

# Marin County Employees' Retirement Association

## Actuarial Review and Analysis as of June 30, 2017

### County of Marin, Courts and Special Districts

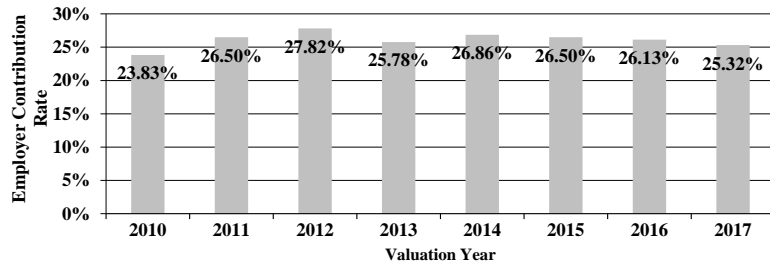
Valuation Date	June 30, 2016		June 30, 2017	
Actuarial Liability	\$1,872.4 M	<u>Funded Ratio</u>	\$1,981.7 M	<u>Funded Ratio</u>
Market Value of Valuation Assets	\$1,575.2 M	84.1%	\$1,719.9 M	86.8%
Unfunded Actuarial Liability	\$297.1 M		\$261.8 M	
Inactive Actuarial Liability	\$1,235.3 M		\$1,308.8 M	
Portion Covered by Market Value of Valuation Assets	100.0%		100.0%	
Employer Normal Cost	11.57%		12.20%	
Amortization of Unfunded Liability	13.37%		11.95%	
Administrative Expense Rate	<u>1.19%</u>		<u>1.17%</u>	
Total Employer Rate	26.13%		25.32%	
Average Employee Rate	<u>10.84%</u>		<u>11.23%</u>	
Final Total Rate	36.97%		36.55%	

#### Changes from Prior Year:

- Overall, the employer portion of Plan cost decreased from 26.13% to 25.32% of active member payroll.
  - Asset experience produced an investment gain, which reduced the contribution rate by 0.42% of pay.
  - Demographic experience of the Plan was close to the actuarial assumptions, reducing the employer rate for the County by 0.11%.
  - PEPRAs new hires make up a growing proportion of the active population and generally contribute a larger share of their cost, decreasing the contribution rate by 0.11%.
  - Liability-weighted salary increases for returning members were lower than expected, and the contribution rate decreased by 0.02%.
  - The higher than expected overall payroll growth, as a result of increases in the active population, meant that the UAL must be amortized over a larger than expected payroll base, which decreased the contribution rate by 0.03%.
  - Demographic and economic assumptions changed, including a decrease in the discount rate (7.00%). Other changes included modifications to the service retirement rates, changes to the disability and termination rates, and adjustment to the merit salary scale increases. These changes resulted in a 1.35% increase in the contribution rate.
  - Employee contribution rates were revised due to assumption changes, which lowered the employers' contribution rate by 0.37%.
  - There was an expected change in amortization due to the phase-in of prior UAL gains. This reduced the contribution rate by 1.10%.

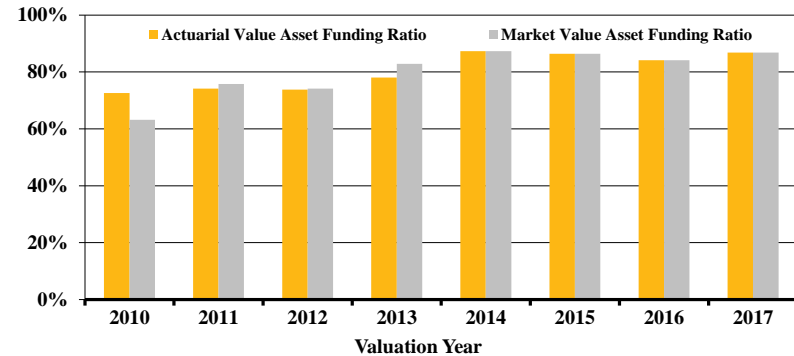
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**Employer Contribution Rate as a Percentage of Member Payroll**



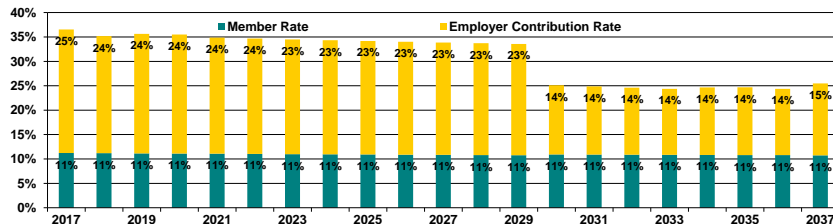
The employer contribution rate increased in fiscal year 2009 due principally to poor investment returns, and the deferred impact of these losses continued to be felt during the five year smoothing period. Changes in actuarial assumptions have also increased the employer rate, but they have been offset by deferred gains.

**Plan Funded Ratios**



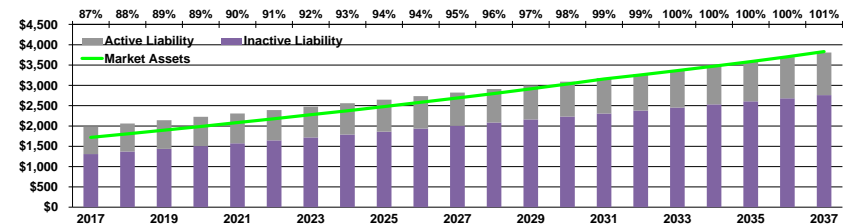
The above graph shows the funded ratio, both at Market and Actuarial Value of Assets. Beginning in 2014, the Actuarial Value of Assets is equal to the market value. Funded ratios have trended down since 2007, but have improved recently, due to investment performance and ongoing contributions by the sponsors.

**Projection of Employer Cost as a Percentage of Member Payroll**



Provided assumptions are met, contribution rates are expected to decline slowly over the next few years as the current deferred investment gains are recognized.

**Projection of Funded Ratio Based on Actuarial Liability**



Provided assumptions are met, the funded ratio (shown by the numbers along the top of the graph) will improve as the unfunded liability and extraordinary loss are paid off. This graph and the prior graph assume a 13-year amortization period for the bulk of the UAL.



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	2017 <u>Baseline</u>	<u>+1%</u>	<u>-1%</u>
<b>Sensitivity Analysis:</b>			
Expected Long-Term Rate of Return	7.00%	8.00%	6.00%
Employer Cost	25.32%	15.67%	37.61%
Funding Ratio	86.8%	97.3%	76.8%

<b>Investment Earnings:</b>	<u>FY 2016</u>	<u>FY 2017</u>
Market Value	2.1%	11.9%
Expected	7.25%	7.25%

<b>Projected Payroll:</b>	<u>FY 2017</u>	<u>FY 2018</u>
Total	\$200.9 M	\$207.5 M

<b>Projected Employer Contribution:</b>	<u>FY 2018</u>	<u>FY 2019</u>
Total Employer Rate	26.13%	25.32%
Projected Covered Payroll	\$206.9 M	\$213.7 M
Expected Employer Contribution	\$54.1 M	\$54.1 M

Beginning in 2014, the Market and Actuarial Value of Assets are the same.

The employer costs in the sensitivity analysis are calculated assuming that the change in UAL due to the discount rate change is amortized over a 20-year period as a level percent of payroll with no phase-in/out.

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Actuarial Cost Method	Entry Age Normal to Final Decrement (GASB 67/68 compliant)
Amortization Method	Level % of pay; closed.
Remaining Amortization Period	17 years, fixed (13 years remaining as of June 30, 2017).  Half of the extraordinary asset loss from FY 2009 is being amortized as a level percentage of payroll over a closed 30-year period, with 21 years remaining as of June 30, 2017.  Any subsequent unexpected change in the Unfunded Actuarial Liability after June 30, 2013 is amortized over 24 years (22 years for assumption changes) that includes a 5-year phase-in/out (3 years for assumption changes) of the payments/credits for each annual layer.
Asset Valuation Method	As of the June 30, 2014 valuation, assets are valued using the market value. The assets used to compute the UAL are the Market Value of Assets, minus the value of any non-valuation contingency reserves.
 Actuarial Economic Assumptions:	
Long-Term Inflation Rate	2.75%
Real Rate of Return	4.25%
Nominal Rate of Return	7.00% (net of investment, but not administrative, expenses)
Projected Salary Increases	3.77% - 9.18%
Wage Inflation	3.00%

Disclaimers: This exhibit is intended to summarize the information presented in the June 30, 2017 Actuarial Valuation Report for MCERA. In preparing our valuation, we relied on information (some oral and some written) supplied by MCERA Staff. This information includes, but is not limited to, the plan provisions, employee data, and financial information. We performed an informal examination of the obvious characteristics of the data for reasonableness and consistency in accordance with Actuarial Standard of Practice No. 23. This exhibit was prepared exclusively for MCERA for the purpose described herein. Other users of this exhibit are not intended users as defined in the Actuarial Standards of Practice, and Cheiron assumes no duty or liability to any other user. This exhibit and its contents have been prepared in accordance with generally recognized and accepted actuarial principles and practices and our understanding of which the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board as well as applicable laws and regulations. Furthermore, as credentialed actuaries, we meet the Qualification Standards of the American Academy of Actuaries to render the opinion contained in this exhibit. This exhibit does not address any contractual or legal issues. We are not attorneys and our firm does not provide any legal services or advice.