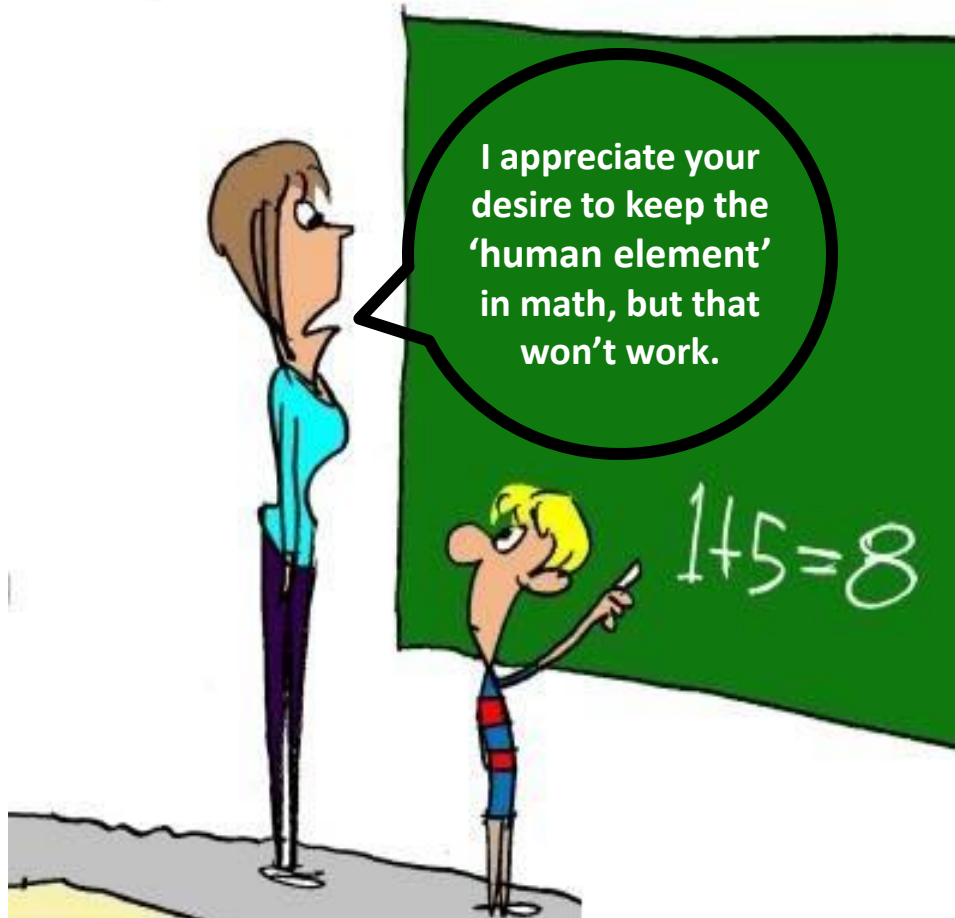


ASOPs FALLABLES



Prepared by Benjamin Holland,
Butler County Controller

Actuarial Standard of Practice No. 35

3.3.5 Select a Reasonable Assumption

Each demographic assumption selected by the actuary should be reasonable. For this purpose, an assumption is reasonable if it has the following characteristics:

- a. It is appropriate for the purpose of the measurement;
- b. It reflects the actuary's professional judgment;
- c. It takes into account historical and current demographic data that is relevant as of the measurement date;
- d. It reflects the actuary's estimate of future experience, the actuary's observation of the estimates inherent in market data (if any), or a combination thereof; and
- e. It has no significant bias (i.e., it is not significantly optimistic or pessimistic), except when provisions for adverse deviation or plan provisions that are difficult to measure are included and disclosed under section 3.10.1 or when alternative assumptions are used for the assessment of risk.

What an experience study **is...**

a review of the *actuarial* methods and the economic and demographic assumptions.

- Discount Rate
- Inflation
- Salary Increases
- Mortality Rates
- Employee Turnover
- Retirement/Disability

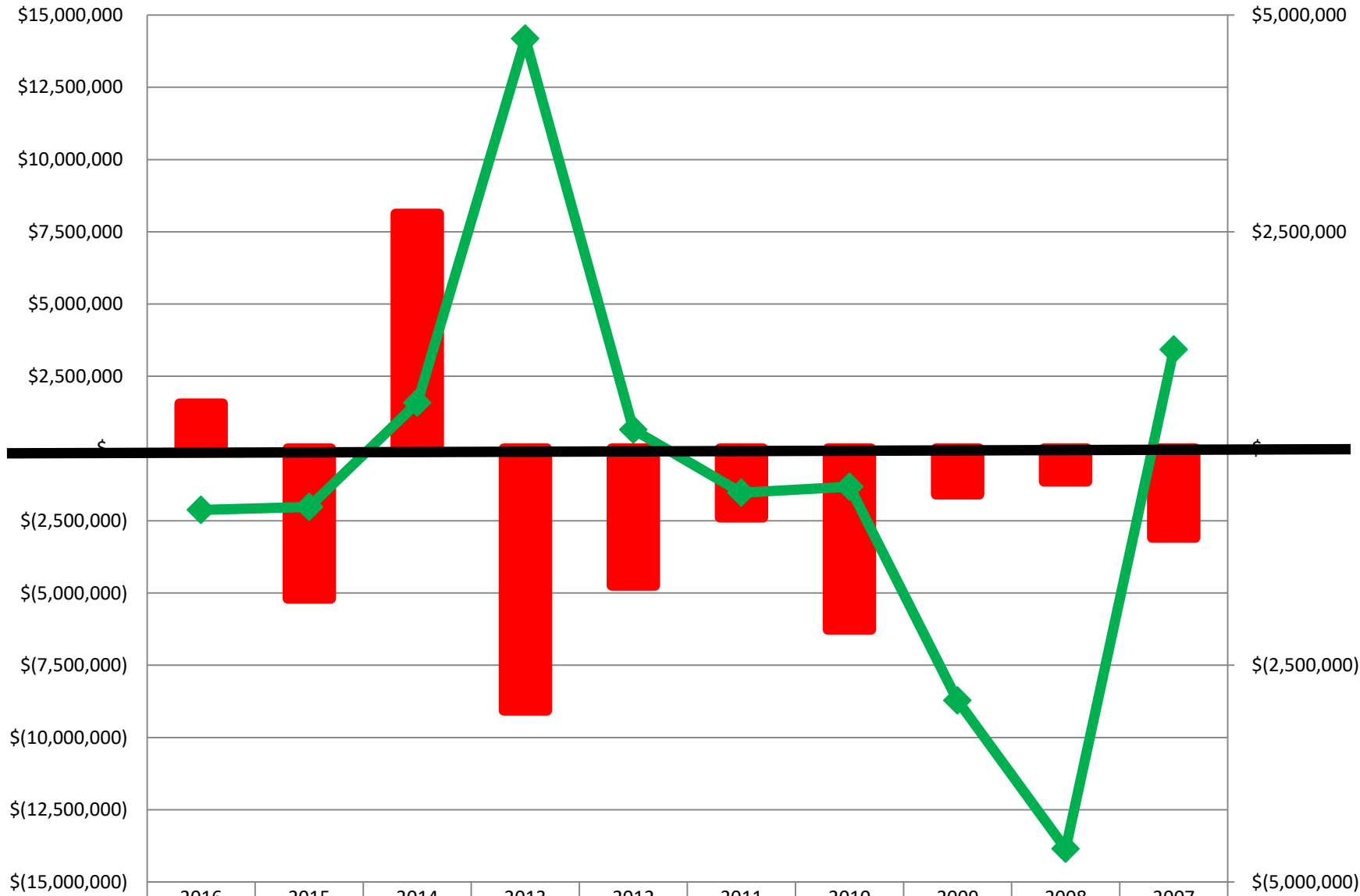
What an experience study **is not**...

a review of the **impact** of economic and demographic assumptions on the plan.

a review of the **impact** of past experience on future experience of the plan.

7. Expected Unfunded Actuarial Liability as of January 1, 2017: (1) + (2) + (3) - (4) + (5) + (6)	23,449,365
8. Unfunded Actuarial Liability as of January 1, 2017	25,049,579
9. Actuarial Gain (Loss) for 2016 Plan Year: (7) - (8)	(1,600,214)

Actuarial Gains & Losses



	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007
Gain (Loss) on Liabilities	\$520,126	\$(1,731,38)	\$2,707,831	\$(3,020,25)	\$(1,579,67)	\$(795,060)	\$(2,087,18)	\$(529,332)	\$(378,362)	\$(1,028,02)
Gain (Loss) on Assets	\$(2,120,34)	\$(2,021,44)	\$1,583,013	\$14,182,73	\$648,475	\$(1,526,39)	\$(1,317,75)	\$(8,720,30)	\$(13,851,8)	\$3,420,499



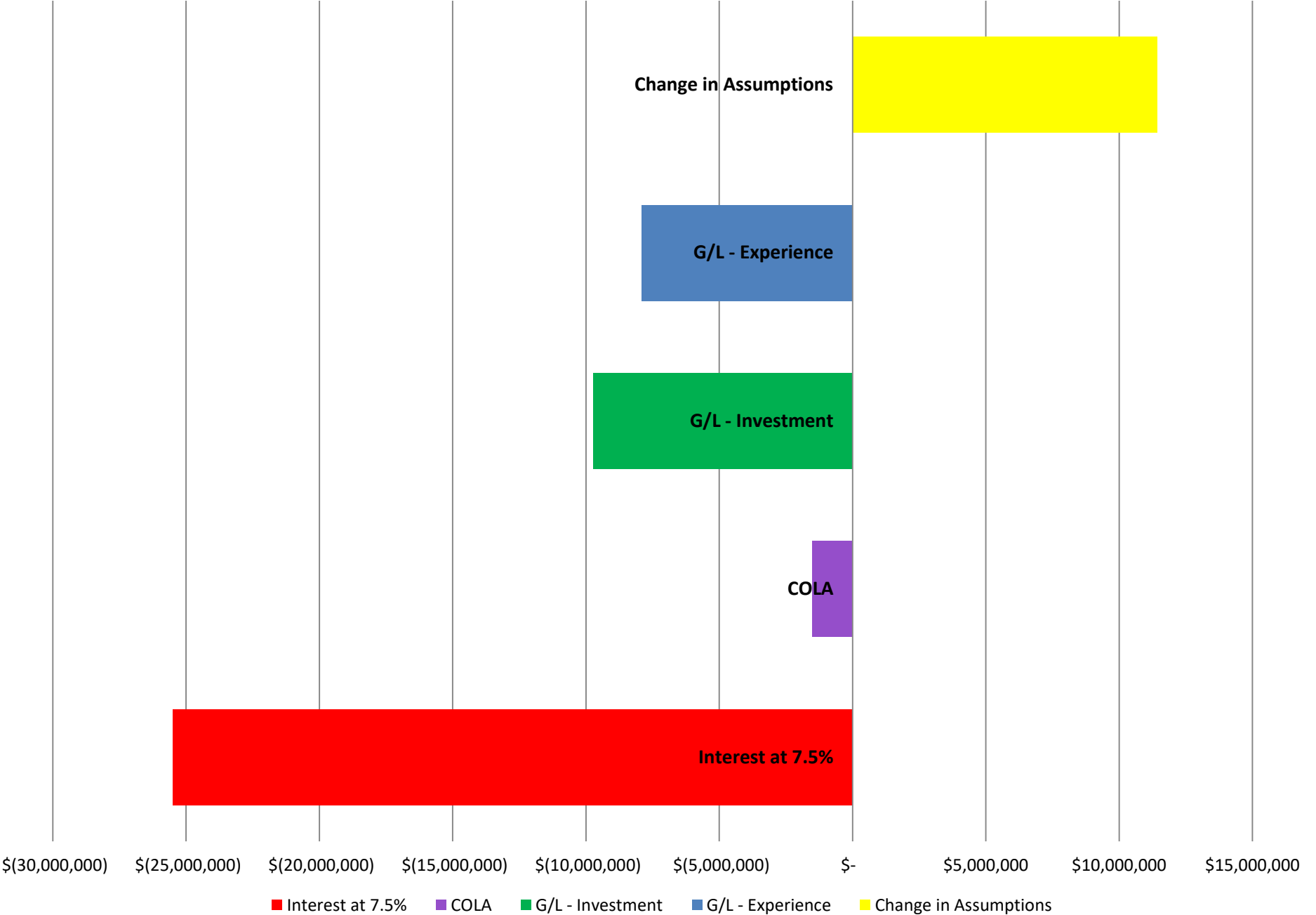
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Experience Gains/Losses

- (i) **G/L from Investment Return on Assets**
- (ii) **G/L from New Entrants and Pickups**
- (iii) **G/L from Salary Increases Less than Expected**
- (iv) **G/L from Mortality Experience**
- (v) **G/L from Vested Termination Experience
(Retirement/Disability/Termination)**
- (vi) **G/L from Non-vested Termination Experience**
- (vii) **Miscellaneous**

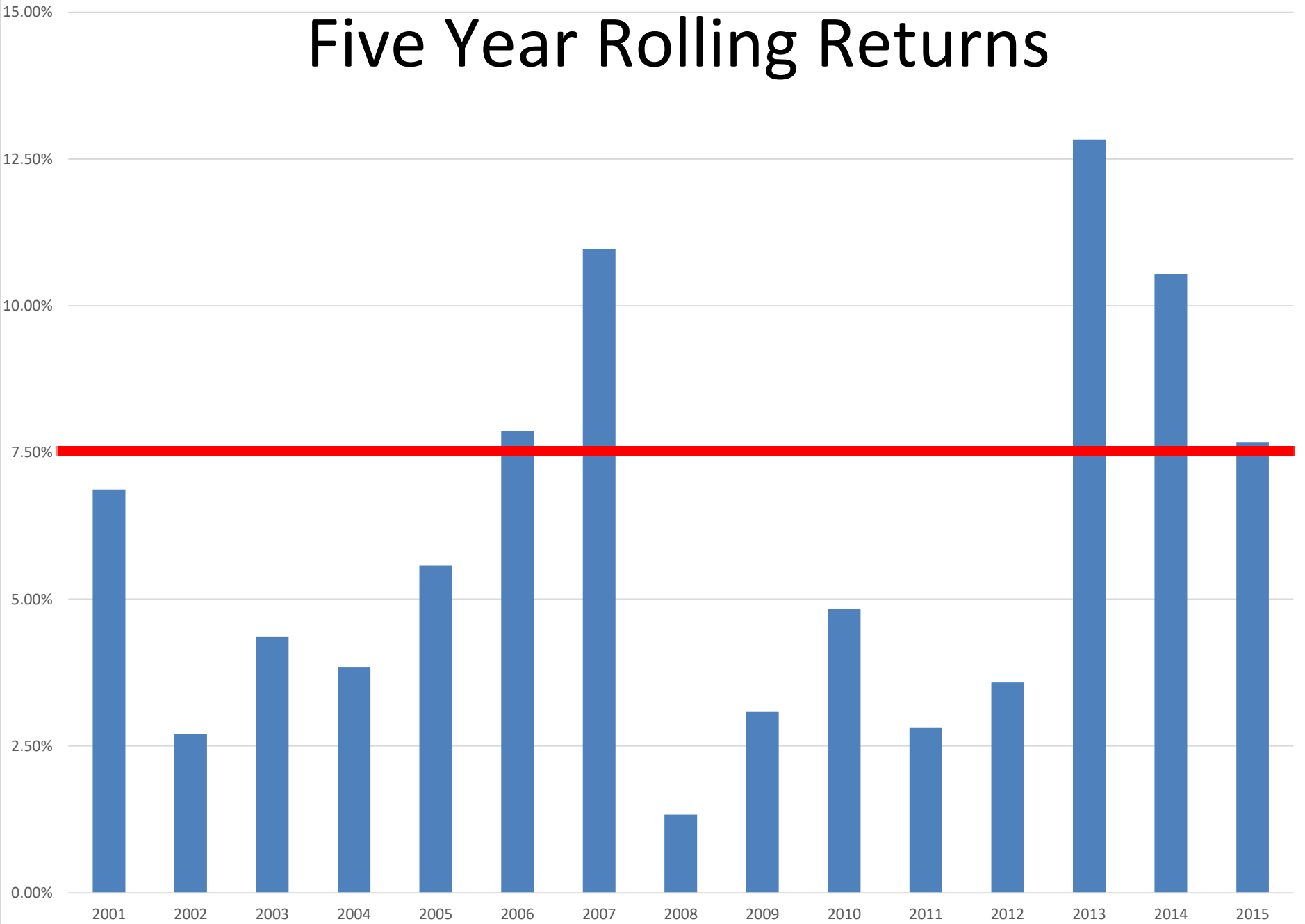
Net Amortization Accruals



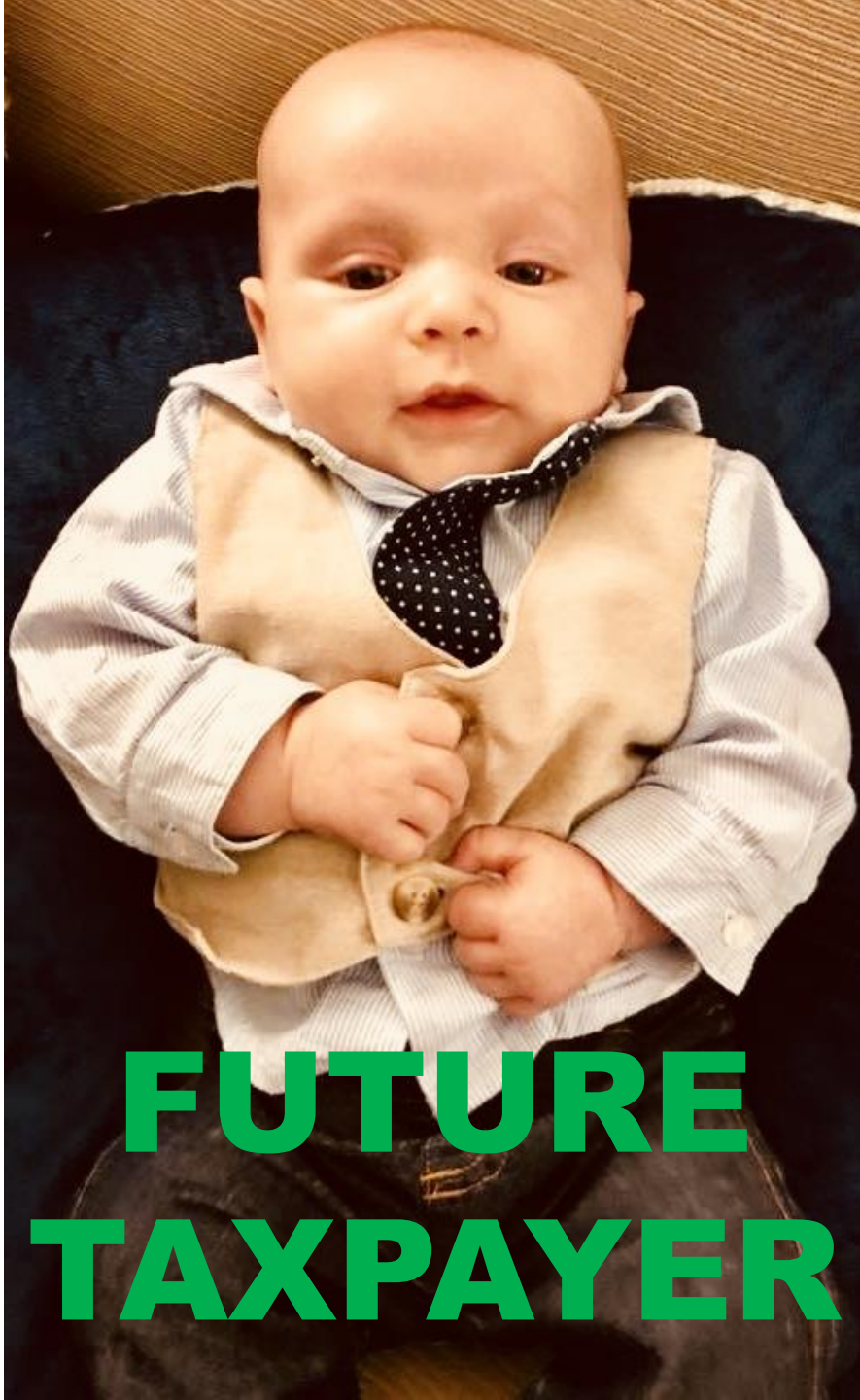
Net Amortization Accruals vs. Net Amortization Payments

UAAL, Beginning 01/01/2007			\$	(30,579,287)
Interest at 7.5%		77%	\$	(25,489,291)
COLA		5%	\$	(1,522,525)
G/L - Investment		29%	\$	(9,723,323)
G/L - Experience		24%	\$	(7,921,324)
Change in Assumptions		-34%	\$	11,437,277
Net Amortization Accruals			\$	(33,219,186)
Net Amortization Payments (Total ADC - Normal Cost)			\$	38,748,894
UAAL, Ending 01/01/2016			\$	(25,049,579)

Five Year Rolling Returns



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