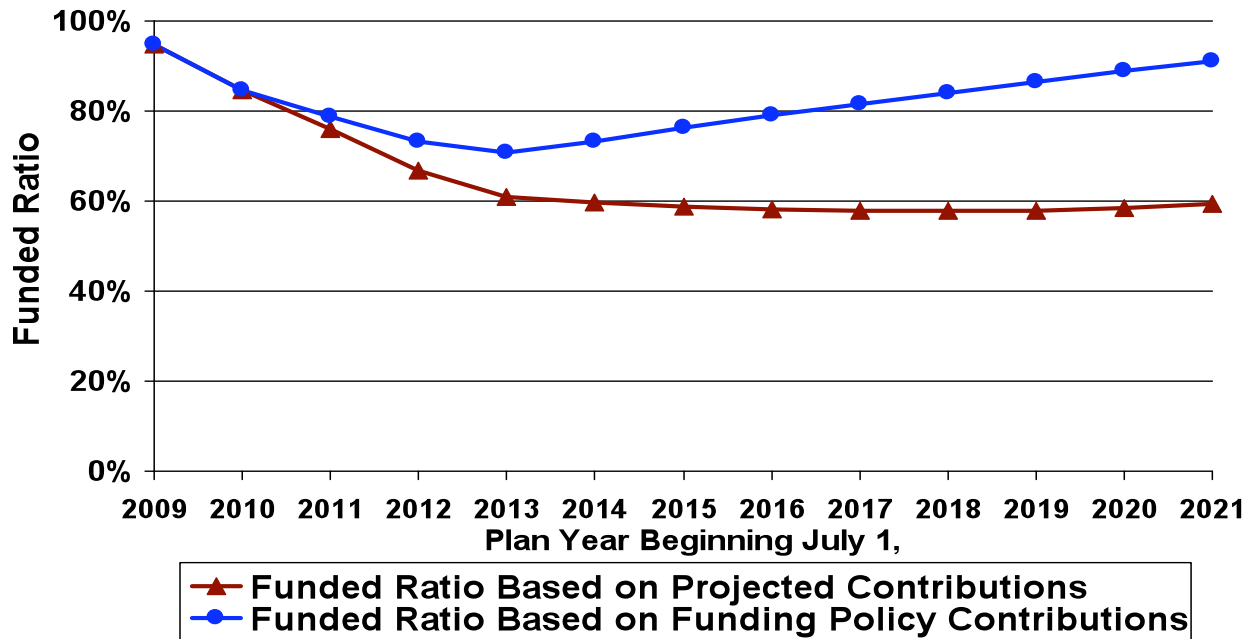
The graph that follows shows the UAAL of the campus and medical center segment of UCRP under two future contribution scenarios that were just discussed: either the funding policy contribution scenario or contributions at the projected level. Again, these projections assume a 7.5% market value return per year starting July 1, 2009. As shown in the graph, the UAAL grows significantly under the projected contributions scenario due to contributing less than the funding policy contribution, even after recent asset losses are recognized in the actuarial value of assets.

Campus and Medical Center UAAL



The graph below shows a comparison of the projected UCRP funded ratios (on an actuarial value basis) for the campus and medical center segment of UCRP based on the projected contributions versus the total funding policy contributions. This is just another way of expressing information similar to the last slide.

Projected UCRP Funded Ratios



VI. Relationship to Funding Sources

The employer contribution for UCRP as determined for each active member is charged to the fund source that provides that member’s compensation. State funds account for slightly less than one-third (about 31.67%) of UCRP compensation. Federal contracts and grants, self-supporting entities (such as the clinical enterprises) make up the other roughly two-thirds of the funding. These other fund sources generally do not make employer contributions to UCRP larger than those made on behalf of State funded active members, but they do contribute at the same contribution rate.

As a result, for every dollar of State funded employer contributions to UCRP there would be about another two dollars in employer contributions to UCRP from other funding sources. Each dollar of employer contributions that would be State funded that is deferred into the future leads to the deferral of about another two dollars in employer contributions from all other funding sources. Some of these deferred employer contributions may not be able to be recovered from other funding sources in the future.

This means that, reaching the total funding policy level of contributions sooner not only prevents the increase in the total funding policy contribution due to making only the projected contributions, but also allows all funding sources to be charged in a more timely and reliable manner.

In a later section we include a discussion on the possibility of issuing Pension Obligation Bonds (POBs) for the state funded portion of the excess of each year’s total funding policy contribution over the projected contribution.

VII. Pension Obligation Bonds For UAAL

Pension Obligation Bonds (POBs) or Other Post Employment Benefits (OPEB) Bonds are taxable bonds issued by states and local municipalities (Plan Sponsors) to refund, in the capital markets, all or a portion of their

pension or retiree healthcare benefits UAAL. The Plan Sponsor is essentially exchanging one liability, the Unfunded Actuarial Accrued Liability, for another liability the POB or OPEB bonds. The issuer uses bond proceeds to retire all or a portion of the UAAL.

The overall purpose of POBs is to allow governmental/public plan sponsors to issue fixed obligation debt instruments and invest the proceeds. It reduces overall unfunded liabilities on assumption that yields on assets will exceed cost of bond payments.

The ultimate goal of POBs is to lower funding cost for the system. The POBs/OPEB Bonds allow the issuers to capture potential savings between prevailing taxable market borrowing costs and the actuarial earnings rate they are charged on their unfunded pension liabilities. Within the pension system, the UAAL is charged with the actuarial earnings rate. If the Plan Sponsor can borrow from the capital market at a rate lower than the actuarial earnings rate to “pay off” the UAAL, the Plan Sponsor can save in the amount of interest payable on the UAAL. For UCRP’s case, the actuarial earnings rate is 7.5% versus a POB rate of between 6.5% to 7.5%.

POBs can be a constructive element of a comprehensive pension funding strategy. Without POBs, the Plan Sponsor pays both Normal Cost and UAAL amortization payments. After issuing POBs, the Plan Sponsor pays Normal Cost, but Debt service payment replaces UAAL amortization payments.

Reasons why POB/OPEB bonds are issued

- **Interest Rate Savings:** Any UAAL balance incurs an implicit annual interest charge (7.5% in UCRP’s case). If current taxable market borrowing costs are lower than the actuarial earnings rate charged on the unfunded liabilities, savings can be achieved.
- **Investment Earnings:** Pre-funding the UAAL for OPEB reduces total liability. It allows use of higher discount rate (7.5% versus 5.5%) that reflects longer-term asset allocation for plan assets, increasing plan asset growth rate. When bond proceeds are invested, they could earn a higher interest rate than expected, thereby reducing the liability.
- **Budget Relief:** Currently, UCRP’s UAAL is amortized over 15 years. Replacing the obligation to the pension/retiree healthcare fund with POB/OPEB bonds having a longer term (for example 30 years) can lower annual cost. Short-term issue could cover lack of State funding for the next few years allowing other fund sources to contribute.
- **Labor Relation Benefits:** Issuance of POB/OPEB bonds can help improve relations or negotiations with employees/unions by providing benefit security for current and future retirees and/or allowing for negotiation trade-offs with represented groups.

Potential risks of POB/OPEB bonds

- **Investment Risk:** The actual return on the purchased investments can be less than the cost of the debt over the life of the bonds. Bond rates are at 6.5%-7.5% right now, and investment return might fall below this rate.
- **Loss of Financial Flexibility:** The POB/OPEB bond converts “soft liability” to a bonded debt (“hard liability”), reducing budget flexibility in times of economic downturn. It also takes up valuable debt capacity that might otherwise be used for capital projects.

- Market Risk: It takes several months to implement the POBs during which bond rates could turn unfavorable.
- Political Risks: Poor investment returns can result in negative publicity. Good investment return may encourage labor unions to seek additional benefits.

Source of Revenue for Debt Repayment

The TFIR Concept Paper recommends issuance of POB/OPEB bonds by December 31, 2012. The projected UAAL by 2012 is \$32 billion (\$15 billion under UCRP and \$17 billion under OPEB). If UC were to issue bonds to 100% prepay its total UAAL, UC would need to issue \$24 billion of bonds. This is because if UC issued POB/OPEB bonds to cover 100% of its UAAL, the OPEB discount rate would be increased to 7.5% to reflect a longer-term asset allocation versus the current discount rate of 5.5%. This would decrease the UAAL by approximately 25%. The \$24 billion bond could require \$2.7 billion annual debt service per year if issuing 15 year bonds, or \$2.0 billion if issuing 30 year bonds. This represents about 10% to 15% of total operating budget.

Bond Market Reception

A \$24 billion bond issuance would represent over three times the amount of debt the University of California currently has outstanding. The bond market would have no appetite for a one-time \$24 billion issuance. The market is more focused on short-term issuances. Consideration would need to be given over staggering the bond issuance over several years or only issue a percentage of the total UAAL balance.

VIII. Pension Obligation Bonds For Funding Policy Contributions

In general, POBs have focused on total UAAL and not as a substitute for short-term contribution requirements. However, specific circumstances in merit consideration of alternate approaches to the use of POBs:

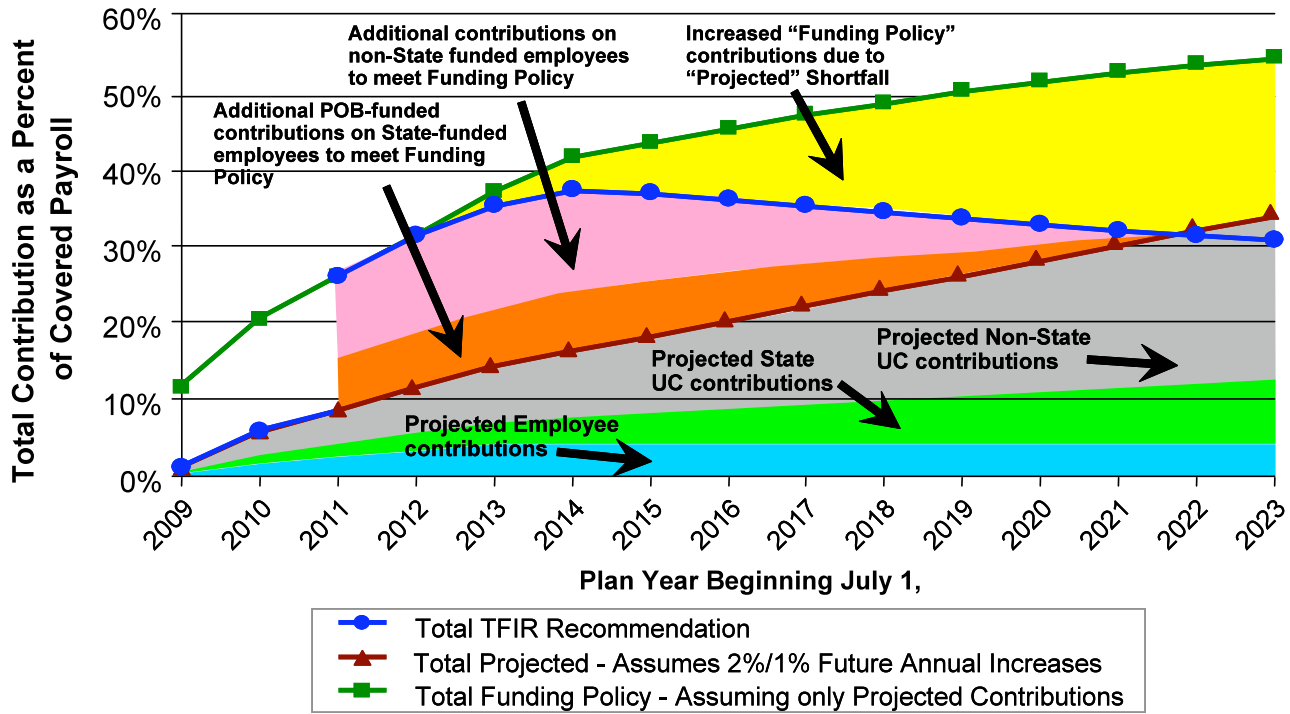
- Can POBs be issued to finance State contributions to pension plan, thereby allowing UC to obtain contributions from other funding sources?
- Does funding provide a negotiation tool in the collective bargaining process?
- Should UC pursue POBs to cover multi-year state funding obligation?

If UC issue POBs to cover the State's contributions for several years (i.e. approximately \$400 million), then the following questions should be answered:

- What is the impact on UC financial statements?
- Does this affect any of the funding negotiations between UC and the State?
- Can UC obtain a commitment from the State to make regular payments reflecting bond payments?
- If bonds are issued to cover State annual contributions (and capture other funding sources), can bonds be issued in single tranche or are annual issuances required? Annual issuances will increase transaction costs.

The graph below is similar to a graph shown earlier, but is expanded to show the portions of the contribution rates allocated to funding sources. In particular, the State funded portion could possibly be paid by issuing POBs.

Projected and Funding Policy Total Contributions



★ **SEGAL** Campus and Medical Centers Only
 7.5% MV Return Per Year Starting July 1, 2009

GLOSSARY OF FUNDING POLICY TERMS

- **Present Value of Benefits (PVB) or total cost:** the “value” at a particular point in time of all projected future benefit payments for current plan members. The “future benefit payments” and the “value” of those payments are determined using actuarial assumptions as to future events. Examples of these assumptions are estimates of retirement patterns, salary increases, investment returns, etc. Another way to think of the PVB is that if the plan has assets equal to the PVB and all actuarial assumptions are met, then no future contributions would be needed to provide all future service benefits for all members, including future service and salary increases for active members.
- **Actuarial Cost Method:** allocates a portion of the total cost (PVB) to each year of service, both past service and future service.
- **Normal Cost (NC):** the cost allocated under the Actuarial Cost Method to each year of active member service.
- **Actuarial Accrued Liability (AAL):** the value at a particular point in time of all past Normal Costs. This is the amount of assets the plan would have today if the current plan provisions, actuarial assumptions and participant data had always been in effect, contributions equal to the Normal Cost had been made and all actuarial assumptions came true.
- **Actuarial Value of Assets (AVA) or smoothed value:** a market-related value of the plan assets for determining contribution requirements. The AVA tracks the market value of assets over time, smoothes out short term fluctuations in market values and produces a smoother pattern of contributions than would result from using market value.
- **Market Value of Assets:** the fair value of assets of the plan as reported by the plan’s trustee, typically shown in the plan’s audited financial statements.
- **Unfunded Actuarial Accrued Liability (UAAL):** the positive difference, if any, between the AAL and the AVA.
- **Surplus:** the positive difference, if any, between the AVA and the AAL.
- **Actuarial Value Funded Ratio:** the ratio of the AVA to the AAL.
- **Market Value Funded Ratio:** the ratio of the MVA to the AAL.
- **Actuarial Gains and Losses:** changes in UAAL or surplus due to actual experience different from what is assumed in the actuarial valuation. For example, if during a given year the assets earn more than the current assumption of 7.5 percent, the amount of earnings above 7.5 percent will cause an unexpected reduction in UAAL, or “actuarial gain” as of the next valuation. These include contribution gains and losses that result from actual contributions made being greater or less than the level determined under the policy.

Role of Investment Performance in UCRP

The financial condition of the University of California Retirement Plan (UCRP) is mainly dependent upon three factors:

1. contributions to support the normal cost (cost allocated to each year of active member service) and to fund any shortfall of assets relative to liabilities (cost allocated to past years of active and inactive member service);
2. investment performance; and
3. payments to retirees and their beneficiaries.

This section of the report focuses on investment performance only.

I. Actual Returns as Compared to Benchmark

Market returns during the periods prior to 1990 and 1999 were extraordinary, while returns over the past 5- and 10-year periods have been modest in comparison. See the Table of 5, 10 and 15 year periods below.

UCRP Market Returns and Benchmarks

End of Contributions 6/30/1990			
Periods ending 6/30/90	UCRP Total	UCRP Policy Benchmark	Excess
5 years	16.04%	16.00%	0.04%
10 years	15.88%	15.78%	0.10%
15 years	12.82%	13.17%	-0.35%

Pre-Transition Period 6/30/1999			
Periods ending 6/30/99	UCRP Total	UCRP Policy Benchmark	Excess
5 years	21.32%	21.48%	-0.15%
10 years	15.66%	15.58%	0.08%
15 years	16.95%	17.11%	-0.16%

Current Period 6/30/2009			
Periods ending 6/30/09	UCRP Total	UCRP Policy Benchmark	Excess
5 years	1.43%	1.39%	0.04%
10 years	2.30%	1.77%	0.53%
15 years	8.29%	7.96%	0.33%

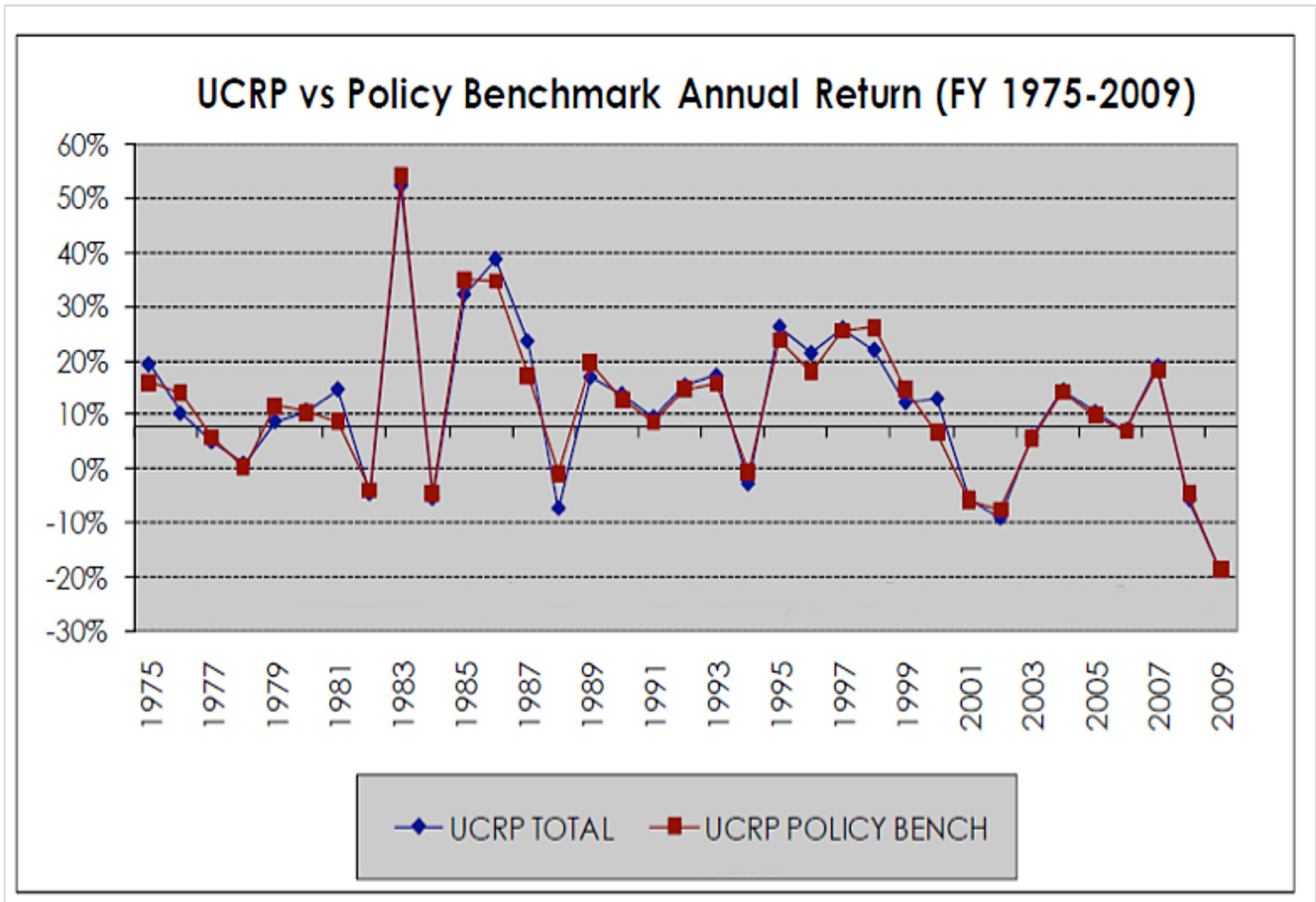
II. Market Volatility

Prior to 2000, the asset allocation of the UCRP was similar to most other public pension funds: a 65%/35% mix of stocks and bonds. The stocks were primarily large capitalization (large cap) growth stocks, selected and overseen by a small internal staff. From year to year, various asset classes will be “best performers”. In the years leading up to 2000, large cap growth stocks experienced excellent growth, while a portfolio with a concentration in that asset class would have performed poorly in 2000-2002.

In 2000 The Regents concluded that increased diversity in the UCRP portfolio was appropriate

and they adopted a broader asset allocation plan to increase return opportunity and control investment return volatility risk.

The UCRP assets have had investment returns very similar to the policy benchmark over a long period of time. The volatility in UCRP returns is almost wholly due to market volatility.



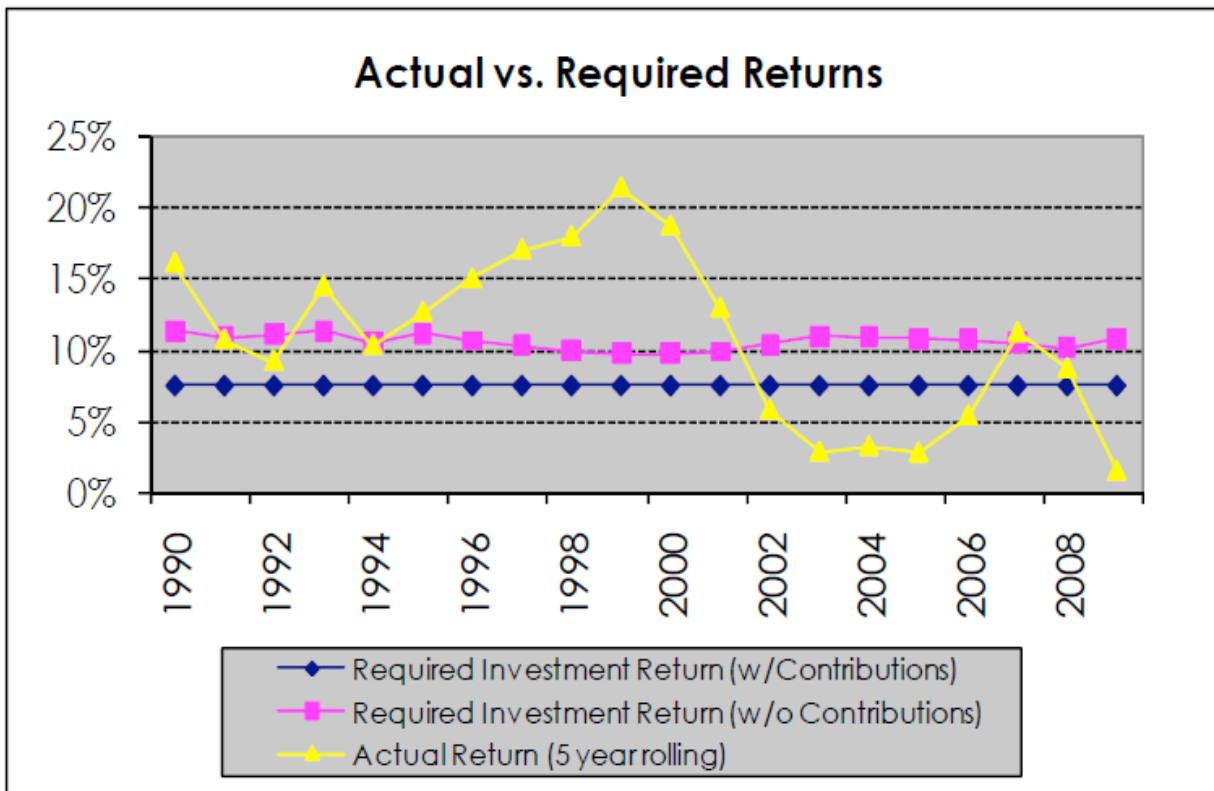
III. Relative Effect on Unfunded Actuarial Accrued Liability (UAAL)

The current need for contributions is not a result of inferior investment performance.

Liabilities increase each year by the sum of the following:

- Normal Cost, that is, the cost allocated to each year of active member service. For UCRP, this is approximately 17% of covered payroll, or 4% of assets
- Interest Cost, that is, the passage of time. This “Actuarial Rate of Return” is 7.5% of assets

Thus, without contributions, investment returns would need to be about 11.5% per year to maintain full funding without future contributions.



An investment return of 11.5% per year is unlikely in the current environment. The investment community forecasts investment returns in the following ranges:

- Equity returns forecast around 8-9%
- Fixed income returns forecast in the range of 4.5%-5.5%
- Alternatives may add 1-3% over equity

The actuarial return target is only a *target* – there are no investments that provide a consistent 7.5% annual return. The assumption is that over a long term, investment is assumed to return 7.5% on average.

Therefore, there is no prudent investment policy or management that can permanently allow the UCRP to avoid the need for contributions.