Impact of DC Choice Plan on UCRP's Unfunded Actuarial Accrued Liability and Normal Cost

University of California Retirement Plan

March 2016

Copyright ©2016 by The Segal Group, Inc. All rights reserved.

5420102

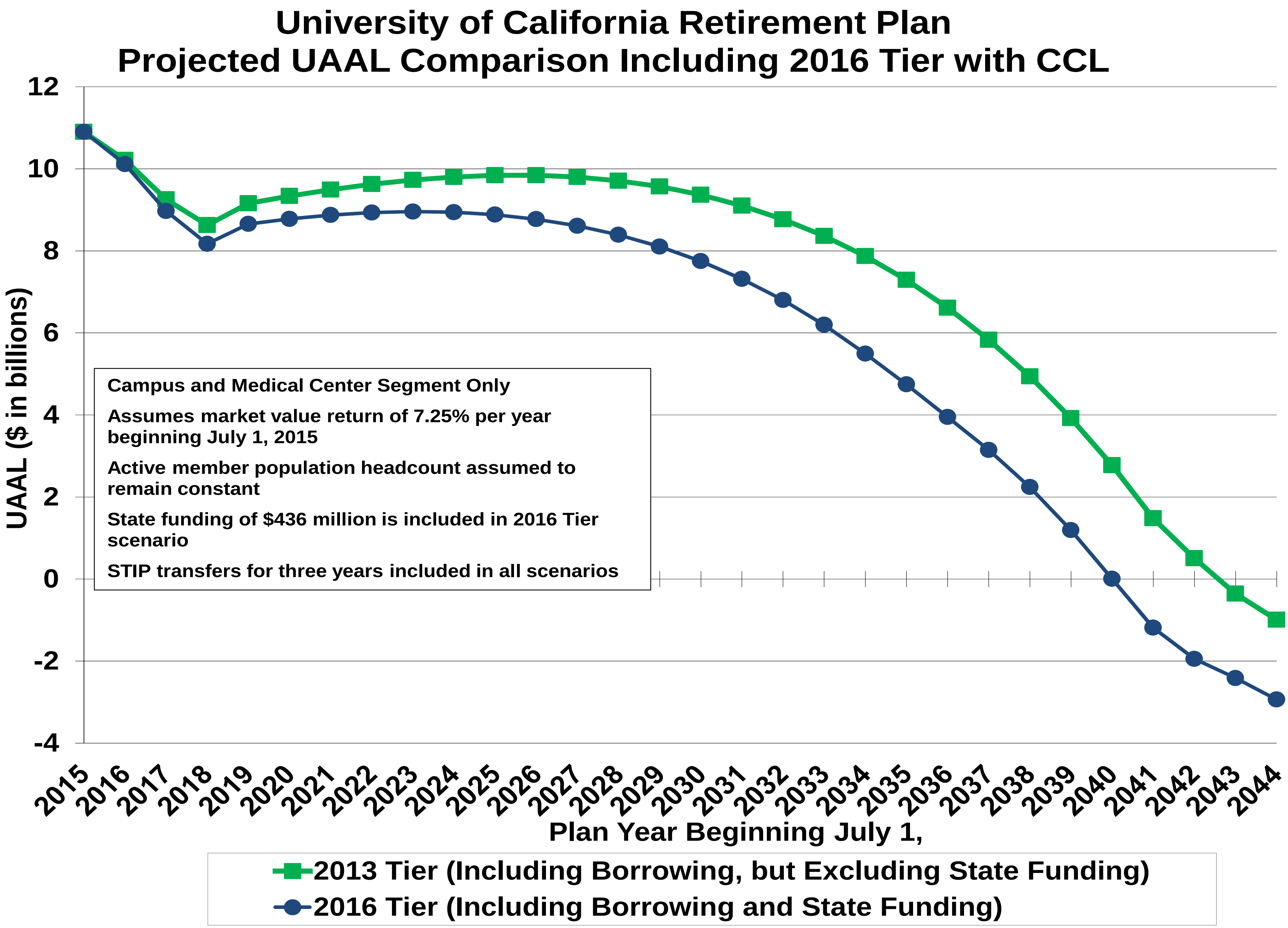
SEGAL

Executive Summary

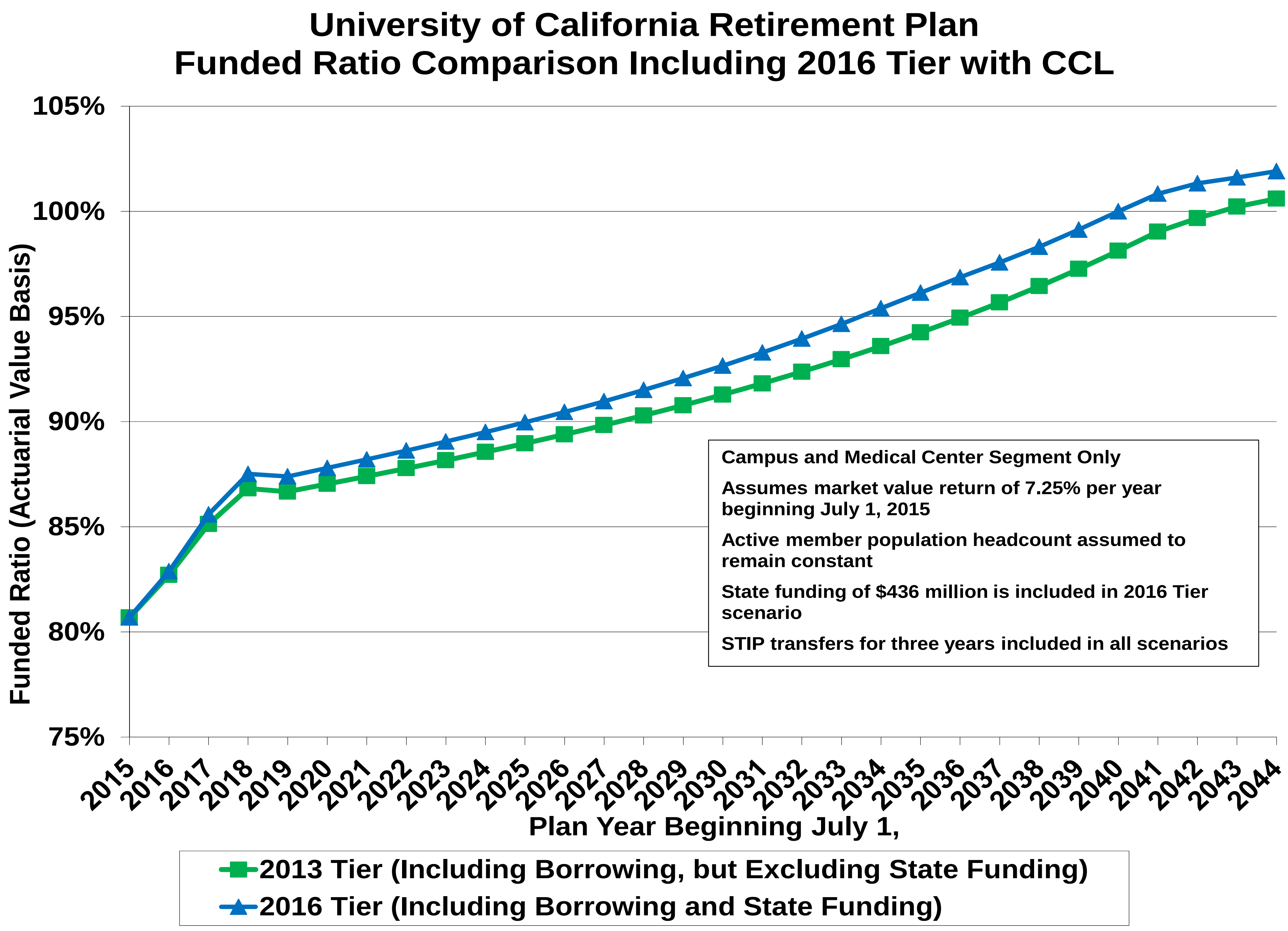
- Segal was asked to evaluate the effect of the DC Choice Plan on the stability of UCRP
  - All findings are based on a 6% DC Choice Plan UAAL surcharge being contributed to pay down UCRP's Unfunded Actuarial Accrued Liability (UAAL)
- Conclusion: As long as the 6% DC Choice Plan UAAL surcharge is collected on the payroll of DC Choice Plan members, then the DC Choice Plan has minimal impact on the long-term funding of UCRP
  - Allowing future employees to elect the DC Choice Plan in lieu of UCRP would not jeopardize UCRP's ability to pay pension benefits
  - UCRP's projected UAAL amounts and funded ratios are all improved over a thirty-year period compared to those under status quo with the 2013 Tier
  - Even under an unlikely take-rate scenario where all new hires elect the DC Choice Plan, UCRP is projected to be 102% funded at the end of 30 years
- If the DC Choice Plan changes the demographics of future UCRP members, then this will affect UCRP's Normal Cost in a stable manner
- This study has not analyzed the possible effect of fewer new hires electing UCRP on future cashflows, asset allocation and valuation assumptions

Impact of New Tier with PEPRA Compensation Cap

- First, we compare results under UCRP's 2013 Tier (status quo with no PEPRA cap) with results under the new 2016 Tier with a PEPRA cap on compensation (2016 Tier Covered Compensation Limit or CCL)
  - 2016 Tier applies to those hired on or after July 1, 2016
  - Same provisions as current 2013 Tier, but subject to the PEPRA cap as part of the 2016 Tier
  - Maximum employer contribution rate of 14% of payroll assumed
  - Total of employer and member contribution rates assumed to be no greater than the total Funding Policy Contribution rate for any year in the projection
    - Exception: future employer contributions are at least as much as the member contributions each year, consistent with UCRP Funding Policy
- All projections reflect three years of Short Term Investment Pool (STIP) transfers during 2015/16, 2016/17 and 2017/18 approved by Regents in 2015
  - 2016 Tier scenarios include $436 million in State funding over three years
    - $96 million in 2015/16, $170 million in 2016/17 and 2017/18
- Unfunded Actuarial Accrued Liability (UAAL) amounts are modeled on slide 3 with the corresponding funded ratios shown after that


University of California Retirement Plan
Projected UAAL Comparison Including 2016 Tier with CCL
UAAL ($ in billions)
12
10
8
6
4
2
0
-2
-4
Campus and Medical Center Segment Only
Assumes market value return of 7.25% per year beginning July 1, 2015
Active member population headcount assumed to remain constant
State funding of $436 million is included in 2016 Tier scenario
STIP transfers for three years included in all scenarios
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
2026
2027
2028
2029
2030
2031
2032
2033
2034
2035
2036
2037
2038
2039
2040
2041
2042
2043
2044
Plan Year Beginning July 1,
2013 Tier (Including Borrowing, but Excluding State Funding)
2016 Tier (Including Borrowing and State Funding)

SEGAL


University of California Retirement Plan
Funded Ratio Comparison Including 2016 Tier with CCL
Funded Ratio (Actuarial Value Basis)
105%
100%
95%
90%
85%
80%
75%
2015 2016 2017 2018 2019 2020 2021 2022 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037 2038 2039 2040 2041 2042 2043 2044
Plan Year Beginning July 1,
Campus and Medical Center Segment Only
Assumes market value return of 7.25% per year beginning July 1, 2015
Active member population headcount assumed to remain constant
State funding of $436 million is included in 2016 Tier scenario
STIP transfers for three years included in all scenarios
2013 Tier (Including Borrowing, but Excluding State Funding)
2016 Tier (Including Borrowing and State Funding)

SEGAL

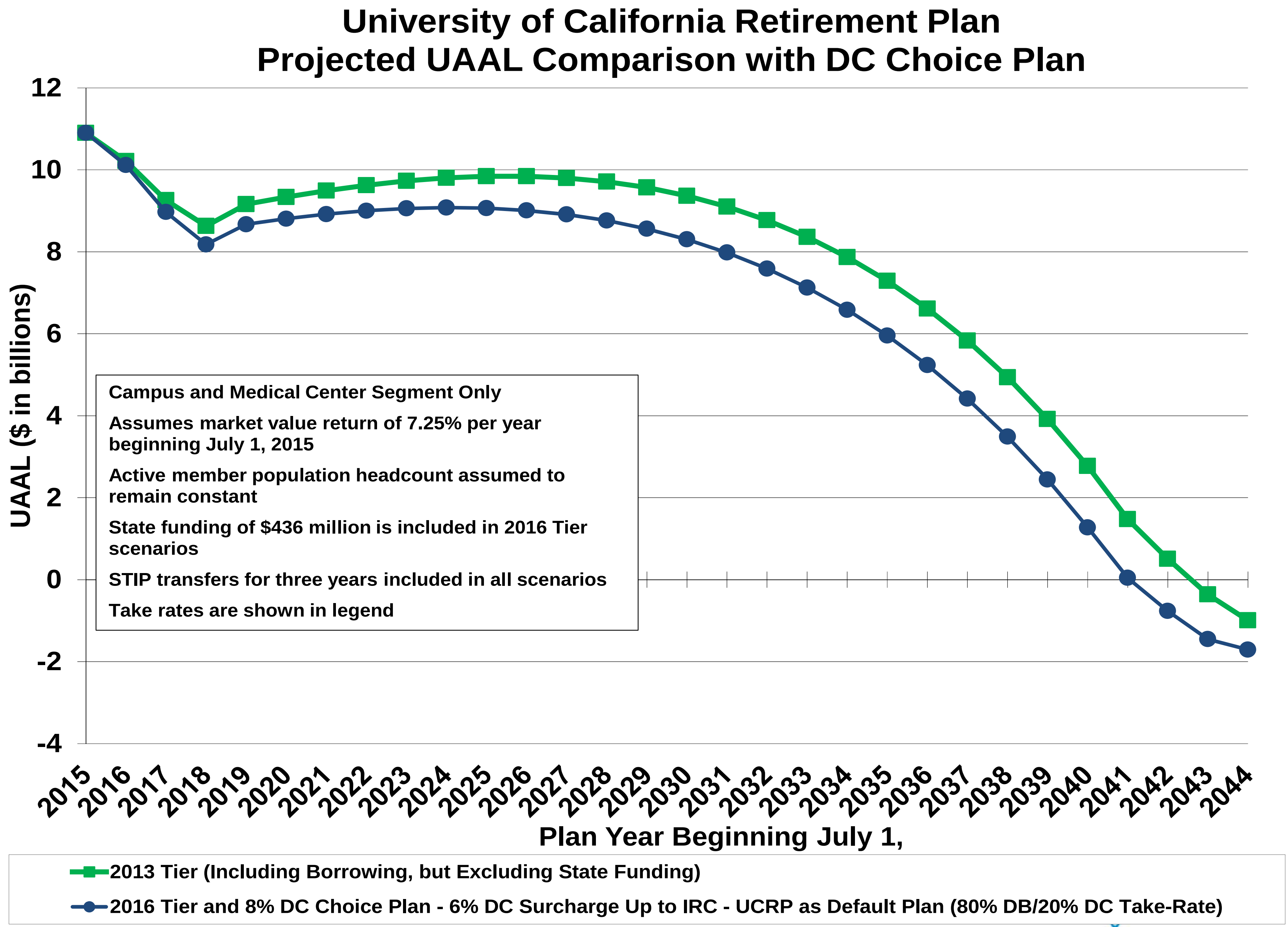
"Destabilization" and Impact of DC Choice Plan

- Some groups have asserted that allowing new hires to elect to enter a new DC plan will "destabilize" UCRP
  - Not true as UCRP will continue as a possibly smaller, but stable plan
- For those new hires choosing DC Choice Plan, employer will still contribute towards UCRP's UAAL
  - 6% of compensation up to Internal Revenue Code (IRC) limit
  - Referred to as the "DC Choice UAAL surcharge"
  - Similar to the level of UAAL contributions under the UCRP 2016 Tier
- Modeled results <u>with</u> "UAAL surcharge"
  - Compared to results shown earlier (slide 3) for UCRP without DC Choice Plan
  - Flat 8% DC Choice Plan with UCRP as default plan
  - DC Supplemental Plan for members electing 2016 Tier
    - 5% of all pay for Faculty and 3% of pay above CCL for all others
  - Initially modeled the following take-rate:
    - 80% UCRP/20% DC Choice
    - At least one comparison study shows defined benefit take-rates well in excess of 80% for public section retirement systems that offer choice

Impact of DC Choice Plan on UCRP's UAAL <u>Including</u> DC Choice UAAL Surcharge

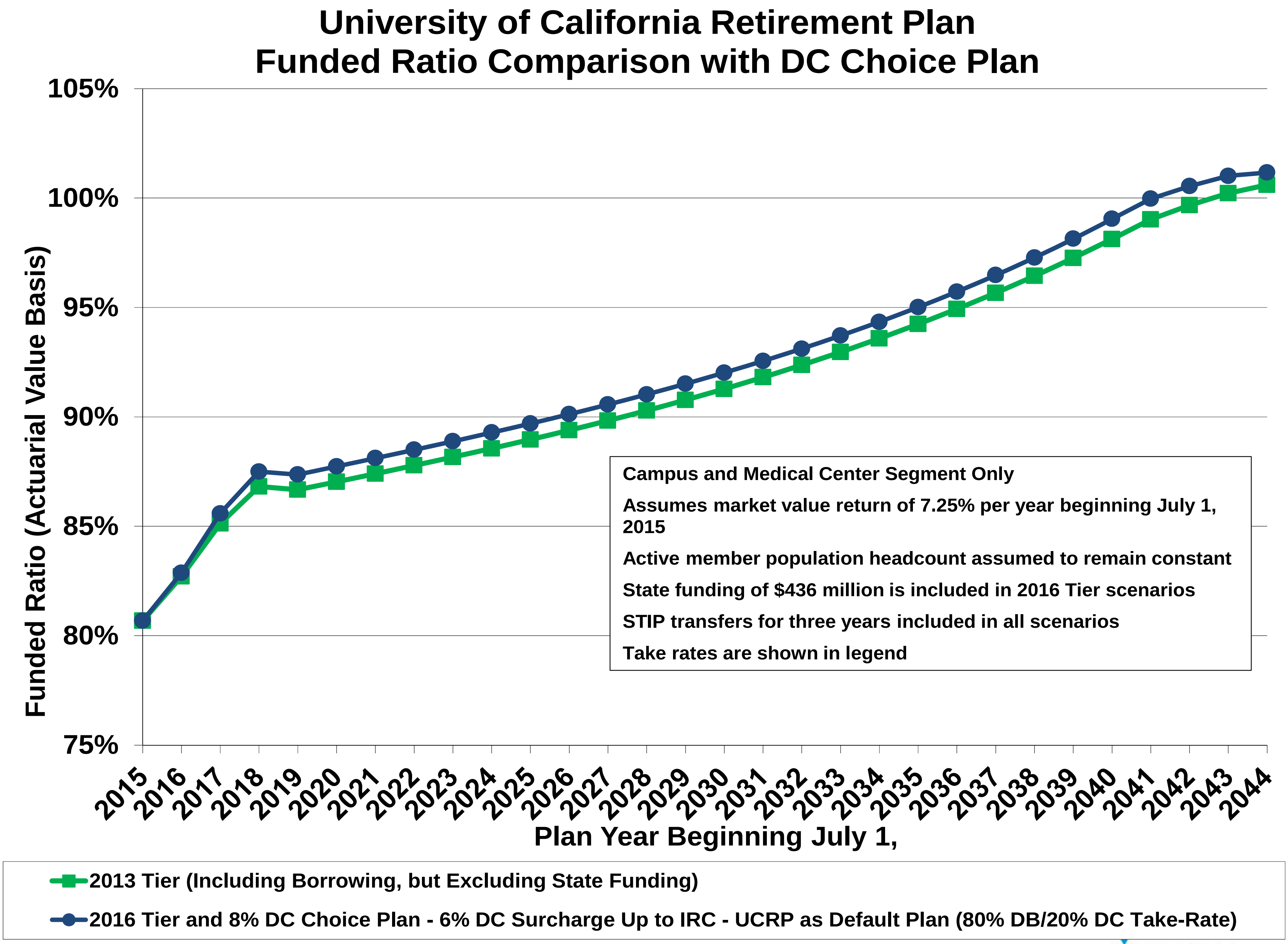
- Unfunded Actuarial Accrued Liability (UAAL) amounts are modeled on slide 7 with the corresponding funded ratios shown after that
- Slides show that the UAAL amounts and funded ratios are similar over the thirty-year projection period
  - 2016 Tier with DC Choice Plan scenario is slightly improved as compared to 2013 Tier
  - Ultimately end up at substantially the same funded level
- Summary of key results shown in table below

Scenario	Take-rate scenario	DC Choice UAAL Surcharge	Projected UAAL in 2044	Projected Funded Ratio in 2044
2013 Tier (Status Quo)	N/A	N/A	-$1.0 billion	101%
2016 Tier and Flat 8% DC Choice Plan	80% DB 20% DC	6% up to IRC	-$1.7 billion	101%



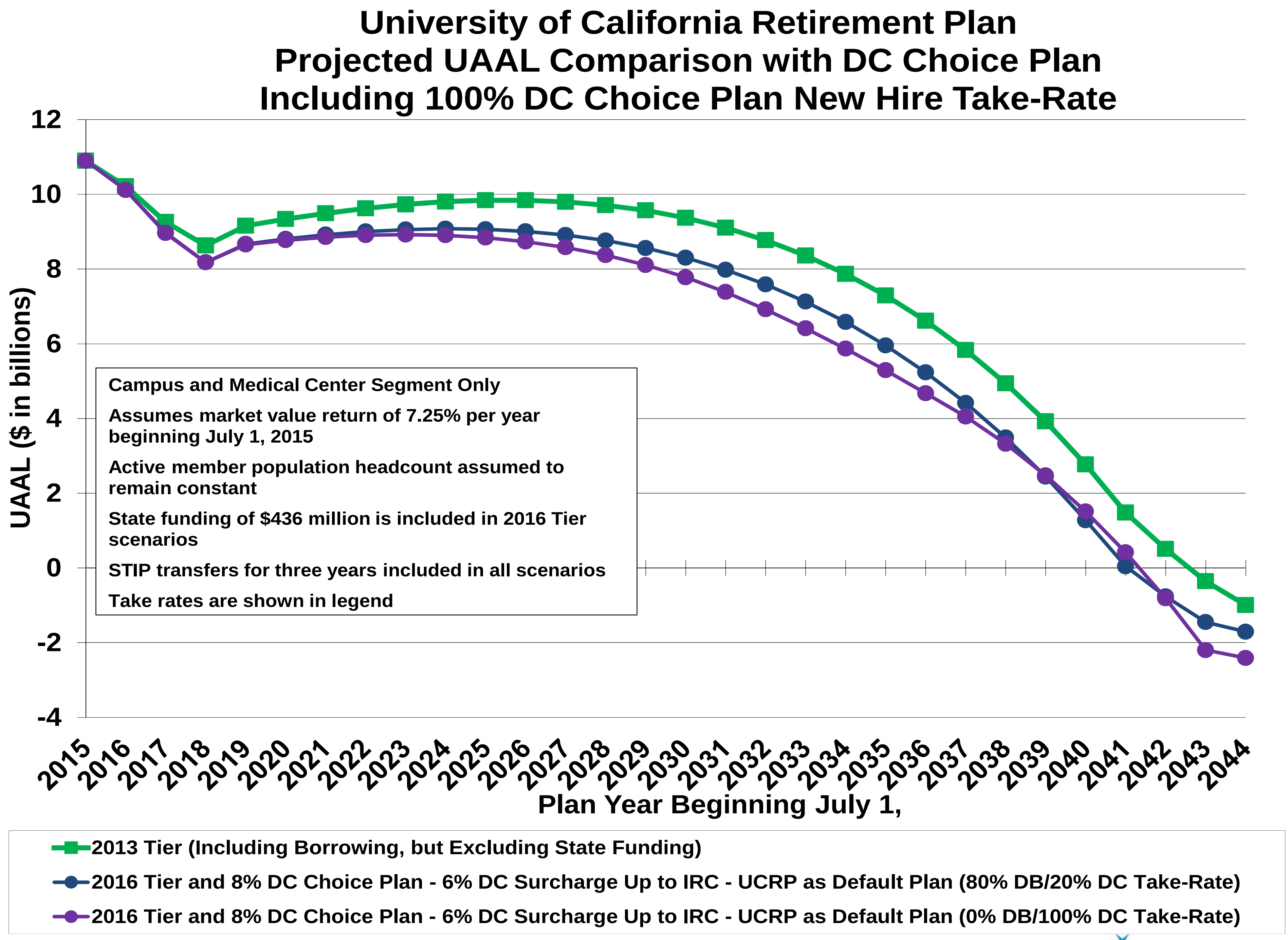
University of California Retirement Plan
Projected UAAL Comparison with DC Choice Plan
UAAL ($ in billions)
12
10
8
6
4
2
0
-2
-4
Campus and Medical Center Segment Only
Assumes market value return of 7.25% per year beginning July 1, 2015
Active member population headcount assumed to remain constant
State funding of $436 million is included in 2016 Tier scenarios
STIP transfers for three years included in all scenarios
Take rates are shown in legend
2015 2016 2017 2018 2019 2020 2021 2022 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037 2038 2039 2040 2041 2042 2043 2044
Plan Year Beginning July 1,
2013 Tier (Including Borrowing, but Excluding State Funding)
2016 Tier and 8% DC Choice Plan - 6% DC Surcharge Up to IRC - UCRP as Default Plan (80% DB/20% DC Take-Rate)

SEGAL


University of California Retirement Plan
Funded Ratio Comparison with DC Choice Plan
Funded Ratio (Actuarial Value Basis)
105%
100%
95%
90%
85%
80%
75%
Campus and Medical Center Segment Only
Assumes market value return of 7.25% per year beginning July 1, 2015
Active member population headcount assumed to remain constant
State funding of $436 million is included in 2016 Tier scenarios
STIP transfers for three years included in all scenarios
Take rates are shown in legend
2015 2016 2017 2018 2019 2020 2021 2022 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037 2038 2039 2040 2041 2042 2043 2044
Plan Year Beginning July 1,
2013 Tier (Including Borrowing, but Excluding State Funding)
2016 Tier and 8% DC Choice Plan - 6% DC Surcharge Up to IRC - UCRP as Default Plan (80% DB/20% DC Take-Rate)

Impact of DC Plan Choice on UCRP's UAAL Assuming All New Hires Elect DC Choice Plan

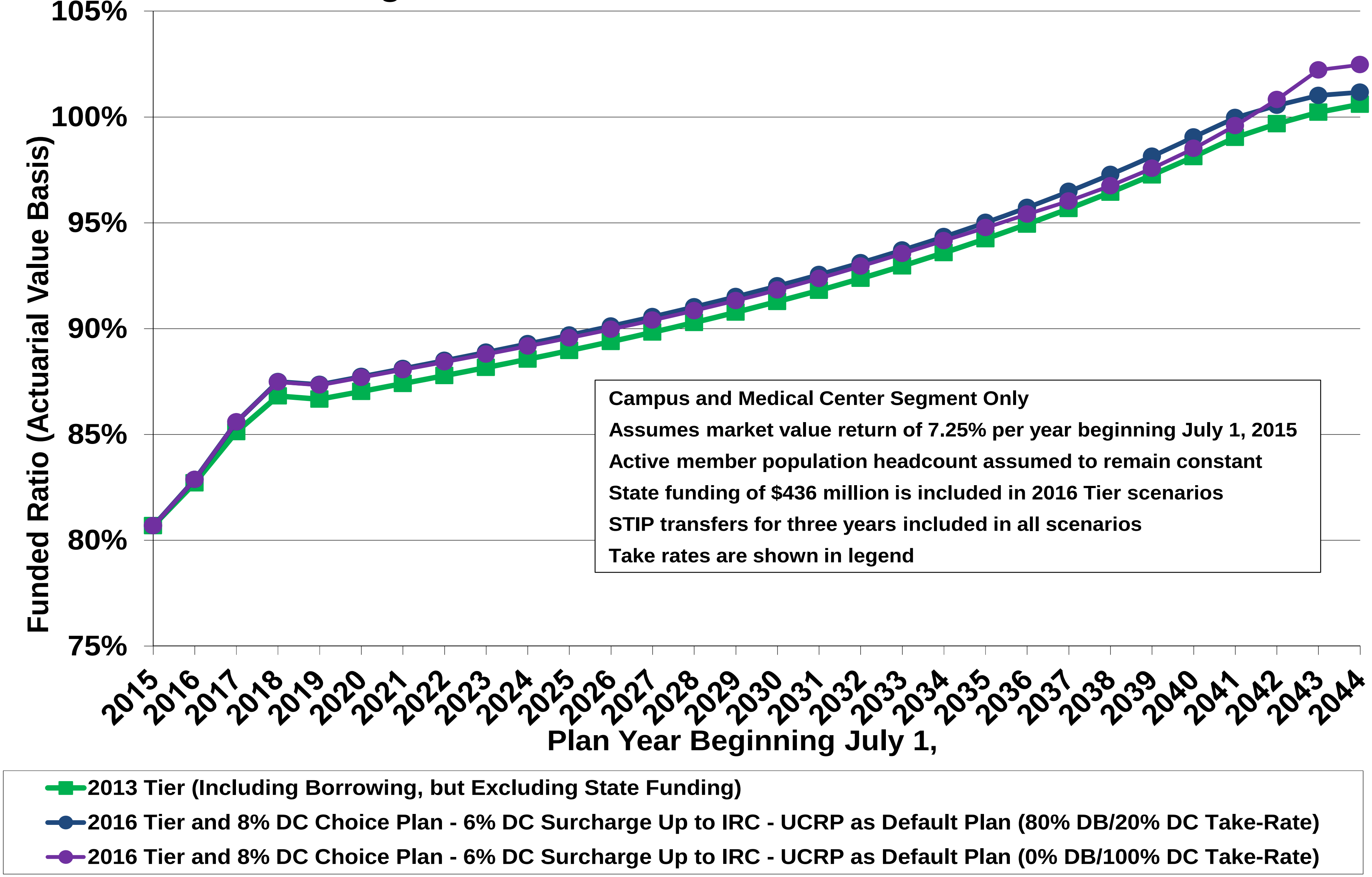
- Next, added results assuming that all future new hires elect DC Choice Plan
  - This is an unlikely scenario regarding take-rates
- Unfunded Actuarial Accrued Liability (UAAL) amounts are modeled on slide 10 with the corresponding funded ratios shown after that
- Scenario shows projected surplus for UCRP around $2 billion after 30 years
  - Due to same level of UAAL funding from DC Choice Plan as the UCRP 2016 Tier
  - UCRP is projected to be about 102% funded
- <u>Conclusion</u>: As long as the 6% DC Choice Plan UAAL surcharge is collected on the payroll of DC Choice Plan members, then the DC Choice Plan has minimal impact on the long-term funding of UCRP
  - Allowing future employees to elect the DC Choice Plan in lieu of UCRP would not jeopardize UCRP's ability to pay pension benefits



University of California Retirement Plan
Projected UAAL Comparison with DC Choice Plan
Including 100% DC Choice Plan New Hire Take-Rate
UAAL ($ in billions)
12
10
8
6
4
2
0
-2
-4
Campus and Medical Center Segment Only
Assumes market value return of 7.25% per year beginning July 1, 2015
Active member population headcount assumed to remain constant
State funding of $436 million is included in 2016 Tier scenarios
STIP transfers for three years included in all scenarios
Take rates are shown in legend
2015 2016 2017 2018 2019 2020 2021 2022 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037 2038 2039 2040 2041 2042 2043 2044
Plan Year Beginning July 1,
2013 Tier (Including Borrowing, but Excluding State Funding)
2016 Tier and 8% DC Choice Plan - 6% DC Surcharge Up to IRC - UCRP as Default Plan (80% DB/20% DC Take-Rate)
2016 Tier and 8% DC Choice Plan - 6% DC Surcharge Up to IRC - UCRP as Default Plan (0% DB/100% DC Take-Rate)

SEGAL

University of California Retirement Plan Funded Ratio Comparison with DC Choice Plan Including 100% DC Choice Plan New Hire Take-Rate



Impact of DC Plan Choice on UCRP's Normal Cost

- UCRP's Normal Cost depends on demographics of active members in UCRP
  - Besides benefit levels and assumptions, normal cost rate for an individual depends on age at entry
    - Lower entry age members have lower normal cost rate
    - Higher entry age members have higher normal cost rate
- If lower entry age new hires elect DC plan
  - Leaves UCRP with higher entry age members
  - Increases UCRP's aggregate normal cost
- Similarly, new hires who are younger and more likely to leave service before retirement may choose DC plan
  - This could lead to a higher normal cost over time due to the remaining new hires having <u>lower</u> termination rates
- However, any of these impacts will affect UCRP's Normal Cost in a generally stable manner over the long-term and would not jeopardize UCRP's ability to pay pension benefits

Assumptions and Methods Used in Projections

- Unless otherwise noted, the cost calculations and projections were made using generally accepted actuarial practices and are based on July 1, 2015 actuarial valuation results. This includes the participant data and actuarial assumptions on which this valuation was based. Here are some of the important assumptions used:
  - Campus and medical center segment only
  - Assumes market value returns of 7.25% per year beginning July 1, 2015
  - Reflects 2016 Tier starting July 1, 2016 including 2016 Tier CCL
    - Other provisions are the same as those in the 2013 and Modified 2013 Tier
  - Active member population headcount remains constant
  - Three years of STIP “transfers” assumed in all scenarios
    - $436 million in State funding included in 2016 Tier Scenarios
  - DC Choice UAAL surcharge of 6% of compensation up to IRC limit
  - DC take-rates are detailed in the previous slides
  - Cost of initial and second choice are estimated as 0.6% of payroll and applied as an increase in UCRP’s Normal Cost for new hires on or after July 1, 2016 as noted in slides
  - Total of UCRP employer and member contribution rates are assumed to be no greater than the total Funding Policy Contribution rate for any year
  - Demographics for future new entrants are assumed to be the same as those for members hired during the two years prior to July 1, 2015

Other Information

- Projections, by their nature, are not a guarantee of future results. The modeling projections are intended to serve as illustrations of future financial outcomes that are based on the information available to us at the time the modeling is undertaken and completed, and the agreed-upon assumptions and methodologies described herein. Emerging results may differ significantly if the actual experience proves to be different from these assumptions or if alternative methodologies are used. Actual experience may differ due to such variables as demographic experience, the economy, stock market performance and the regulatory environment.
- All calculations were completed under the supervision of John Monroe, ASA, MAAA, Enrolled Actuary who is a member of the American Academy of Actuaries and meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein.