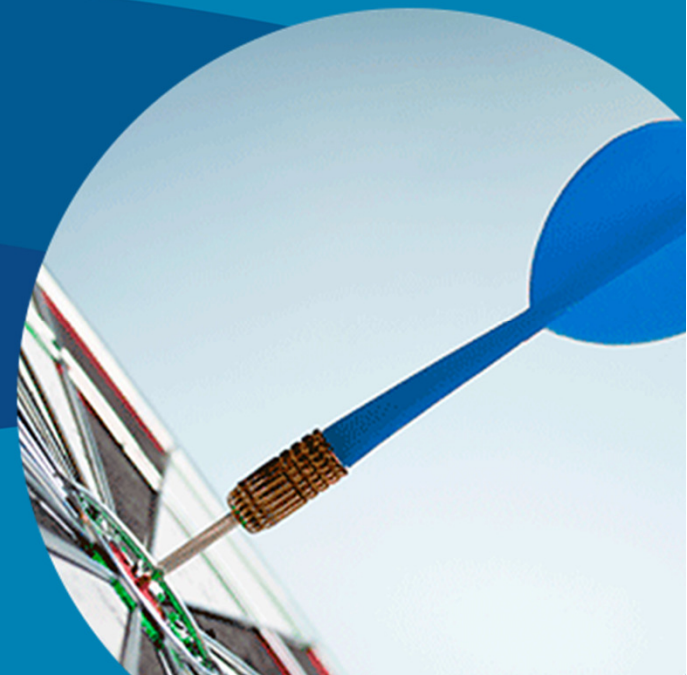




# Michigan Judges' Retirement System

Pension Actuarial Valuation Results  
as of September 30, 2017



# September 30, 2017 Valuation

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- Purpose of the September 30, 2017 valuation is twofold:
  - Determine the employer contribution rate for fiscal year 2018
  - Measure the System's funding progress
- Reflects the Dedicated Gains Policy adopted by the Board of Trustees
  - In the absence of the Policy, the investment return assumption was expected to be reduced from 8.00% to 7.50%
  - The investment return assumption was reduced from 7.50% to 6.75% as a result of the Policy

# Actuarial Valuation Process

*Member Data*



*Financial Data*



**Actuarial  
Valuation**

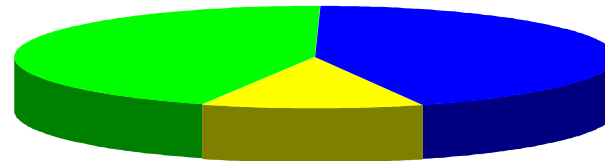
*Actuarial Assumptions*



*Plan Provisions*



*Actuarial Cost Method*

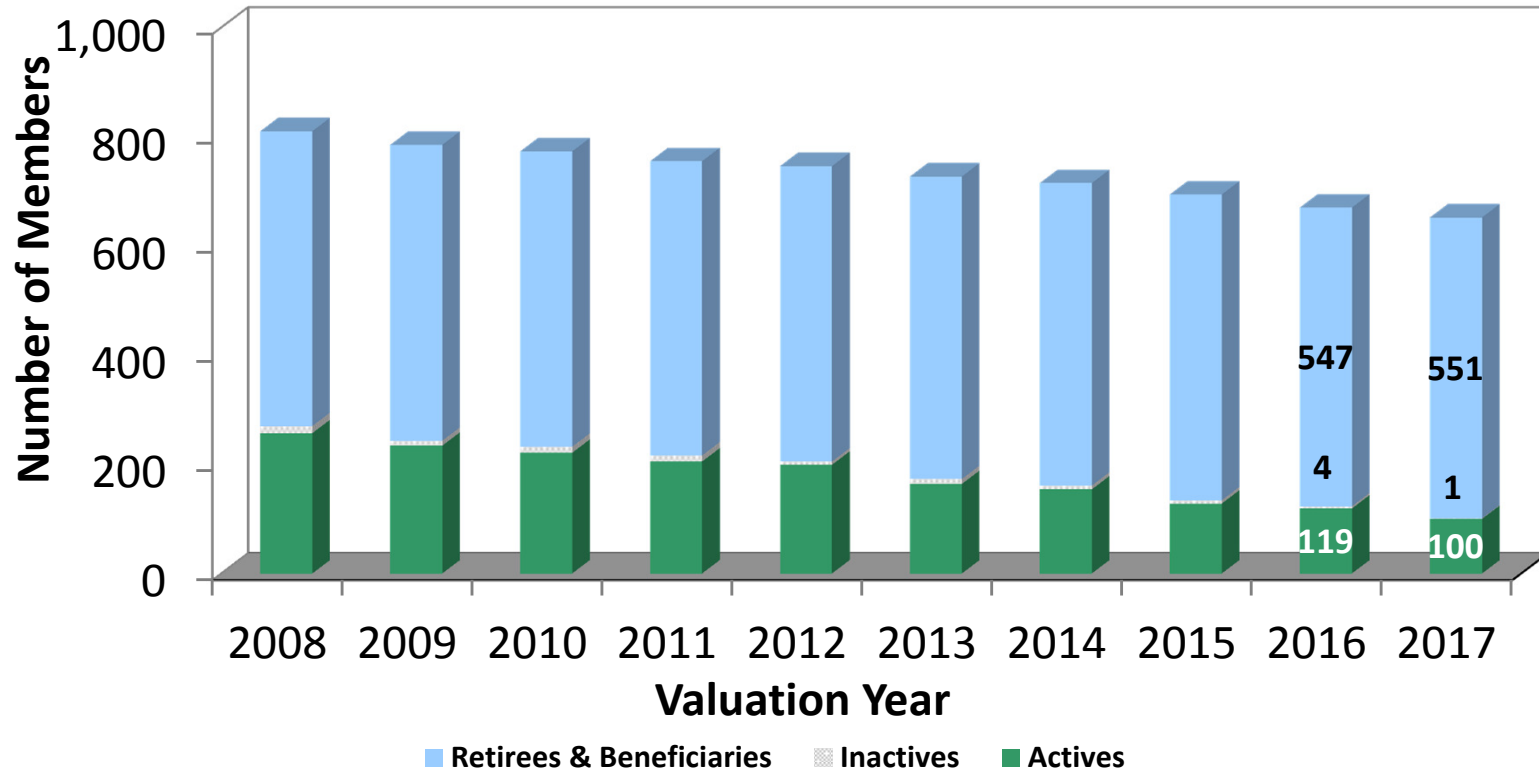


# Dedicated Gains Policy

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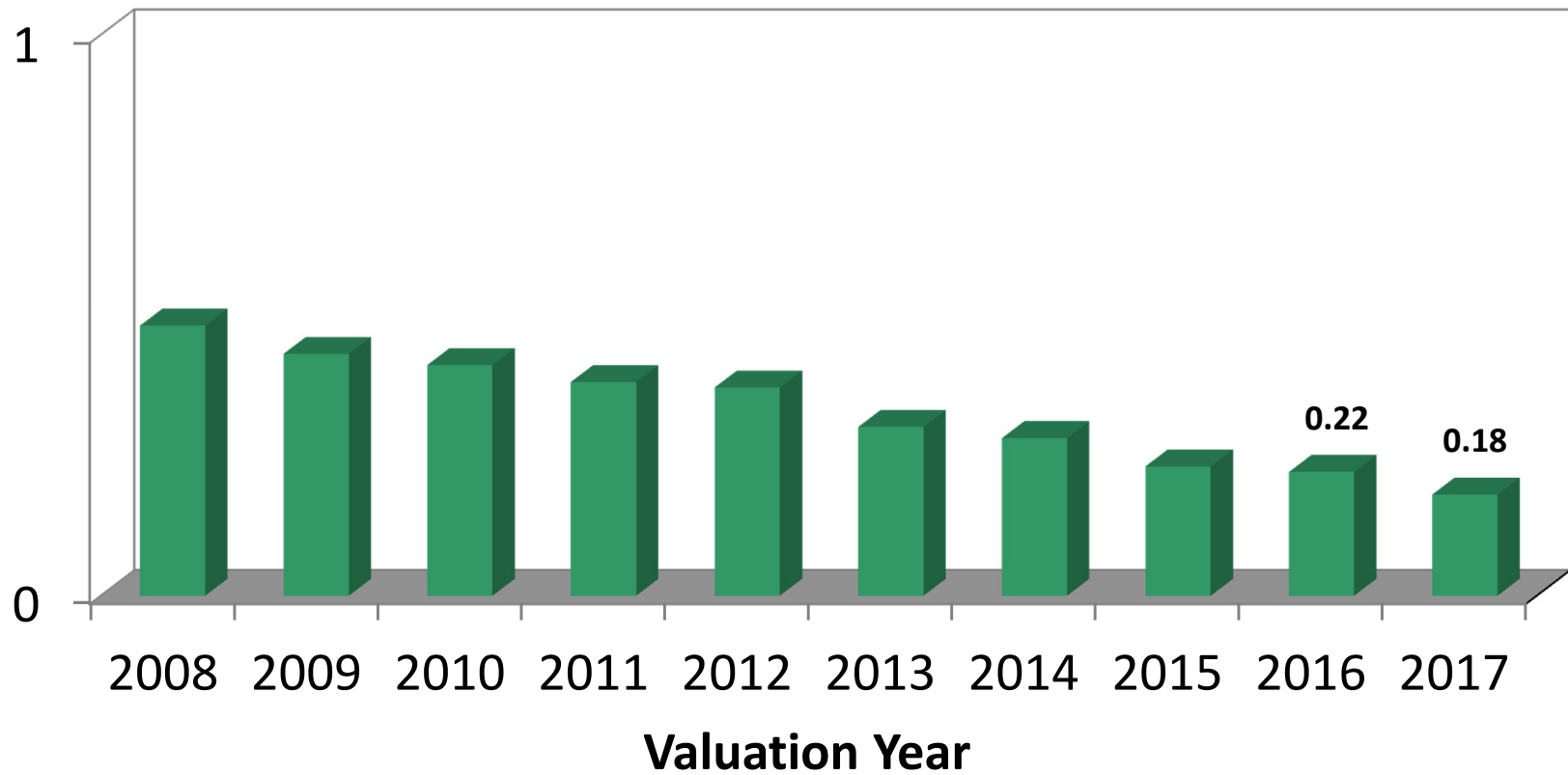
- Adopted in 2017
- The purpose of the Policy is to reduce the investment return assumption for actuarial valuation purposes if the fiscal year's market value rate of return exceeds a certain amount
- The immediate recognition of the market value return is expected to offset the increase in the computed employer contribution from where it otherwise would have been
- JRS specific provisions
  - In the absence of the Policy, the investment return assumption was expected to be reduced from 8.00% to 7.50%. Therefore, the Dedicated Gains Policy analysis was based upon a 7.50% investment return assumption as of September 30, 2016.
  - For normal cost purposes, the amount of excess investment return is sufficient to cover the increase in the employer normal cost for the first year only.

# Membership Data



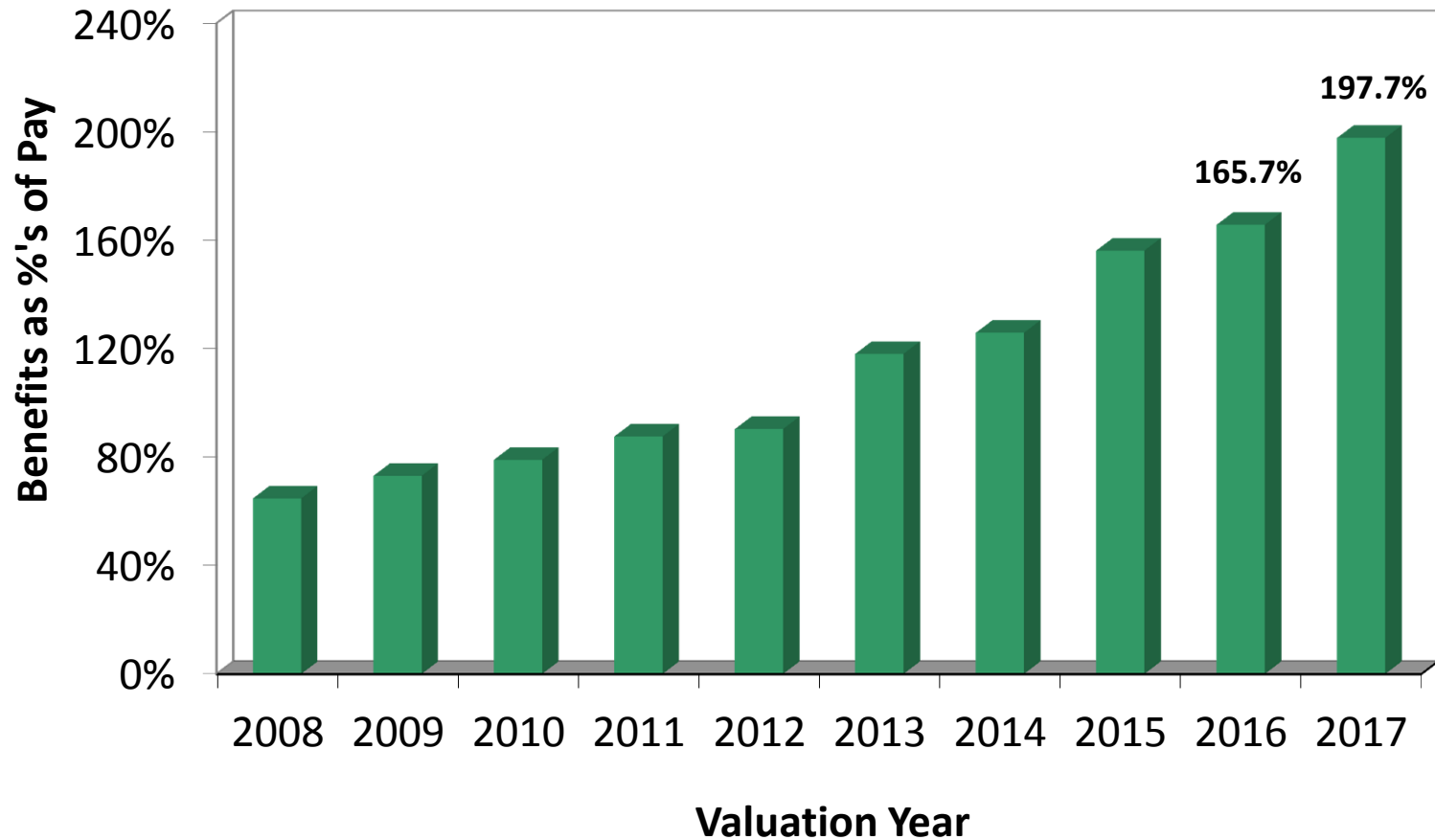
# Ratio of Active Members to Pension Benefit Recipients

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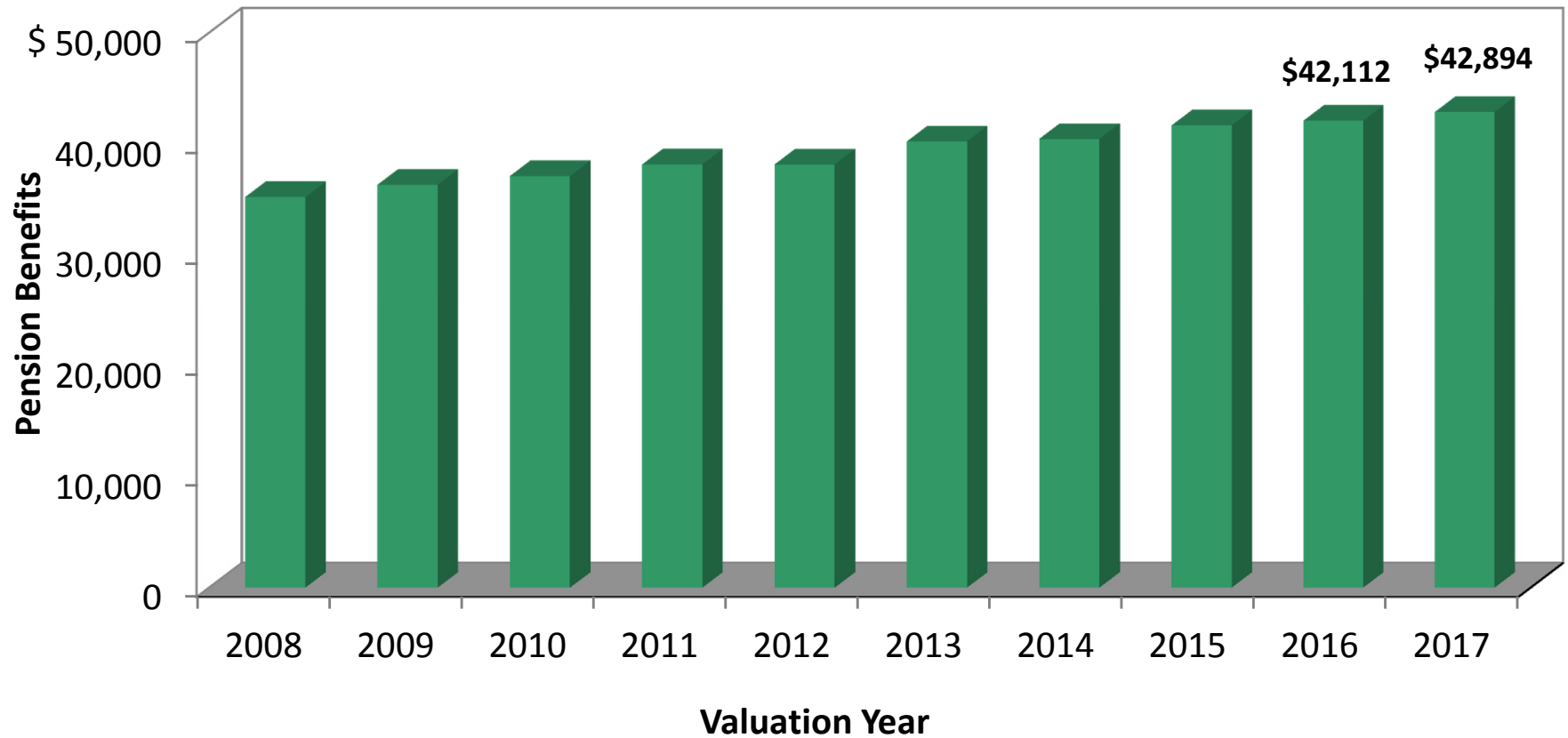


# Pension Benefits Expressed as Percents of Active Member Pay

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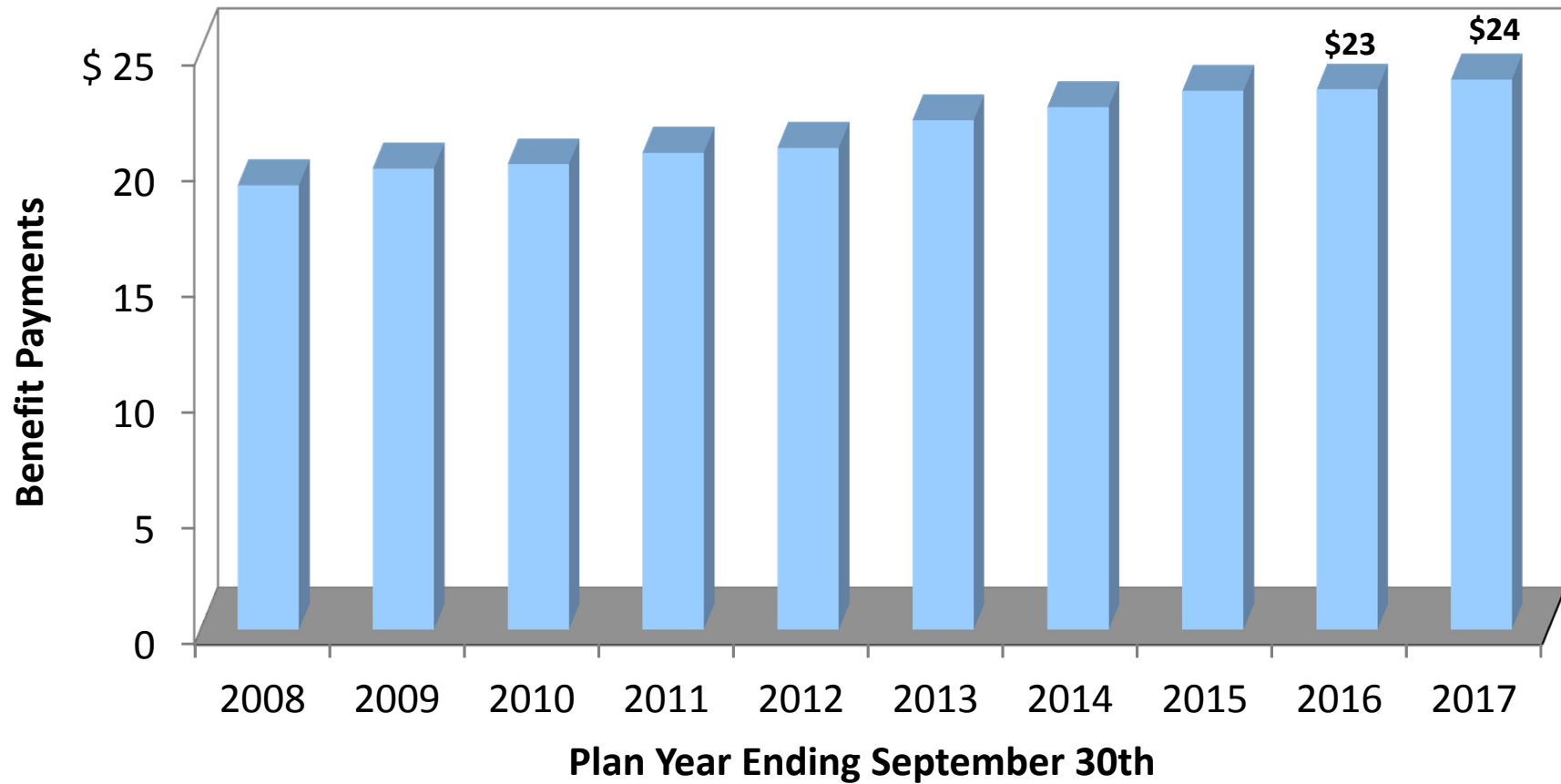
# Average Annual Pensions



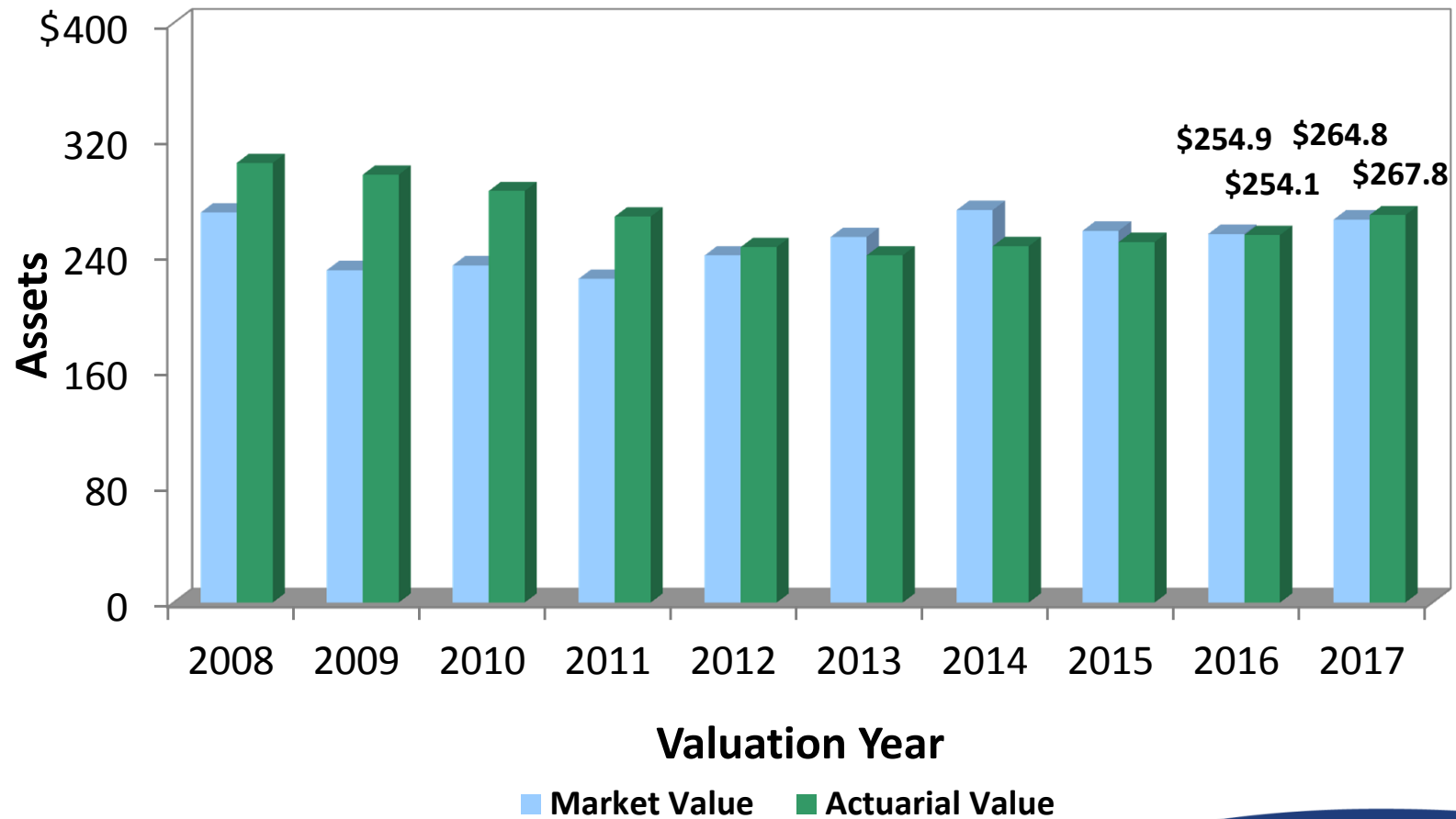


# Reported Pension Payments by Fiscal Year (Amounts in Millions)

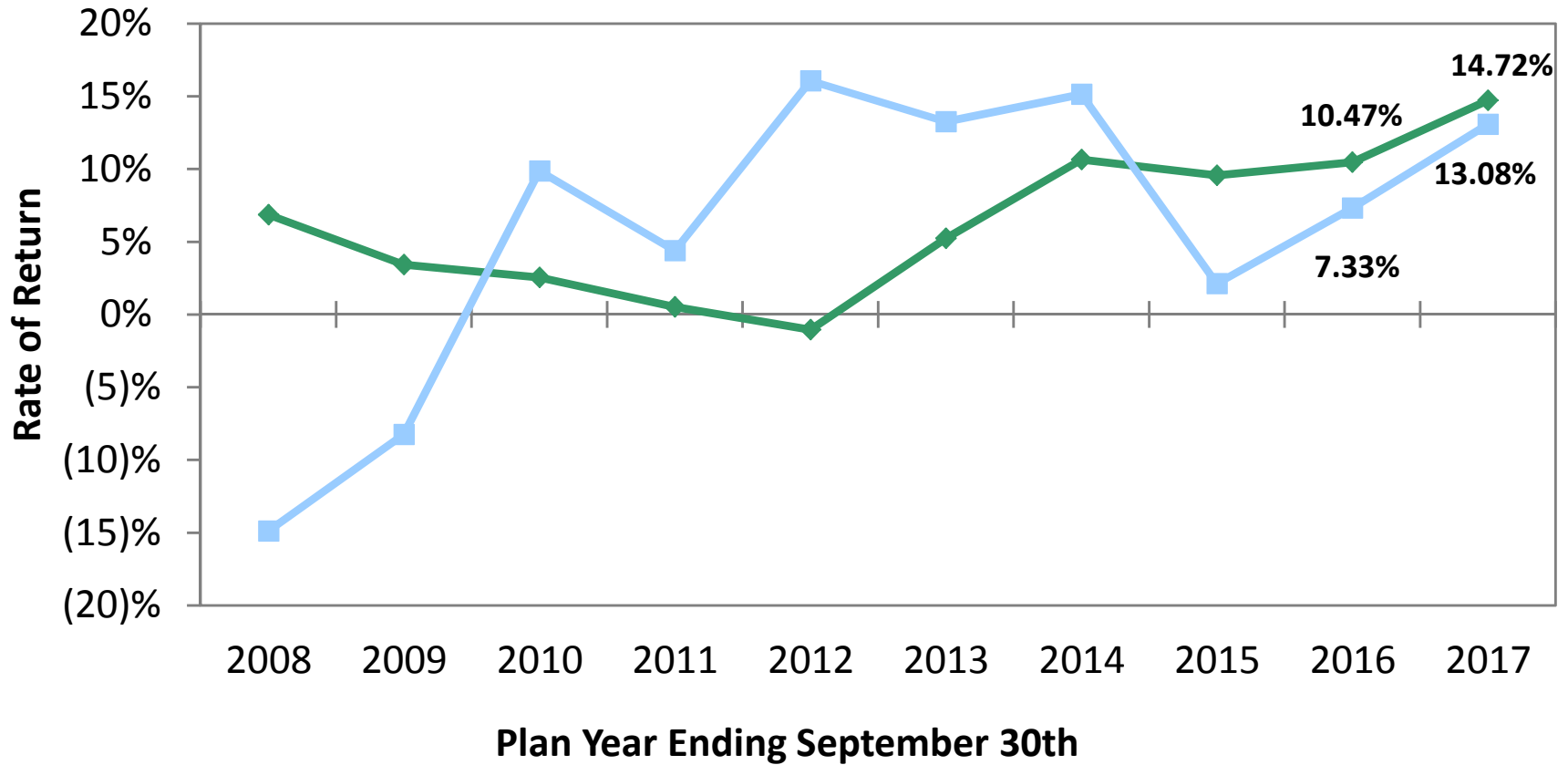
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# Growth of Pension Assets (Amounts in Millions)

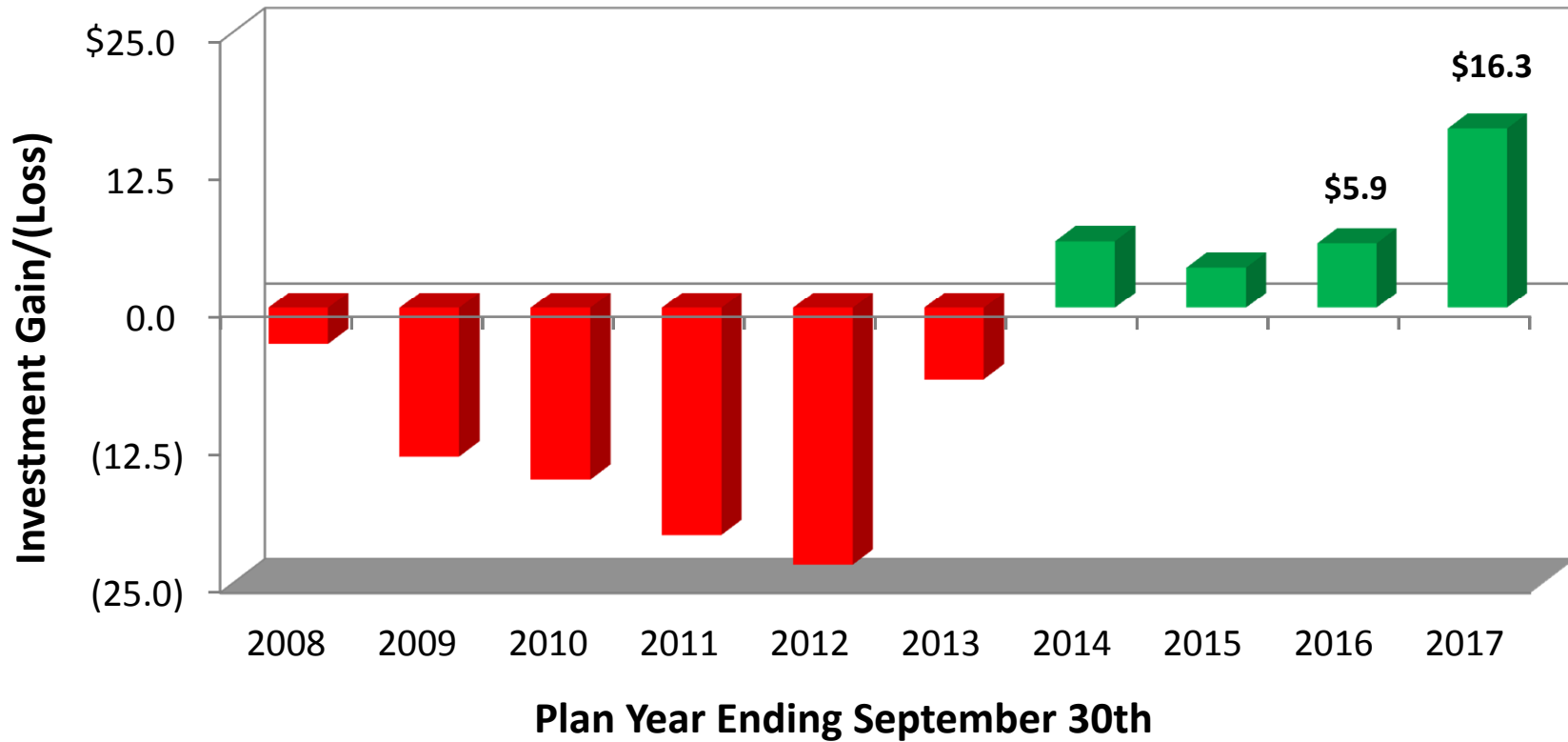


# Actuarial & Market Net Rates of Return

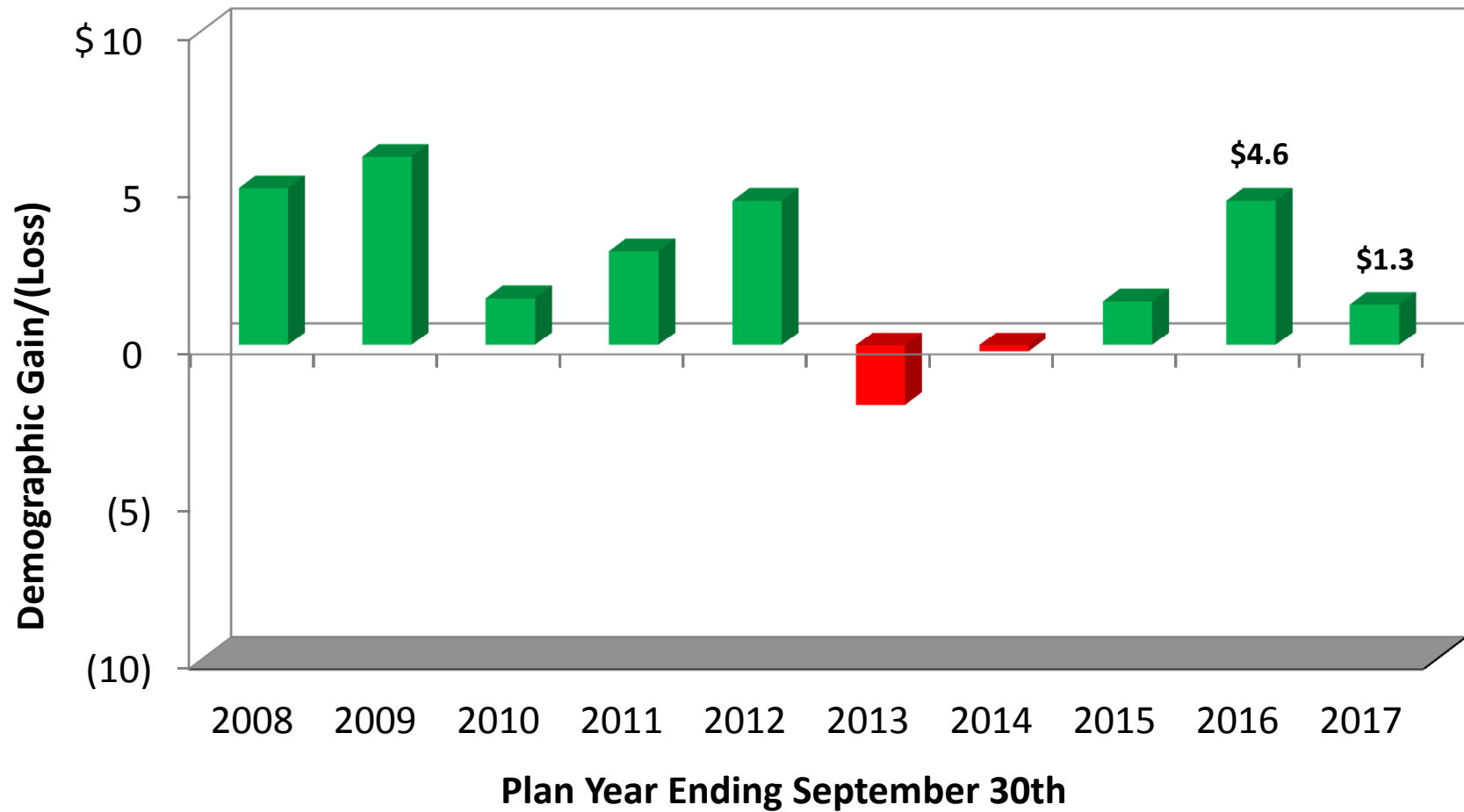


—◆— Actuarial    —■— Market

# Investment Gain/Loss (Amounts in Millions)



# Demographic Gain/Loss (Amounts in Millions)

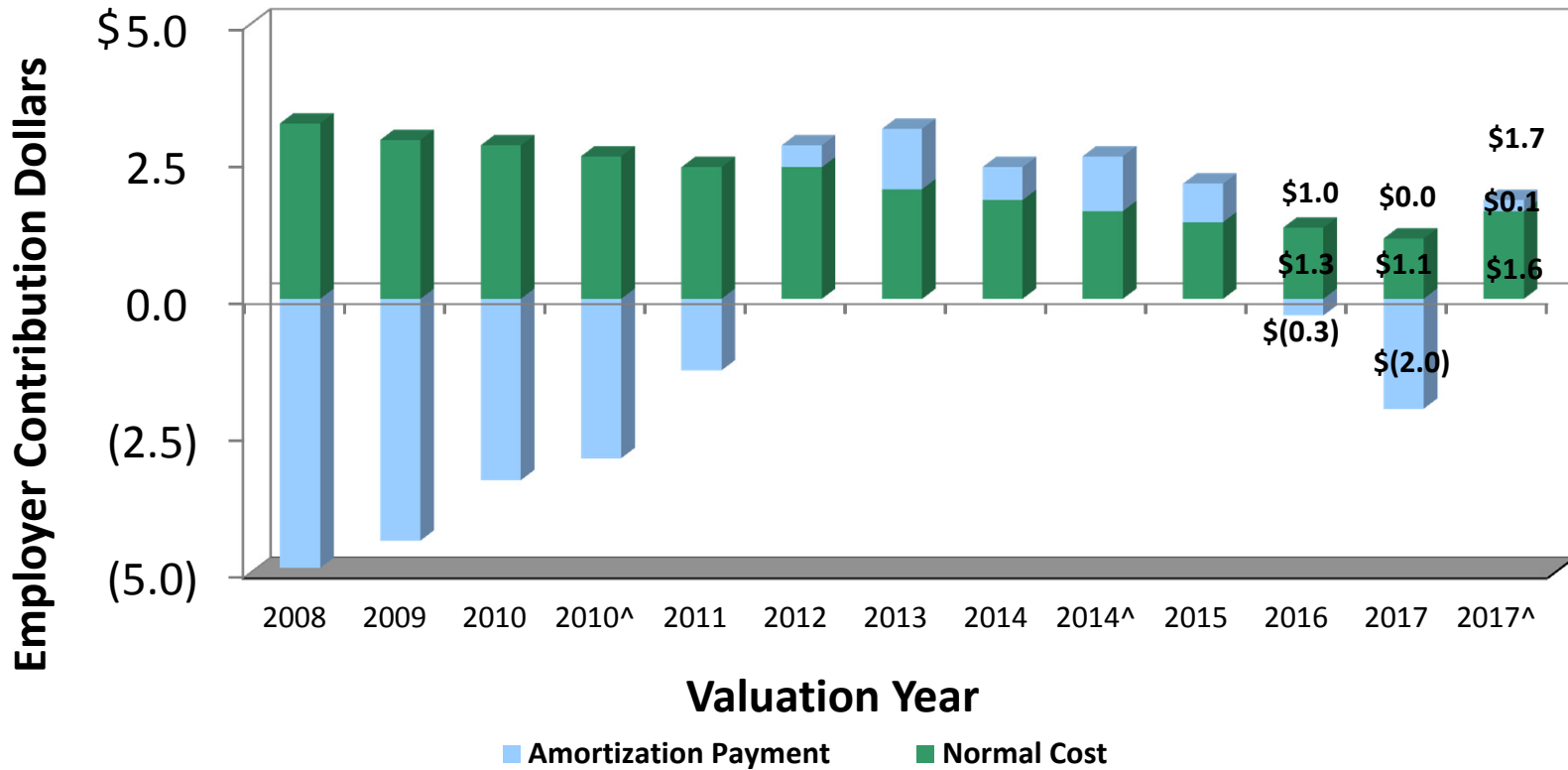


## Gain/(Loss) by Type of Activity (Amounts in Millions)

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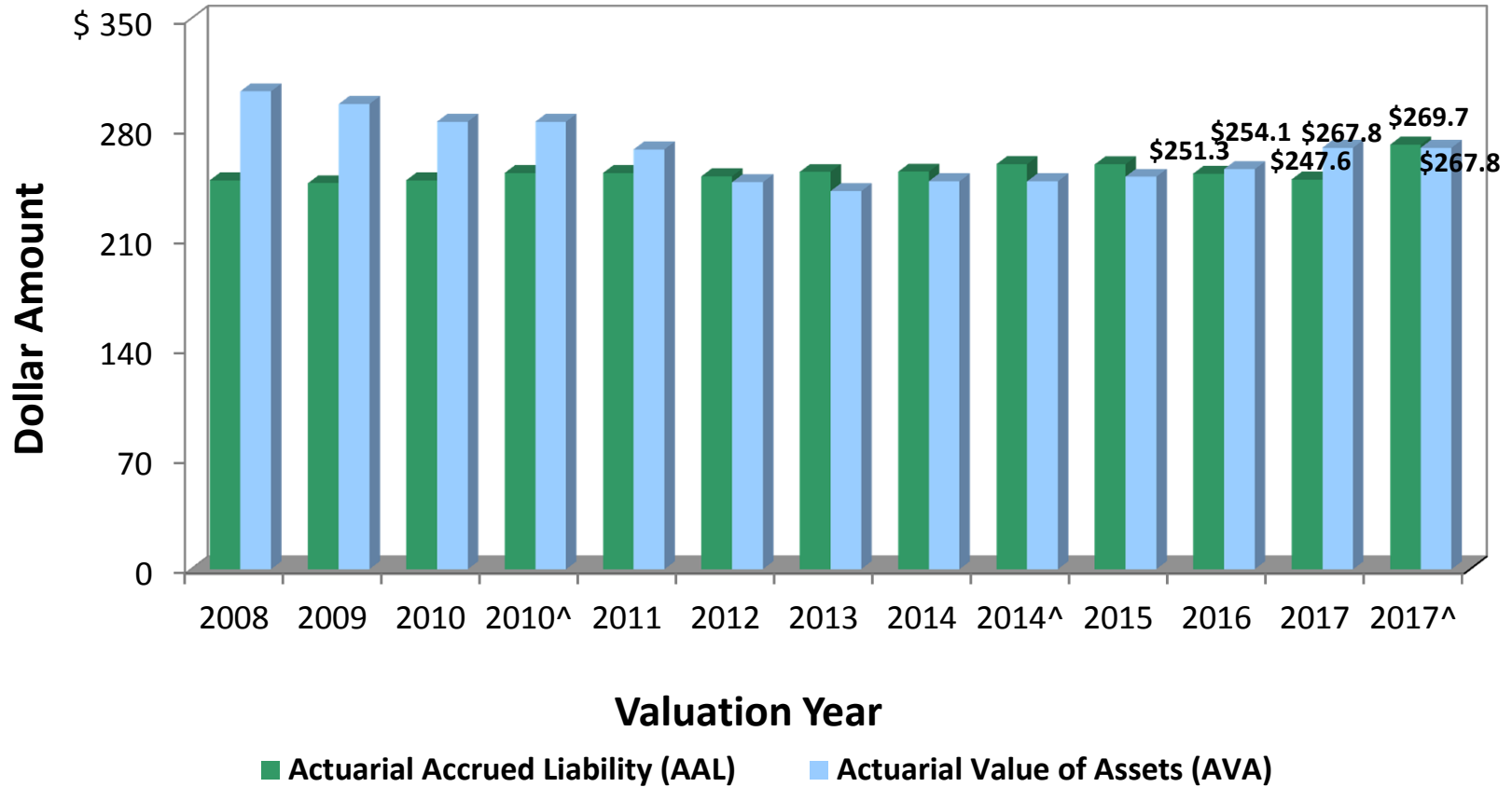
Plan Year Ending 9/30	2017	2016	2015	2014	2013
New Entrants	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00
Retiree Deaths	0.28	2.36	1.01	(0.05)	(0.29)
Investments	16.34	5.92	3.69	6.14	(6.55)
Pay Increases	1.04	1.68	1.41	2.15	2.65
Withdrawals	0.05	0.06	(0.06)	(0.15)	(0.16)
Retirements	(0.58)	0.29	(1.19)	1.44	(2.54)
Other	0.55	0.16	0.23	(3.54)	(1.53)
<b>Total</b>	<b>17.68</b>	<b>10.47</b>	<b>5.09</b>	<b>5.99</b>	<b>(8.42)</b>

# Employer Contribution Dollars Valuation as of September 30<sup>th</sup> (Amounts in Millions)



^ Revised actuarial assumptions and/or methods.

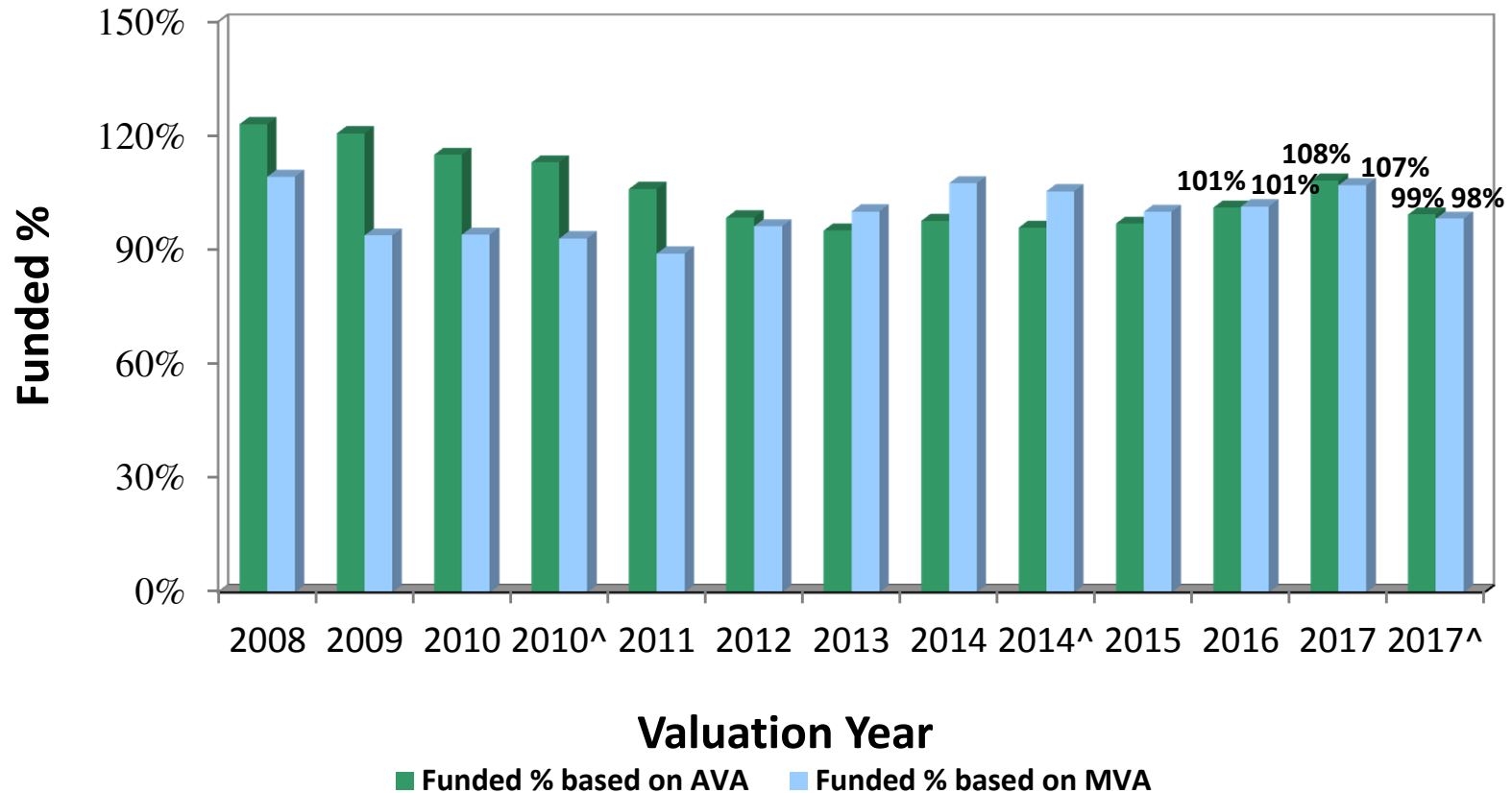
# Actuarial Accrued Liability Compared to Actuarial Value of Assets (in Millions)



^ Revised actuarial assumptions and/or methods.



# Retirement System Funded % Based on Actuarial Value and Market Value of Assets



^ Revised actuarial assumptions and/or methods.

# Disclaimers

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- This presentation is intended to be used in conjunction with the September 30, 2017 pension annual actuarial valuation report issued on March 16, 2018. This presentation should not be relied on for any purpose other than the purpose described in the valuation report.
- This presentation shall not be construed to provide tax advice, legal advice or investment advice.
- The actuaries submitting this presentation (Mita Drazilov and Louise Gates) are Members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.