

Investment Office Cost Effectiveness

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Investment Committee



INVO 2020 Vision

2020 Focus:

- ✓ Reduce cost, complexity, and risk
- ✓ Fewer, but more strategic partnerships with external managers.



Mission

Manage the CalPERS investment portfolio in a **cost-effective, transparent** and **risk-aware** manner in order to generate returns to pay benefits.

Vision

- The Investment Beliefs and CalPERS Core Values are the guiding principles underlying our investment decisions.
- We operate with a focus on **repeatable, predictable, and scalable** portfolios and practices.
- We seek **alignment of interests** with our primary stakeholders, our business partners, and ourselves.
- We use clearly articulated **performance, risk, and cost metrics** to evaluate our value-add to the funds.
- Our investment and business activities are supported by a **solid platform of effective risk management and controls**.



Investment Belief 8: Costs Matter and need to be effectively managed

From

INVO 2010

- Manually aggregated, fragmented expense management reporting
- Limited awareness of total cost
- Insufficient focus on fees
- Fragmented cost management process incenting use of external resources
- Difficulty Benchmarking against relevant peers



To

INVO 2017

- Automated, timely, meaningful expense management reporting
- Improved knowledge of total cost
- Focus on fee reduction and value-add
- Better-aligned fee structures drive improved performance
- Greater flexibility to manage internal vs. external resources in the best interest of the fund
- Development of meaningful cost benchmark statistics



INVO Cost Effectiveness Trends 2011-2016

Management fees have decreased \$404 million or 45%, while AUM has increased over the period from \$197 billion to \$295 billion. Consultant fees have decreased \$37 million or 73%. Excluding profit sharing, the Investment Office has decreased overall costs by \$402 million or 39%

	ACTUAL FISCAL YEAR (FY) EXPENSES (\$ in millions)					
	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
External Mgmt Fees – Base (Public)	103	96	82	83	88	100
External Mgmt Fees – Base (Private) ¹	801	751	739	715	662	400
Total External Mgmt Fees – Base	\$904	\$847	\$821	\$798	\$750	\$500
Consultants	51	38	27	21	18	14
Personnel Services/OE&E ⁴	37	44	44	61	63	65
Portfolio Mgmt Services	18	21	22	28 ³	31	35
Operating	30	24	35	24	26	24
Total Portfolio Management Expense	\$136	\$127	\$128	\$134	\$138	\$138
INVO Total Portfolio Management Fees & Expenses	\$1040	\$974	\$949	\$932	\$888	\$638
External Mgmt - Profit Sharing (Public)	57	54	70	81	73	54
External Mgmt - Profit Sharing Paid (Private)	227	111	326	105	71	93
External Mgmt - Profit Sharing Accrued (Private) ²	0	0	0	632	452	198
Private Equity Profit Sharing	0	0	0	0	0	490
Total Profit Sharing	\$284	\$165	\$396	\$818	\$596	\$835
INVO Total Portfolio Mgmt. Expense + Profit Sharing	\$1324	\$1139	\$1345	\$1750	\$1484	\$1473

¹ External Mgmt. base fees paid are net of applicable fee offsets in Private Equity (PE). Does not include any fees paid directly by portfolio companies to General Partners (GPs). Does not include PE Partnership Expenses (approx. \$75 million) or Mgmt Fees paid by the underlying Funds in the Fund of Fund (approx. \$46 million)

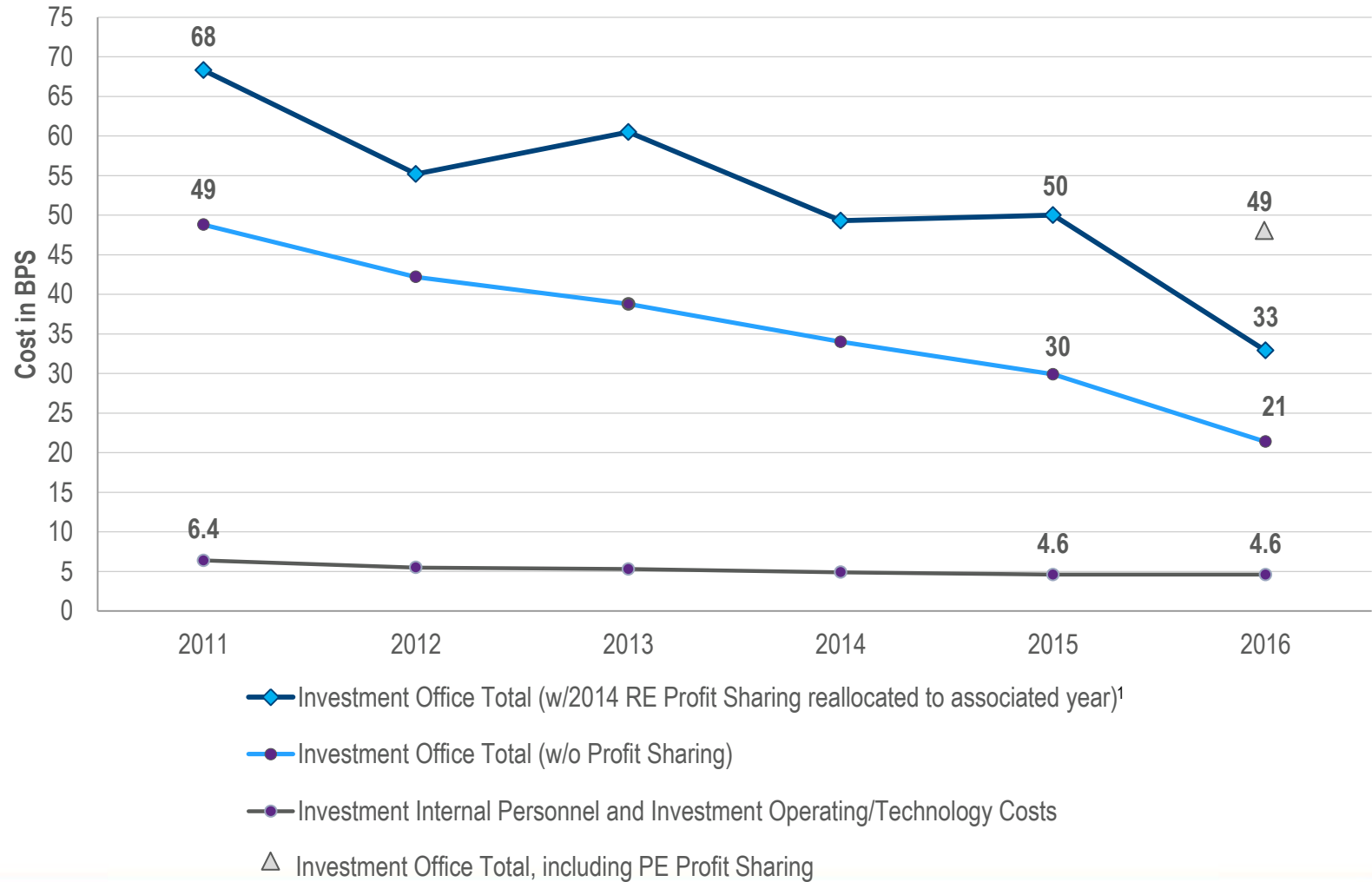
² Includes Real Assets, Activist and any remaining ARS funds

³ Includes \$399 million one-time RE accrual "catch-up"

⁴ Investment Office Salaries and Operating Expenses and Equipment



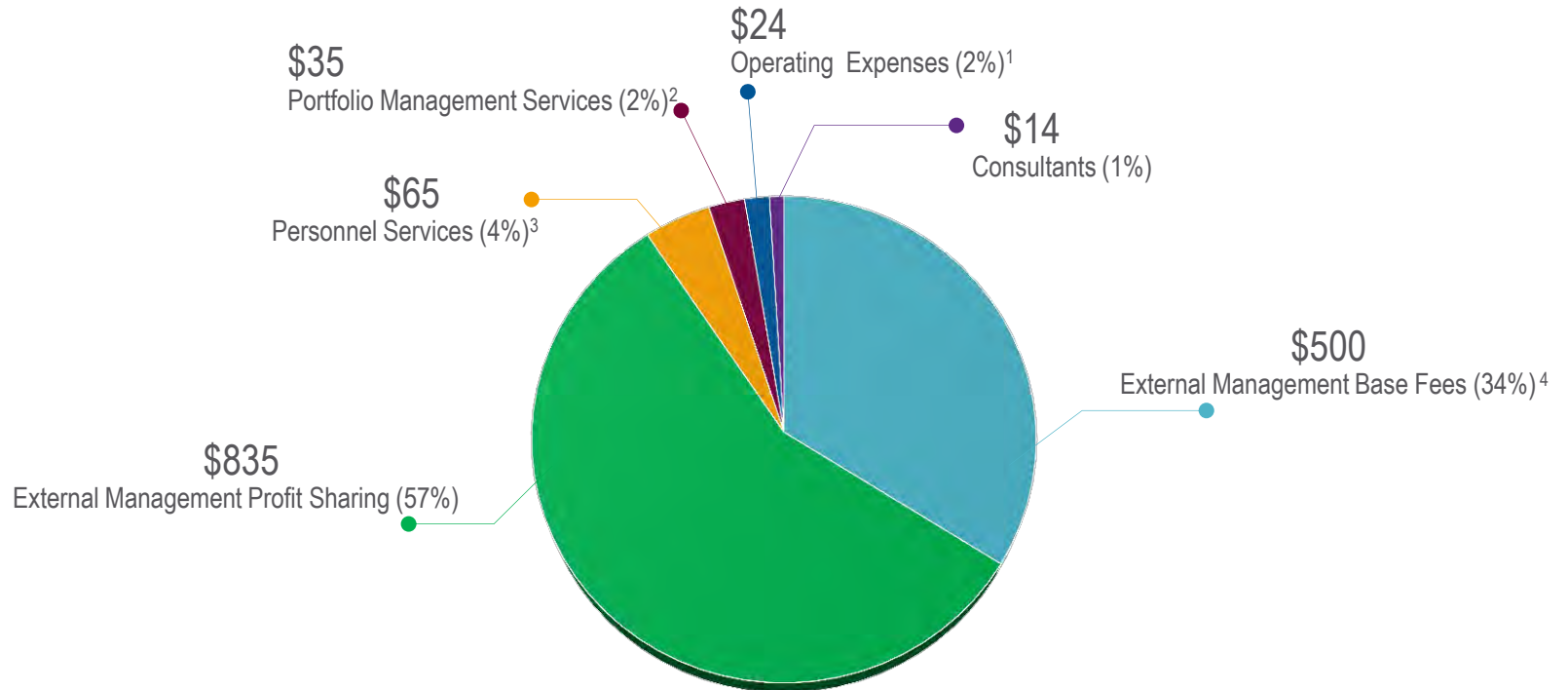
INVO Cost Trends: FY 2011-2016 Basis Points (BPS)



¹One-time accrual “catch-up” for Real Estate profit sharing was recorded in 2014-15 due to an accounting policy change; This line allocates those accruals to the associated year



INVO Total Cost Structure: FY 2015-16



As of June 30, 2016: \$1.4 billion total fees, costs & profit sharing

¹ Costs include legal, appraisal, audit, custody, and tax advisory services

² Costs include technology, data, analytics and trading/portfolio management systems

³ Investment Office Salaries and Operating Expenses and Equipment

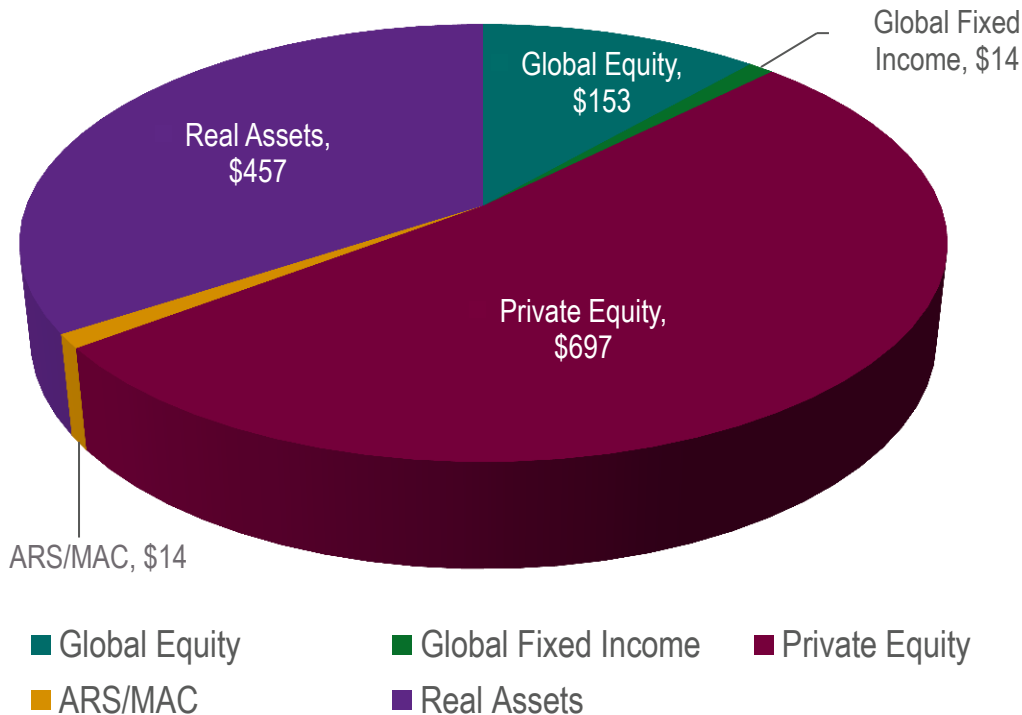
⁴ External Mgmt. base fees paid are net of applicable fee offsets in Private Equity (PE). Does not include any fees paid directly by portfolio companies to General Partners (GPs). Does not include PE Partnership Expenses such as legal, tax, consulting and other expenses (approx. \$75 million) or Mgmt Fees paid by the underlying Funds in the Fund of Fund (approx. \$46 million)



FY 2015-16 External Management Costs

Private assets are primarily externally managed and represent 86% of external management costs

Total External Mgmt Fees¹ and Profit Sharing² by program (%)



ASSET CLASS	5-YEAR RETURNS ³	10-YEAR RETURNS ³
Private Equity	9.7%	10.2%
Global Fixed Income	5.9%	7.2%
Global Equity	6.1%	4.6%
ARS	5.1%	4.6%
Real Assets	11.1%	-0.09%

¹ External Mgmt. base fees paid includes impact of any fee offsets in Private Equity (PE). Does not include any fees paid directly by portfolio companies to General Partners (GPs). Does not include PE Partnership Expenses (approx. \$75 million) or Mgmt Fees paid by the underlying Funds in the Fund of Fund (approx. \$46 million)

² Figures include paid and accrued Profit Sharing for Real Assets (RA).

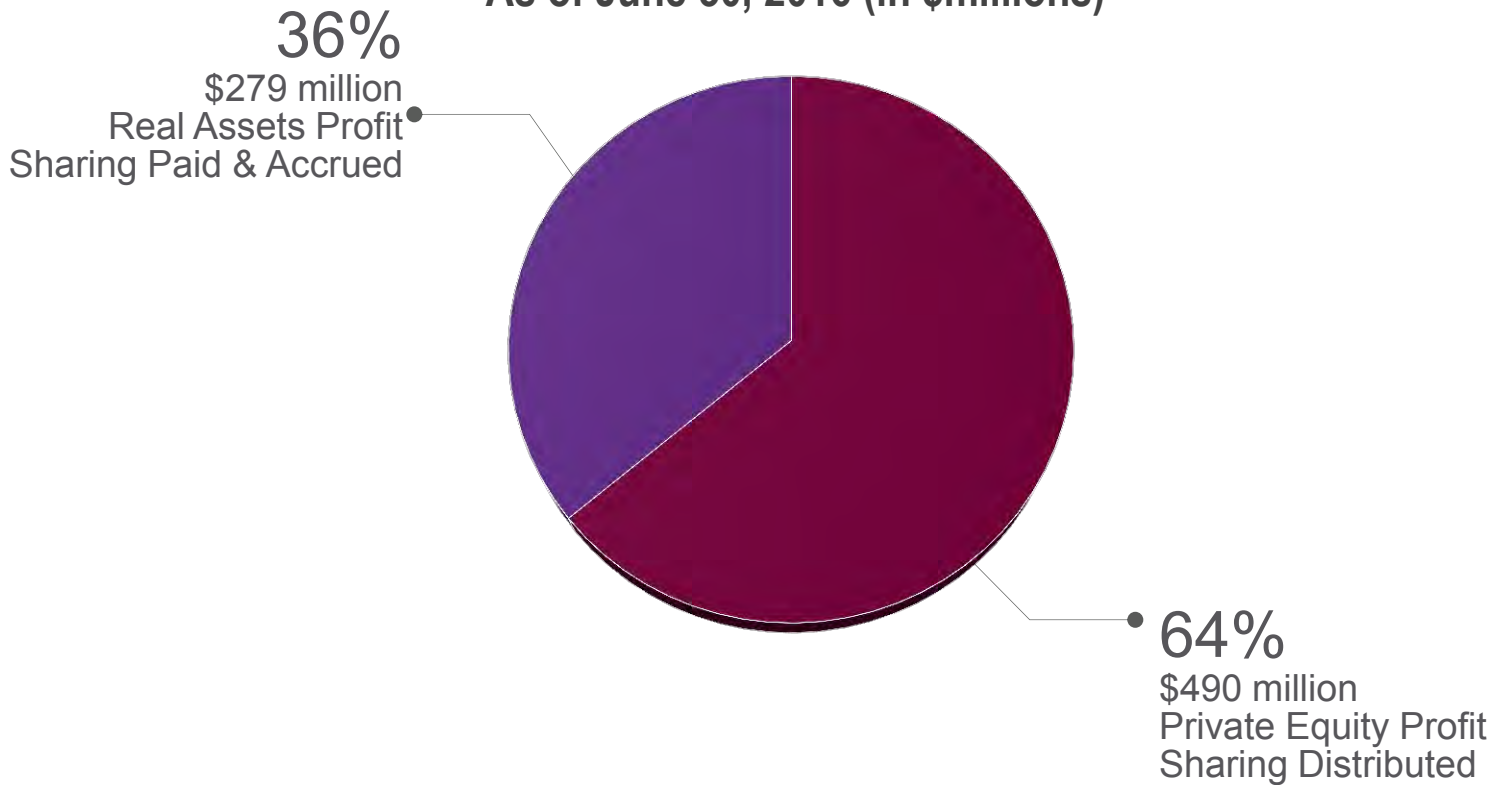
³ Per 6/30/2016 CIO Report



FY 2015-16 Profit Sharing Real Assets and Private Equity

Real Assets Profit Sharing is accrued and paid. Private Equity Profit Sharing is netted from distributions

As of June 30, 2016 (in \$millions)¹



¹All data and values are aligned with page 85 (Real Assets) and pages 100-104 (Private Equity) of the 2015-16 Comprehensive Annual Financial Report (CAFR). Includes both paid and accrued profit sharing for Real Assets.



CalPERS is Cost Advantaged vs. Peers

Independent Benchmarking cost analysis indicates CalPERS is low cost compared to its peers

- CEM Benchmark cost is the cost peers would incur if they had CalPERS actual asset mix
- CalPERS actual base cost of 32.5 bps is less than benchmark cost of 42.1 bps due to:
 - Internal management of public assets
 - Index-oriented management for 2/3 of equity portfolio
 - Lower private asset fees

CEM Cost Analysis	BPS ¹	
	2015	2014
CalPERS Actual Cost	32.5	41.1
CalPERS CEM Benchmark Cost	42.1	42.9
CalPERS Cost Advantage	(9.6)	(1.8)

CEM Methodology vs. Investment Office Actuals

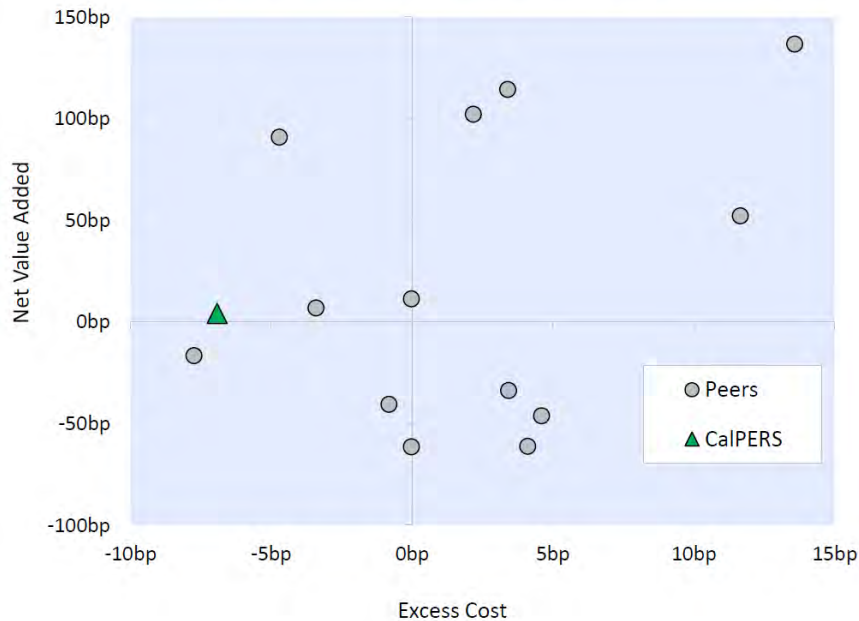
- CEM Benchmark Survey collects calendar year performance and assets from CalPERS and its global peers, and uses a standard methodology to compare the peer funds.
- CalPERS reports costs with CEM on a fiscal year basis (2015 CEM report uses 2014-15 fiscal year-end Investment expenses).
- CEM total cost data methodology for peer comparison excludes profit sharing/carry for many private assets, including real estate, infrastructure, natural resources and private equity.
- Profit sharing is included for the public market asset classes and hedge funds.
- CEM figures include an allocation of CalPERS Enterprise support costs (e.g. FINO, ITSB) in our Investment costs.

INVO 2020 Vision CEM Peer Benchmarking: INVO Net Value-Add¹Trend

CEM reports are on a one year lag. 2015 report uses 2014-15 fiscal year-end Investment expenses

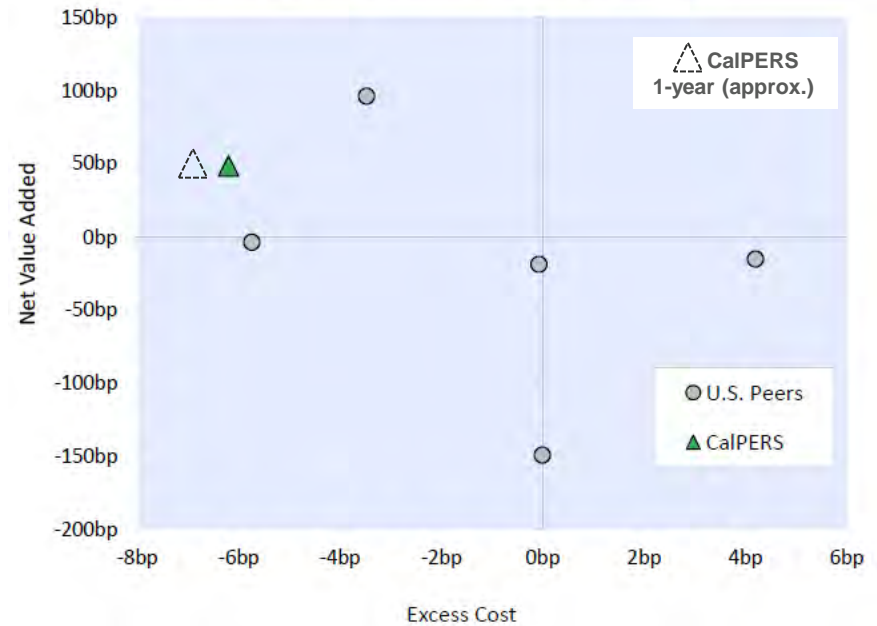
2015 5-year net value-add²

(Your 5-year: net value added 4 bps, cost savings 7 bps)



2015 3-year net value-add²

(Your 3-year: net value added 48 bps, cost savings 6 bps)



¹ Data per CalPERS CEM Reports. 5-year chart is from most recent 2015 CEM report which shows CalPERS peers in 2015

² Net Value-Add = Net total fund return – Policy Return

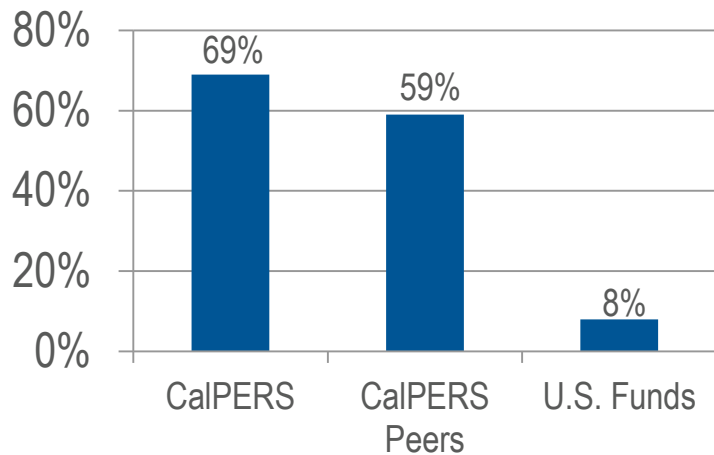


CalPERS is Cost Advantaged vs. Peers

Internal Management of Public Assets and Index-Oriented management of equities drive cost advantage

CalPERS Internal Management vs. Peers¹

■ % of Total Assets Internally Managed



CalPERS Public Market Assets Managed Internally²

	Global Equity	Global Fixed Income	Liquidity	Inflation Assets	Total
Total Public Assets (\$ billions)	144	57	13	29	243
% Managed Internally	79%	92%	100%	100%	86%
BPS³	2.2	3.8	0.8	0.5	2.3



¹ Data per CalPERS CEM CY 2015 Report

² Per 12/31/2015 CIO Quarterly Performance Report presented at February 2016 Investment Committee

³ Estimate of total FY 2015-16 INVO expenses including an allocation of all direct program and shared service expenses



INVO FY 2015-2016 Basis Points by Program Area

Investment Office Costs by Program Area

FY 2015-16 Costs (\$ in millions)

Costs	Global Equity	Global Fixed Income	Private Equity	Real Estate	Infra/ Forest	MAC/ ARS	Total Front Office	INVO Operations	Total	
									\$	Basis Points ⁴
Average Assets ¹	157,815	79,167	27,757	27,374	4,463	1,967	298,542	298,542		
Percent of NAV ³	53%	27%	9%	9%	1%	1%	100%	100%		
Management Fees	90	10	207	156	23	14	500	-	500	17
<i>Basis Points Management Fees</i>	6	1	75	57	51	73	17	-		
Internal Investment Personnel	9	12	9	8	1	0.1	40	22	62	2
Other Portfolio Management Expenses	15	10	14	14	1	1	56	20	75	3
<i>Basis Points Internal Investment & Portfolio Management Expense</i>	2	3	8	8	6	7	3	1		
Total (Excluding Profit Sharing)	114	33	230	178	25	16	596	42	638	21
<i>Basis Points Total Portfolio Management Fees & Expenses</i>	7	4	83	65	57	80	20	1		
Profit Sharing	63	3	490	244	35	(0.7)	835	-	835	28
<i>Basis Points Profit Sharing</i>	4	0.4	177	89	79	(4)	28	-		
Total (Including Profit Sharing)	177	36	720	422	61	15	1,431	42	1,473	49
<i>Total Program Basis Points Including Profit Sharing</i>	11	5	259	154	136	76	48	1		

¹ Average Assets as of 6/30/2015 & 6/30/2016

³ Percentage of NAV is based on Average Assets

³ Ties to CAFR total and includes Hamilton Lane fees. Does not include PE Partnership Expenses & Management Fees paid by the underlying Funds in the Fund of Fund

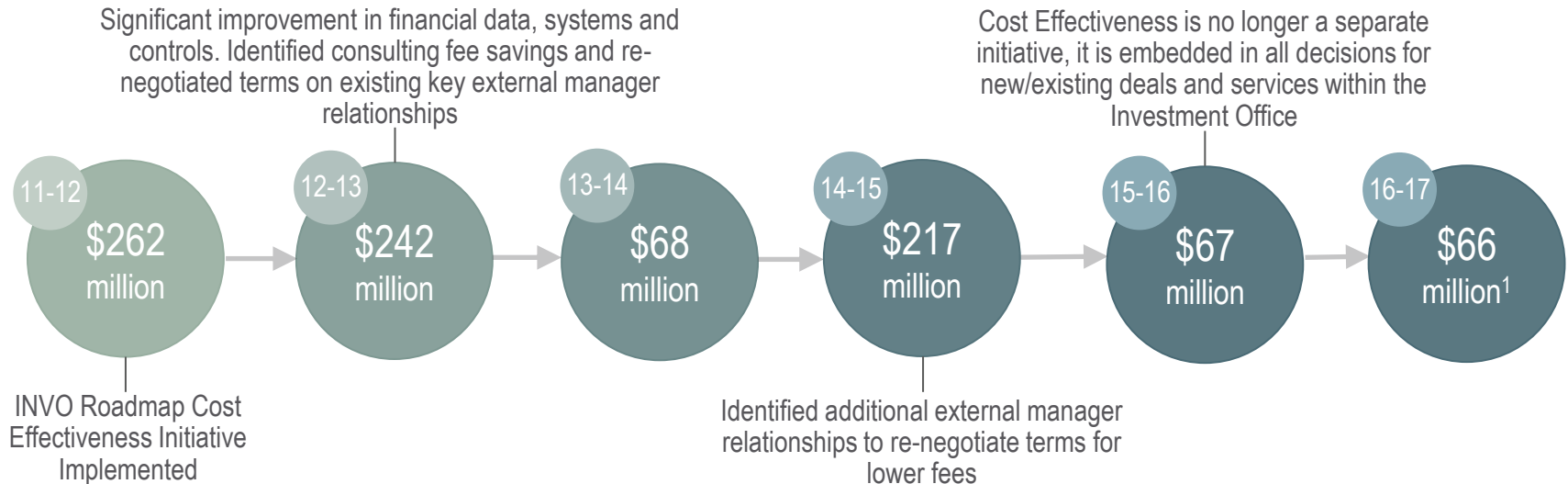
⁴ Basis points are based on CalPERS' Average Assets



Cost Effectiveness Initiative Savings Activities & Outlook

Cost Savings Activities

Comprised of on-going run rate savings due to elimination or reduction of expenses paid historically as well as savings resulting from improved economics on new commitments, and one-time savings are singular elimination/reduction of expenses paid on project/service.



Key Drivers of Cost Savings

- Internal Management of Public Assets
- Renegotiation of External Management Fees
- Reduction of Consulting and other related Operating Costs