



SWIB Update

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Deputy Executive Director/ Chief Administrative Officer

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Managing Director – Asset & Risk Allocation

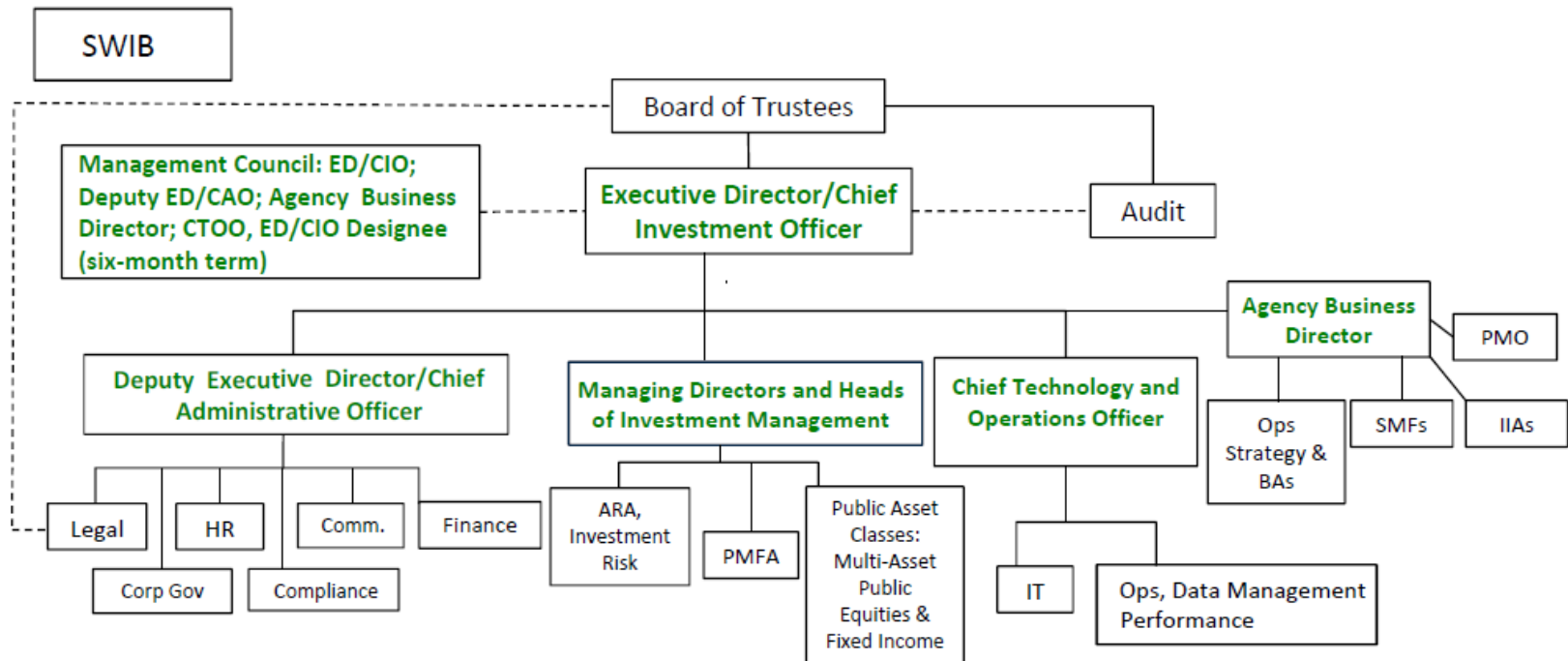
Agenda

- Organizational Structure
- Performance
- Asset Allocation
- Peer Cost Comparison
- Questions

Organizational Structure



SWIB Organizational Structure



ED/CIO

- Asset/Risk Allocation
- Execution of Strategy & Plan
- Board Communication
- Communication Strategy
- IC Chair (Agendas)

Deputy ED/CAO

- Legal, Compliance, & Corporate Governance
- Finance
 - Accounting & FP&A
 - Enterprise Risk Management
 - Facilities & Bus. Continuity
- Communications, External Relationship Management
- HR

Chief Technology and Operations Officer

- Operations Group
 - Data Management
 - Performance
 - Investment Operations
- Information Technology Group

Agency Business Director

- PMO
- Operations Strategy Planning & Coordination
- Business Analysts (BAs)
- Business Process
- Separately Managed Funds
- Investment Information Analysts

Performance



2018 Gross Performance – Core Fund

Year-to-Date as of December 31, 2018

-3.3%

Benchmark: -3.5%

3-Year

6.9%

Benchmark: 6.5%

5-Year

5.2%

Benchmark: 4.9%

10-Year

8.8%

Benchmark: 8.2%

2018 Gross Performance – Variable Fund

Year-to-Date as of December 31, 2018

-7.9%

Benchmark: -7.8%

3-Year

7.9%

Benchmark: 7.8%

5-Year

5.9%

Benchmark: 5.9%

10-Year

11.7%

Benchmark: 11.3%

Market Indicators

Year-to-Date as of December 31, 2018

Market Indicator	Year-to-Date Return
Public Equities	
S&P 500	-4.4%
Russell 2000	-11.0%
Russell 3000	-5.2%
MSCI World ex US Equities	-14.1%
MSCI Emerging Markets	-14.6%
Fixed Income	
Bloomberg Barclays Capital Govt/Credit	-0.4%
Citigroup World Govt Bonds	-0.8%

Funding Levels Impact Effective Rate of Return

Peer group comparisons should incorporate funding levels to better understand performance and a fund's effective rate of return.

Funding Level	Investment Return	Effective Rate of Return on Liability
100%	7%	7%
70%	7%	4.9%

When a plan is not fully funded, its effective rate decreases because all of the assets needed to fund the liability are not available to earn investment returns. 75% of the income needed to fund the WRS comes from investment returns.

Achieving Investment Goals with Less Risk

Midwest Peer Group Comparison as of June 30, 2018

Public Pension Plan ¹	Funded Ratio ²	Net 5-yr Returns (6/30/18)	Target Rate	5-Yr Effective Rate ⁴
Wisconsin Retirement System—Core Fund	102.9%	7.63%	7.20% ³	7.85%
Minnesota State Board	81.8%	9.50%	7.50%	7.77%
Ohio State Teachers Retirement System	77.3%	9.26%	7.45%	7.16%
Ohio Public Employees Retirement System	84.9%	8.37%	7.50%	7.10%
Iowa Public Employees Retirement System	83.6%	8.22%	7.50%	6.87%
Michigan Public School Employees' Retirement System	64.0%	10.20%	7.50%	6.52%
Indiana Public Retirement System	66.5%	6.30%	6.75%	4.19%
Illinois Teachers' Retirement System	40.0%	8.30%	7.00%	3.32%
Illinois State Employee Retirement System	34.6%	8.10%	7.00%	2.80%
Weighted Averages for 8 Peers (excluding SWIB)	67.4%		7.36%	6.27%

¹The majority of the information other than the 6/30/18 assets under management and returns was taken from the plan CAFR dated between 9/30/17 - 6/30/2018.

²Ratio of Fiduciary Net Position to Total Pension Liability.

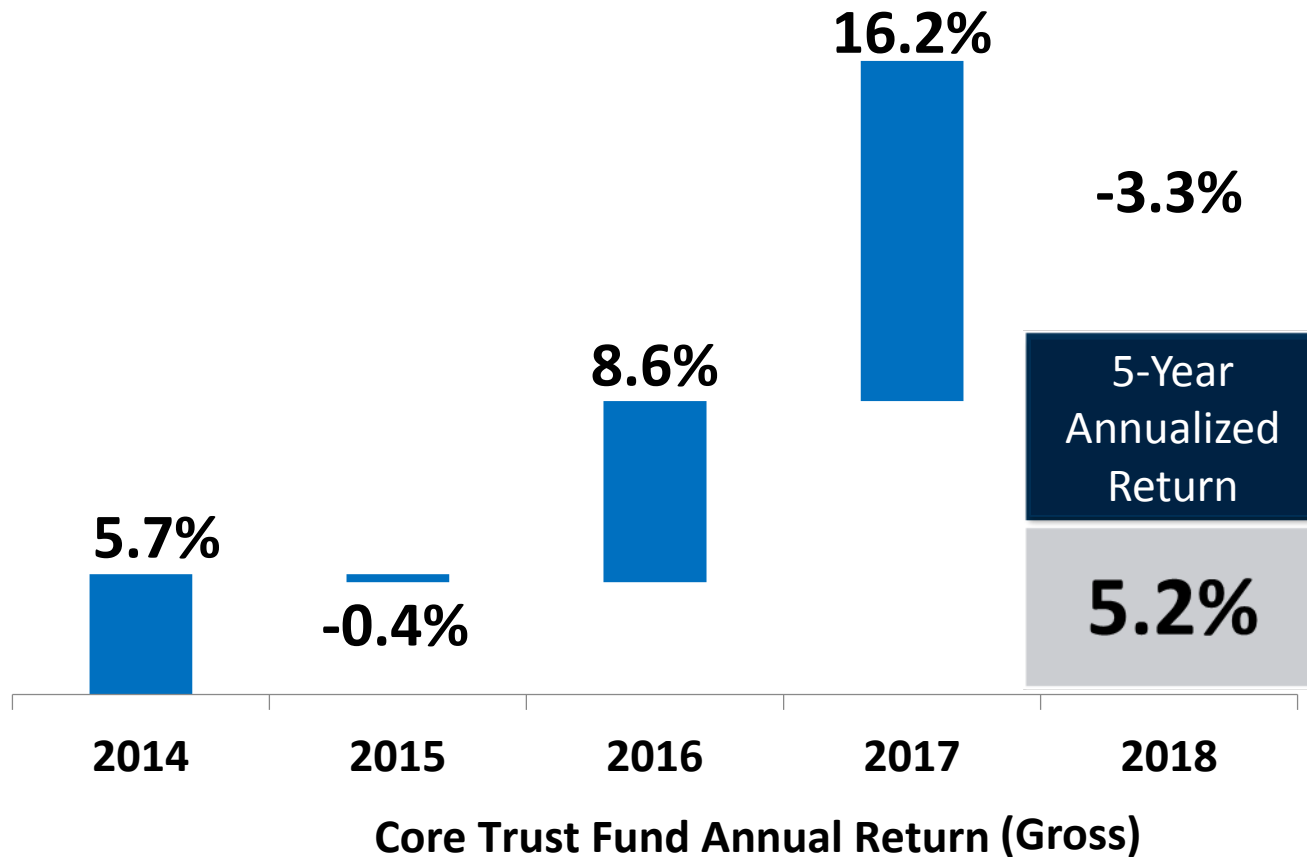
³In December 2018, the ETF Board reduced the assumed rate of investment return from 7.2% to 7.0%.

⁴Funded Ratio multiplied by Net 5-year Returns.

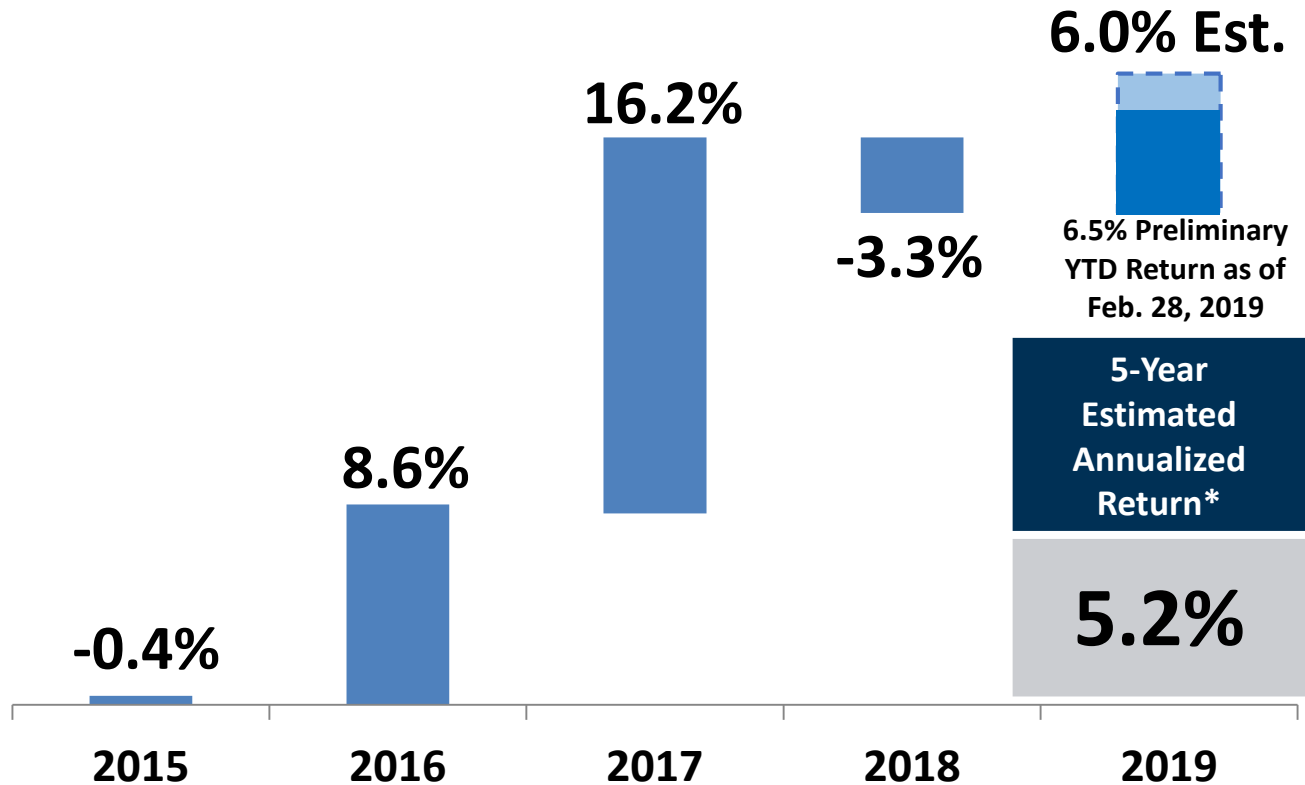
Asset Allocation



2018 CTF 5-Year Return Decomposed



2019 CTF 5-Year Return - ?

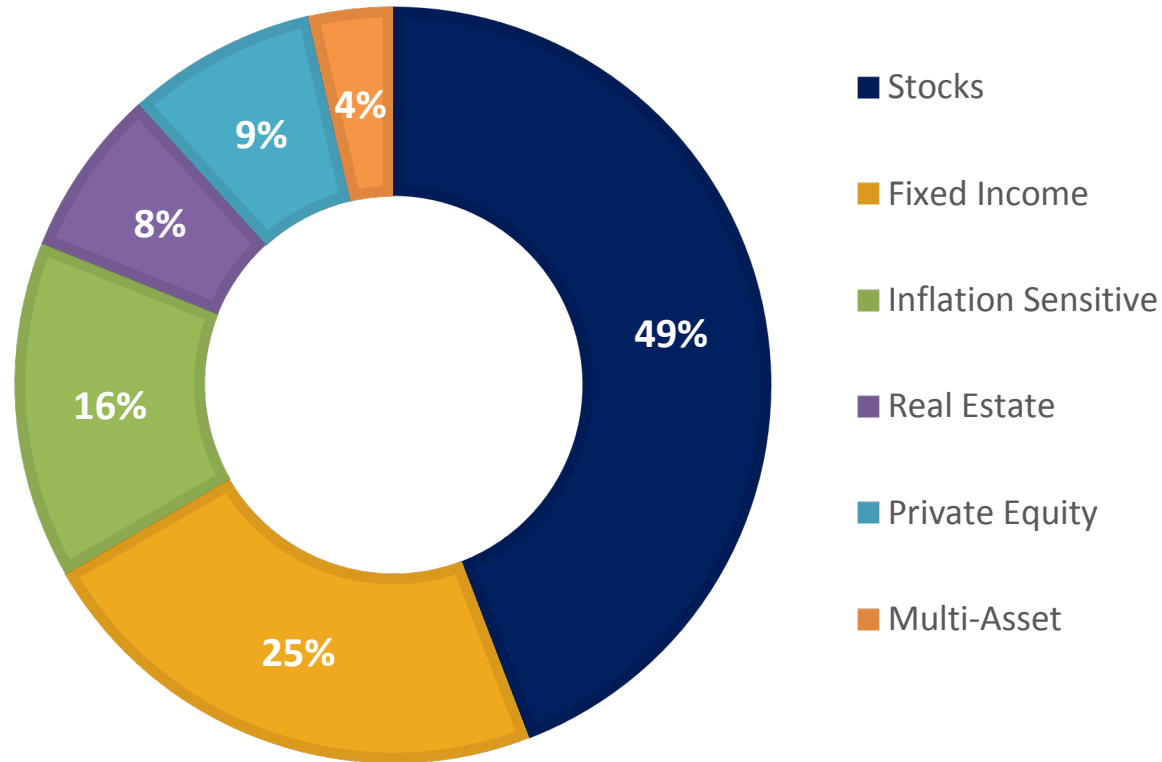


Core Trust Fund Annual Return (Gross)

Source: SWIB; 5-year Annualized Return is forecast using NEPC assumptions for 2019; Gross of Fee.

Core Fund Asset Allocation Targets

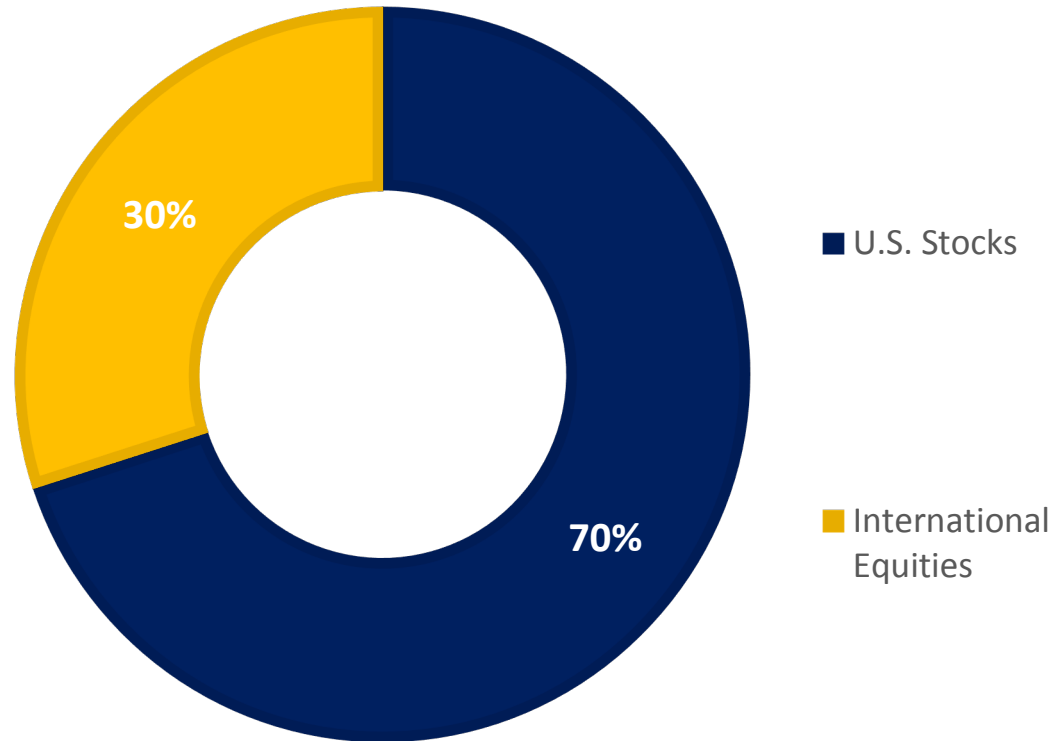
2019



Totals exceed 100% due to SWIB's overall leverage of Core Fund assets.
SWIB's actual asset allocation may vary up to +/- 6% from the targets shown above.

Variable Fund Asset Allocation Targets

2019



Active Return Enhances Total Return

5-7 Years	Return Contribution	Risk
Current Policy Portfolio	6.0%	11.8%
Active Return	0.3% to 0.8%	0.6% to 1.8%
Total	6.3% to 6.8%	12.0% to 12.4%

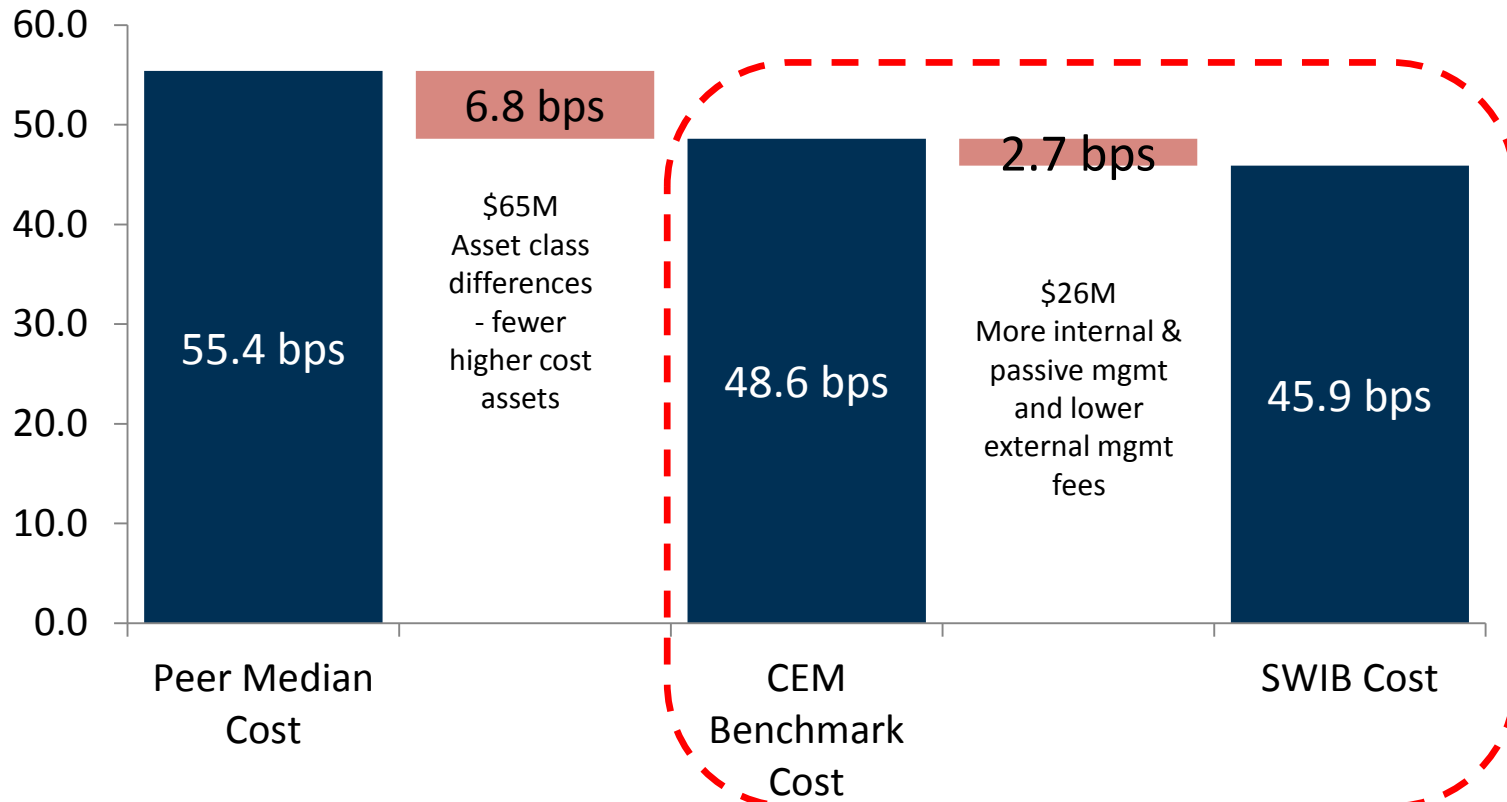
30 Years	Return Contribution	Risk
Current Policy Portfolio	7.3%	11.8%
Active Return	0.3% to 0.8%	0.6% to 1.8%
Total	7.6% to 8.1%	12.0% to 12.4%

Cost



Total Cost Comparison

SWIB's costs are 9.5 bps lower than its peers. On average, SWIB's savings are approximately \$90M over its peers.



Lower Cost of Internal Management

SWIB's cost for internal active management is materially lower than the cost for external management.

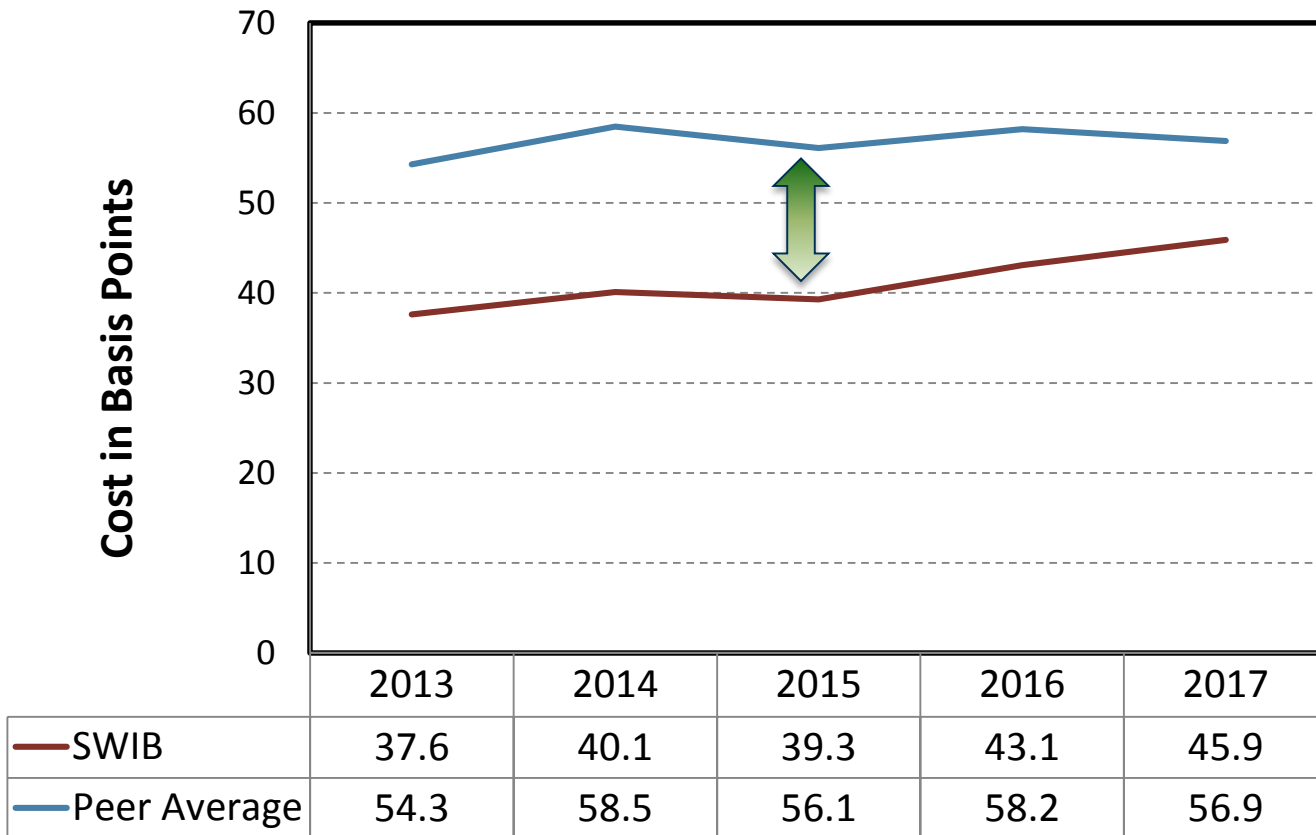
Public Market Asset Type (active strategies)	External Mgmt Cost (bps)*	SWIB Internal Mgmt Cost
Global Large Cap Equity	42.4	66-75% lower
Small Cap Equity	65.5	66-75% lower
Gov't/Credit Domestic Fixed Income	13.9	Up to 50% lower
Global Fixed Income	39.9	66-75% lower

** External costs represent the median cost for SWIB's CEM public fund peers
Costs are expressed in basis points (bps) and 100 bps equals 1 percent*

Data source: CEM Benchmarking, Inc. 2017 Report

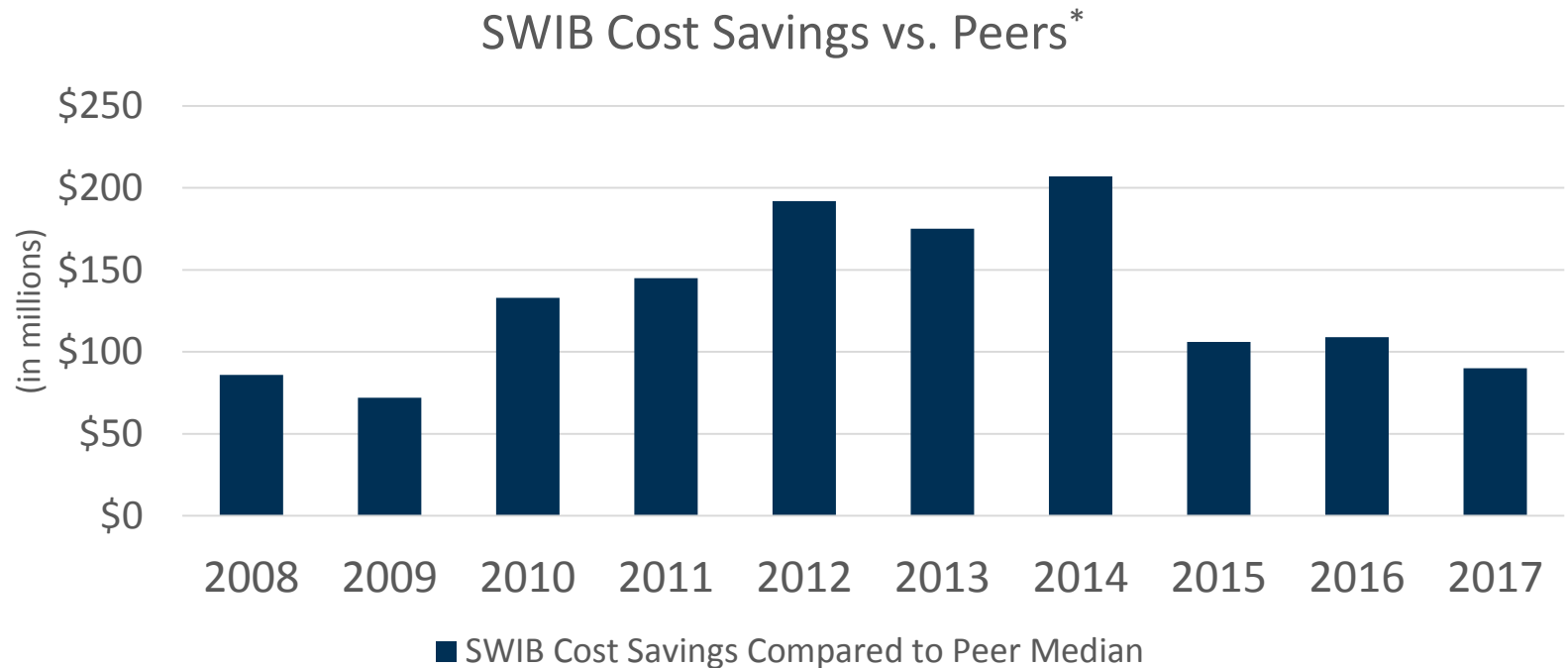
Cost Trends – Relative to CEM Peers

SWIB's total costs have increased since 2013, but have remained materially lower than peers due to more internal management.



SWIB Cost Savings vs. Peers

SWIB saved \$1.3 billion vs. peers from 2008 to 2017



*This analysis compares SWIB's savings vs. the peer group median costs for every \$100 under management and multiplies that average savings by SWIB's median assets under management

Summary

SWIB is:

- Positioned for future success
- Continuously focused on optimization of costs
- Protecting the WRS from future downturns
- Performing favorably compared to peers

Stay Connected



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Questions?