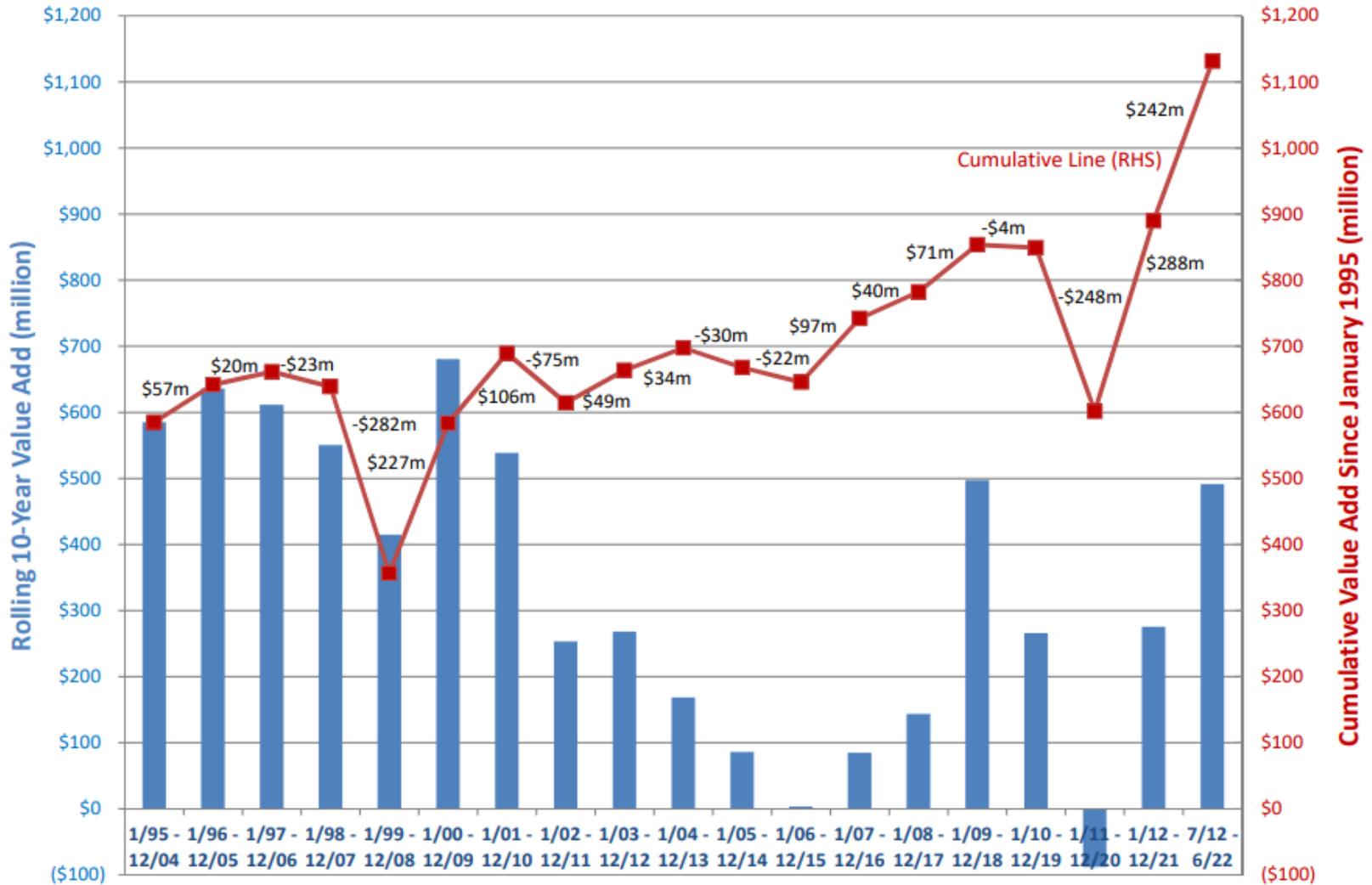

Employees' Retirement System

September 14, 2022

Historical Value Add - 1995 - June 30, 2022 CMERS Total Fund (everything except Real Assets)



Historical Value Add - 1995 - June 30, 2022 CMERS Total Fund (everything except Real Assets)

MERS' decision to hire some active managers versus hiring only passive managers

MERS Asset Class	Index	Time Weighted Returns			Dollar Weighted Estimates (Net of fees)		
		Annualized MERS Asset Class		Annualized Index	Value of a Dollar Invested in		Active Management Impact ^(c)
		Gross	Net of fees	Net of fees ^(a)	MERS Asset Class	Index	\$Millions
Domestic Equity	Russell 3000	10.23%	9.97%	9.94%	\$ 13.64	\$ 13.56	\$ 115.2
International Equity ^(b)	MSCI EAFE	6.53%	6.11%	4.08%	\$ 4.70	\$ 2.84	\$ 394.3
Global Equity ^(b)	MSCI World / ACWI	8.77%	8.40%	7.97%	\$ 2.69	\$ 2.56	\$ 30.4
Fixed Income	Bloomberg US Aggregate	5.96%	5.85%	4.84%	\$ 4.77	\$ 3.66	\$ 256.4
Private Equity ^{(b)(d)}	Russell 3000	N/A	15.93%	16.30%	\$ 5.48	\$ 5.68	\$ 209.8
Absolute Return ^(b)	Bloomberg US Aggregate	N/A	5.41%	1.46%	\$ 1.52	\$ 1.12	\$ 125.2
Estimate of Fund's benefit from its decision to hire active managers over past 27.5 years							\$ 1,131.3

^(a) Manager Fees for indices are assumed to be:

Russell 3000 Index - 2 basis points
 MSCI EAFE Index - 5 basis points
 MSCI World / ACWI Index - 5 basis points
 Bloomberg US Aggregate Index - 2 basis points

^(b) Inception Dates if less than 27.5 years:

International Equity Composite is May 1, 1996
 Global Equity Composite is April 1, 2010
 Private Equity Composite is July 1, 2010
 Absolute Return Composite is July 1, 2014

^(c) Active Management Impact \$Millions Estimate is based on monthly ERS asset class balances.

^(d) Private Equity data in analysis reflects what was shown on December 31, 2021 Value Add analysis. The Private Equity data would be significantly higher as of June 30, 2022 given the lagged nature of Private Equity reporting compared to the Russell 3000 benchmark Private Equity is being compared to.

Performance vs Callan Public Fund Sponsor Database (Gross)



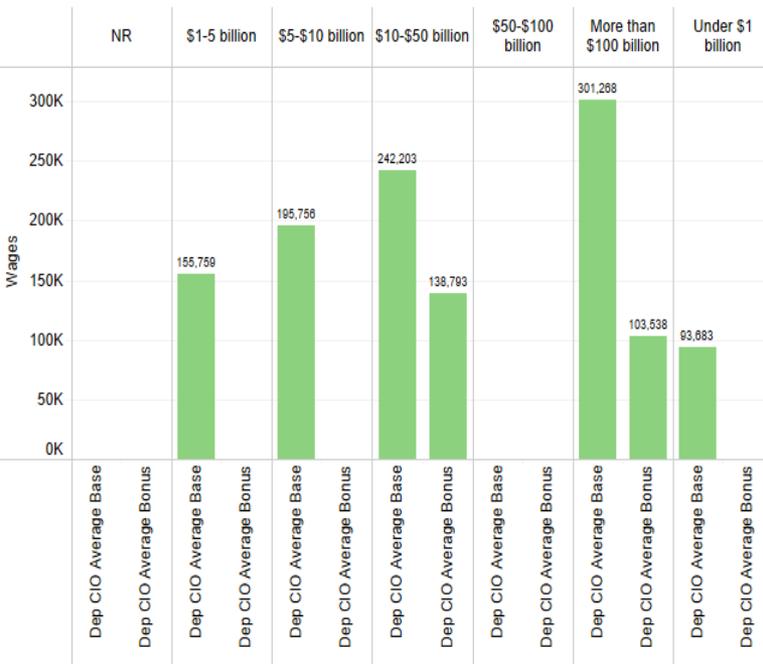
	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
10th Percentile	(6.78)	(4.04)	8.09	8.06	8.82
25th Percentile	(8.15)	(7.13)	7.03	7.28	8.32
Median	(9.71)	(9.35)	5.85	6.40	7.79
75th Percentile	(10.66)	(11.14)	4.81	5.65	6.81
90th Percentile	(11.34)	(12.87)	4.26	5.13	6.29
Total Fund ●	(6.75)	(0.68)	8.04	8.02	9.02
Total Fund Reference Index ▲	(8.29)	(5.89)	6.51	6.69	8.05

Deputy Chief Investment Officer Compensation

Roles and Other Responsibilities

- Local All
- County All
- Educational All
- State All
- Other All
- Public Safety All
- Active and Retirees All values
- Investment Staff Positions All values
- Systems Administered All values
- Staff Positions All values
- Inhouse Asset Management All
- Multiple Roles All
- Position Type All
- Union All
- Years in position All

Average Salary by Fund Assets



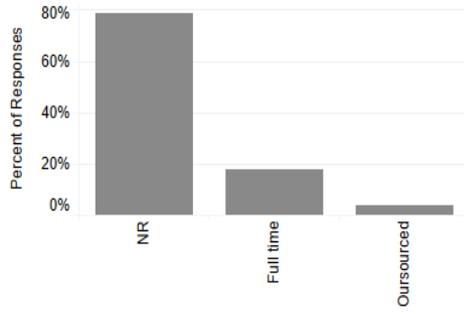
Median Salary by Fund Assets



Average Salary by Fund Assets and Tenure

Dep CIO: Years in position (bin)	NR	\$1-5 billion	\$5-\$10 billion	\$10-\$50 billion	\$50-\$100 billion	More than \$100 billion	Under \$1 billion
Null				241,009		326,436	
0		161,559	216,134	242,423		276,100	
5				261,893			
10		144,158		221,899			
15							
Averag.: Null							
0				138,793		103,538	
5							

Position

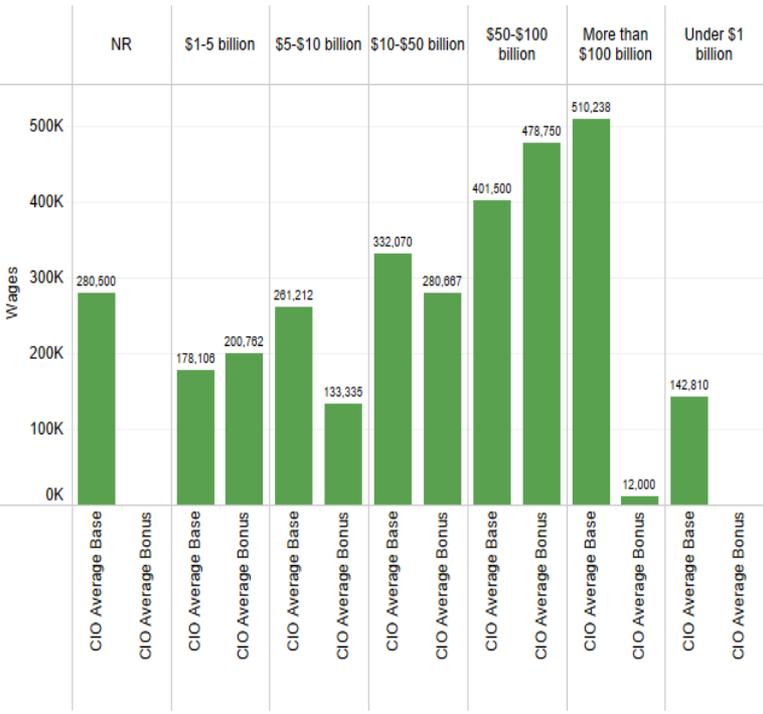


Chief Investment Officer Compensation

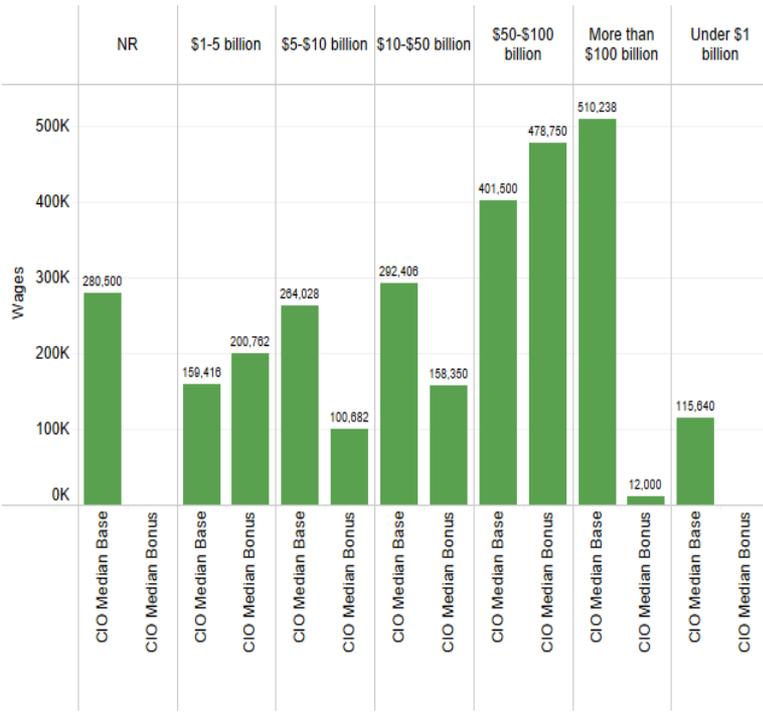
Roles and Other Responsibilities

- Local All
- County All
- Educational All
- State All
- Other All
- Public Safety All
- Active and Retirees All values
- Investment Staff Positions All values
- Systems Administered All values
- Staff Positions All values
- Inhouse Asset Management All

Average Salary by Fund Assets



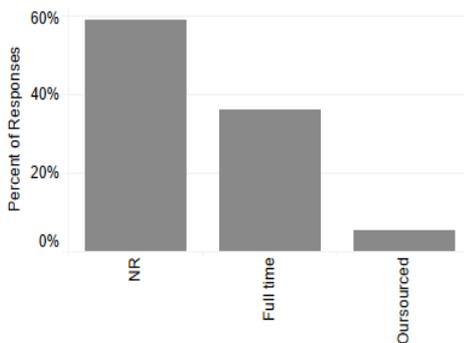
Median Salary by Fund Assets



Average Salary by Fund Assets and Tenure

CIO: Years in position (bin)	NR	\$1-5 billion	\$5-\$10 billion	\$10-\$50 billion	\$50-\$100 billion	More than \$100 billion	Under \$1 billion
Null				102,559	265,000		510,238
0	280,500	137,454	280,807	328,060	383,000		
5		187,254	267,585	350,000			
10		223,667	341,960	257,936			
15		232,027		442,709	420,000		
25				295,000			
Null							12,000
0			23,497	215,000	478,750		
5			133,335	280,087			

Position



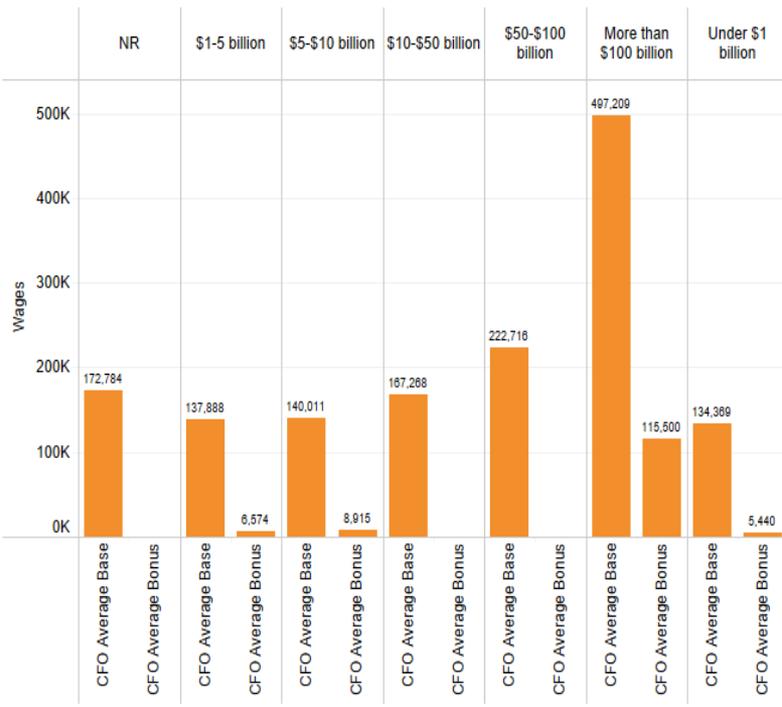
- Multiple Roles All
- Position Type All
- Union All
- Years in position All



Chief Financial Officer Compensation

[Roles and Other Responsibilities](#) Local All

Average Salary by Fund Assets



Median Salary by Fund Assets

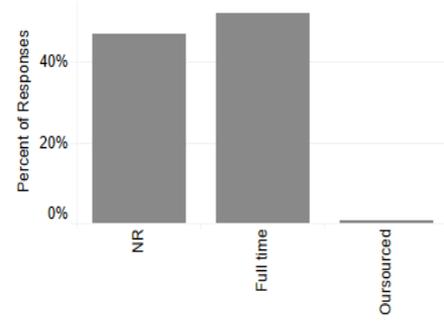


County All
Educational All
State All
Other All
Public Safety All
Active and Retirees All values
Investment Staff Positions All values
Systems Administered All values
Staff Positions All values
Inhouse Asset Management All

Average Salary by Fund Assets and Tenure

CFO: Years in position (bin)	NR	\$1-5 billion	\$5-\$10 billion	\$10-\$50 billion	\$50-\$100 billion	More than \$100 billion	Under \$1 billion
Null				135,000		169,977	15
0		131,980	131,209	147,685	222,716	1,700,000	13
5	172,784	143,625	154,681	177,174		223,046	16
10		132,388		157,277			8
15		154,633		235,604			
20		140,000		222,950			11
30				232,296			
plus Null							

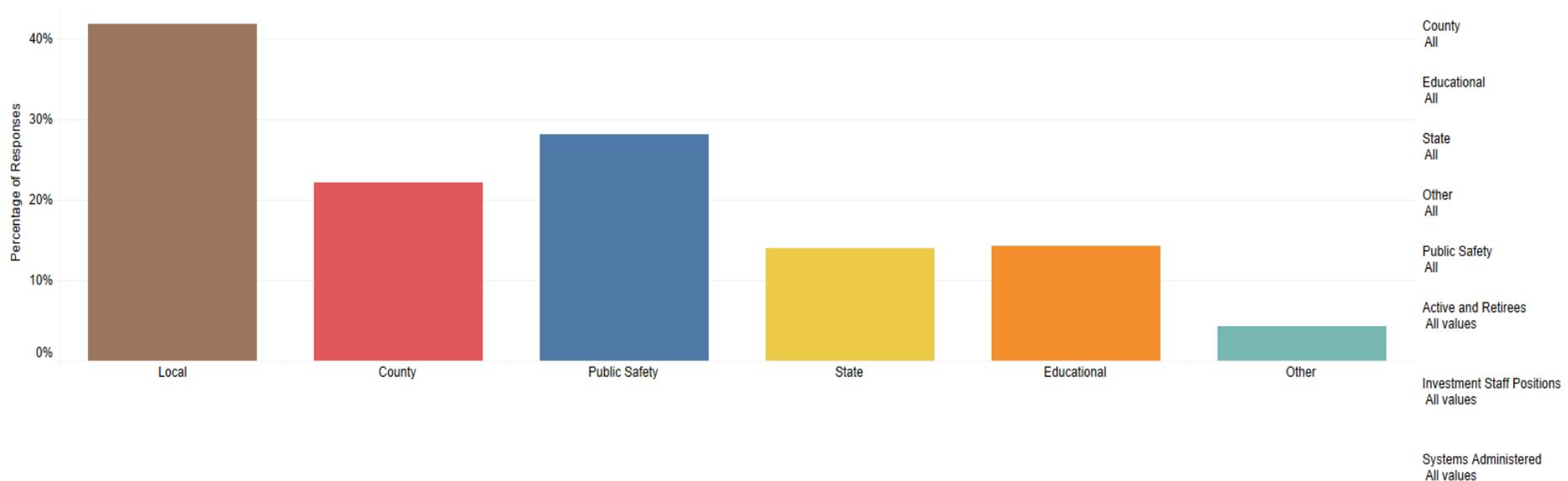
Position



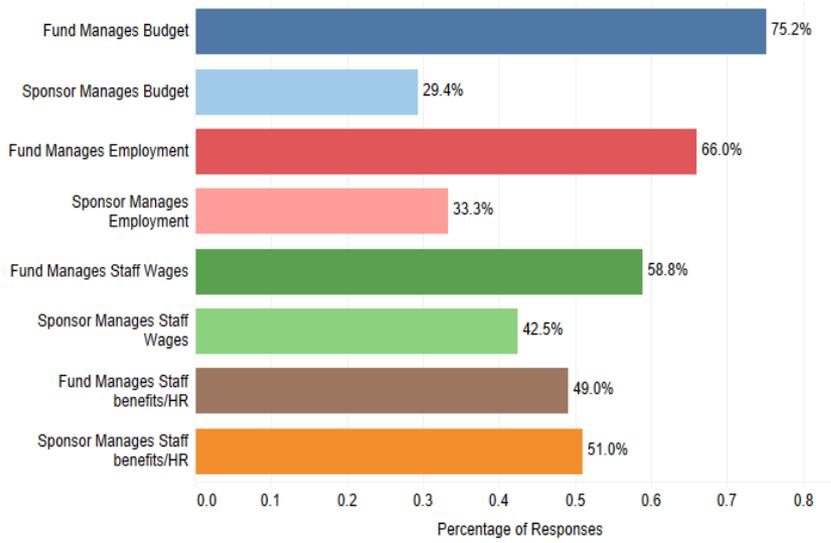
Multiple Roles All
Position Type All
Union All
Years in position All



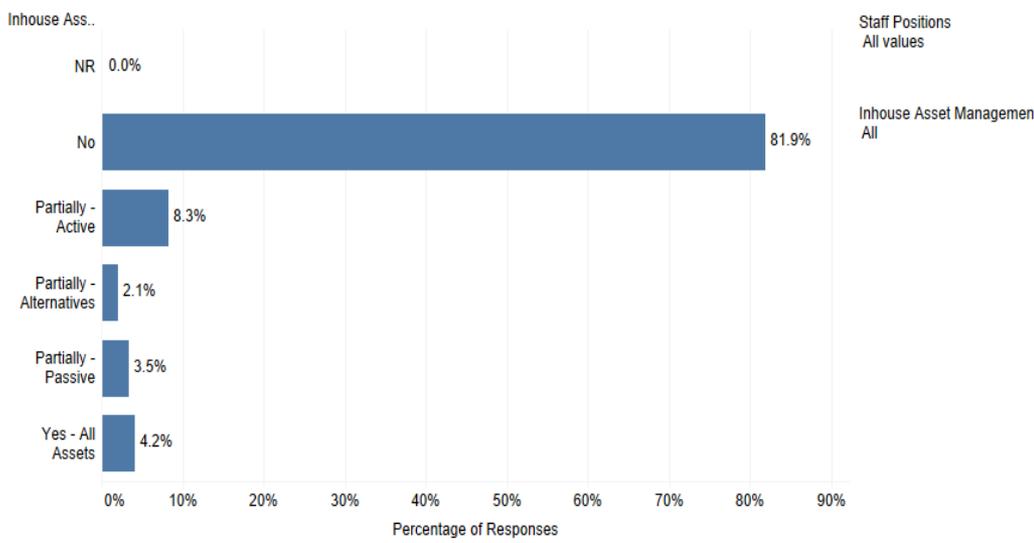
Jurisdiction



Oversight Responsibilities



Assets Managed by Fund



Summary Counts

Count of Active and Retired Individuals	9,270,043
Count of Staff Positions	11,617
Count of Systems Administered	1,714
Count of Investment Staff Positions	1,074

Summary Means

Avg. Count of Active and Retired Individuals	62,635
Avg. Count of Staff Positions	78
Avg. Count of Systems Administered	12
Avg. Count of Investment Staff Positions	8

Local
All

County
All

Educational
All

State
All

Other
All

Public Safety
All

Active and Retirees
All values

Investment Staff Positions
All values

Systems Administered
All values

Staff Positions
All values

Inhouse Asset Management
All



The May 2012 issue of The NAPPA Report, a publication of the National Association of Public Pension Attorneys, cites a 2011 study done by researchers at the University of Toronto's Rotman School of Management which found that the ability of pension funds to "attract, retain and incent high performance talent within their respective organizations" is associated with higher investment returns.

"Unless ERS dramatically improves the cash compensation of its investment staff, it should be prepared to deal with recurring staff vacancies. ERS should not use any investment strategy whose success depends on uninterrupted support from a high quality investment staff, unless it also has the ability to exit the strategy quickly."

L.R. Wechsler Organizational Review of ERS

The City, as plan sponsor and under its indemnification agreement with the ERS, would be implicated in any such litigation. The City is not only exposed to potential increased employer contributions needed to make up any investment shortfall if the Pension Board were forced to adopt a suboptimal investment strategy; it has also agreed to indemnify members of the Pension Board and employees of ERS against liabilities; costs and expenses arising from a breach of or failure to perform their legal (i.e., fiduciary) duties. - Excerpt from 6/21/2012 opinion of outside legal counsel