



Investment Committee

Item Number 4a – Open Session

Subject: Annual Investment Cost Report

Presenter(s): April Wilcox, Shifat Hasan, and Mike Dunigan

Item Type: Information

Date & Time: November 1, 2023 – 15 minutes

Attachment(s): Attachment 1 – Cost Breakdown

Attachment 2 – Cost Breakout by Category

Attachment 3 – Asset Class Trends

Attachment 4 – Peer Comparison

PowerPoint(s): 2022 Annual Investment Cost Report

Item Purpose

The purpose of this informational report is to provide the Committee a complete breakdown of the costs associated with running the Total Portfolio as of December 31, 2022.

Executive Summary

The calendar year 2022 was the first time in over 50 years that both U.S. stocks and bonds posted double digit losses. U.S. equity approached 20% losses during the first half of the year. The Federal Reserve aggressively raised interest rates at a historic rate in an effort to slow inflation - which drove bond returns into negative double digits. Public asset market values declined.

In the private markets, Private Equity returns were flat after gaining double digits the previous two years, Infrastructure (Inflation Sensitive) earned over 7%, and Real Estate market values grew after returning over 20% on the year.

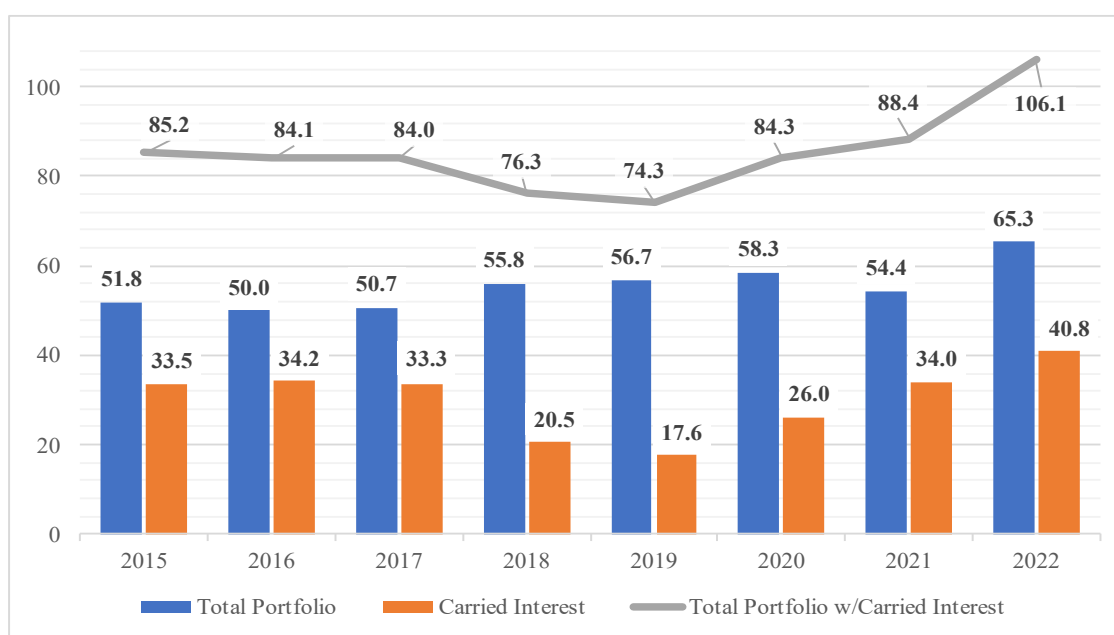
In addition to the market fluctuation, CalSTRS enacted two strategic allocation shifts as part of the long-term strategy. The first, in January, shifted 2% of the Public Equity policy target to Private Equity. The second, in July, further reduced the Public Equity target by 2% and increased Inflation Sensitive and Real Estate by 1% each. A higher allocation to private assets will increase cost, but also add value in terms of diversified risk and higher expected returns. The allocation shifts, combined with the market activity, had a direct impact on CalSTRS' costs for the year.

- Overall costs (including carried interest) increased by 9% to \$3.3 billion.
- Private market costs, including carried interest, accounted for over 92% of this total.
- Excluding carried interest, total portfolio costs were \$2.0 billion.
- Collaborative model strategies saved \$428 million in 2022 (\$1.6 billion over 6 years).

Background

Investment costs are an important determinant of fund performance and require close oversight and active monitoring. It is important to note that information in this Cost Report is one point in time. Costs can fluctuate significantly each year depending on the life cycle of the underlying investments and/or the investment pace of the strategy. CalSTRS is a long-term investor and as such, return and cost data is more meaningful when compared over long time periods. All costs and carried interest within this report are for calendar year (CY) 2022 and on a cash basis.

Chart / Table 1 – Overall Costs¹ in Basis Points and Absolute Dollars



(\$ in Millions)	2015	2016	2017	2018	2019	2020	2021	2022	2022 Δ
NAV	186,100	194,698	218,215	225,703	242,190	261,992	338,296	308,309	-9%
Total Portfolio Costs	963	973	1,106	1,260	1,374	1,527	1,840	2,014	9%
Carried Interest Paid	623	665	727	463	426	681	1,150	1,257	9%
Total w/Carried Interest	1,586	1,638	1,833	1,723	1,800	2,209	2,990	3,271	9%

Overall, the Total Portfolio NAV decreased on the year, while costs increased. The increase in costs is primarily attributed to a higher allocation to private assets. The reason for this shift and how it impacted costs is discussed in the “Drivers of Cost” section of this report.

¹ Based on total costs for the period over a smoothed NAV to account for new and exited investments during the respective calendar year. Basis point totals may not tie due to rounding.

Chart and Table 1 above show:

- Overall costs including carried interest for 2022 (grey line) increased by almost 18 basis points (bps) relative to the NAV. This is equivalent to a \$281 million increase in absolute dollars.
- Total portfolio costs (blue bar) increased by 11 bps, equivalent to a \$174 million increase from the previous year.
- Carried interest (orange bar) increased by almost 7 bps, or \$107 million.
- The eight-year average cost per dollar (excluding carried interest) is roughly 55 bps.

Total portfolio costs and carried interest are driven by different factors. In normal market environments, total portfolio costs include management fees and internal operating costs that are highly correlated to the NAV of the Total Portfolio. Carried interest, a profit-sharing agreement between the general partner and the limited partners (i.e., CalSTRS), is positively correlated to investment returns and is paid to the general partner upon the profitable exit from an investment.

The Drivers of Cost



Asset Growth



Asset Allocation



Collaborative Model

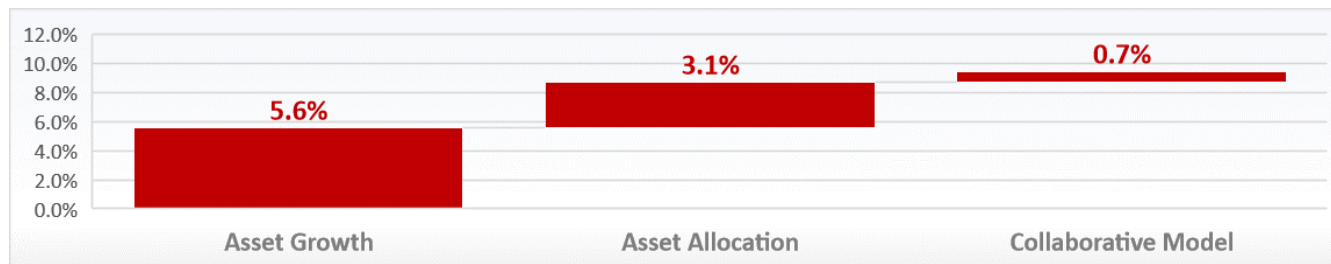


Carried Interest

Overall costs will increase or decrease based on four primary reasons (shown above). Because there are four major levers which drive costs, there will be volatility from year to year. Therefore, it is most productive to examine longer rolling periods for trends (available in Attachment 2 for each asset class). The below discussion is specific to calendar year 2022.

Total portfolio costs and carried interest both increased in 2022 as indicated in Table 1. Carried interest increased by 9% and is discussed separately from portfolio costs given that it often corresponds to multiple years. Total portfolio costs increased by over 9%, and are captured in the form of management fees, operating expenses, and other expenses. A breakout of these expenses is provided in Attachment 2.

Chart 2 – Total Portfolio Cost Attribution for 2022



Asset Growth

The largest component of total portfolio costs are management fees, which are mostly based on NAV. As the Total Portfolio grows, it will often incur greater operating expenses, but management fees have a direct year to year impact. In 2022, the overall NAV of the Total Portfolio decreased by 9%, but public

and private markets did not move in the same direction. Public assets decreased by 16%, while private assets increased 7%.

Private markets have higher fees relative to public markets to compensate for the specialization needed to manage investments with higher risk/return profiles or additional diversifying aspects. Higher private asset market values created higher management fees. This is why costs went up in 2022, even though the overall NAV went down. The decline in public asset market values led to lower management fees from public asset managers, but this was less than the increase in private management fees overall. The net impact increased portfolio costs by more than 5%.

Asset Allocation

In addition to their impact on management fees discussed above, private assets incur portfolio company fees. These fees grow as more capital is allocated to private assets. In 2022, the strategic target allocation to Public Equity was reduced by 4% and allocated to private assets. First, in January, 2% was shifted to Private Equity. Then second, in July, another 2% was shifted to Inflation Sensitive and Real Estate equally. The allocation shifts led to increased portfolio costs by over 3%.

Collaborative Model

As the Total Fund grows or new strategies implemented, expenses associated with staffing, consulting, and systems will increase. Managing more assets internally will bring higher operating expenses, but these are more than offset by savings in management fees. These savings are outlined in the November 2023 Board Item 4b: Collaborative Model Savings.

For 2022, public asset operating expenses stayed flat, while private asset operating expenses increased by 0.7%. Much of this is attributed to building out the operating model to support co-investments and the Collaborative Model. The number of co-investments grew from 188 to 200 over 2022, but substantially even more over the previous few years. Operating expenses may increase slightly as the Collaborative Model's infrastructure is built, but then flatten when economies of scale are obtained through growth.

Carried Interest

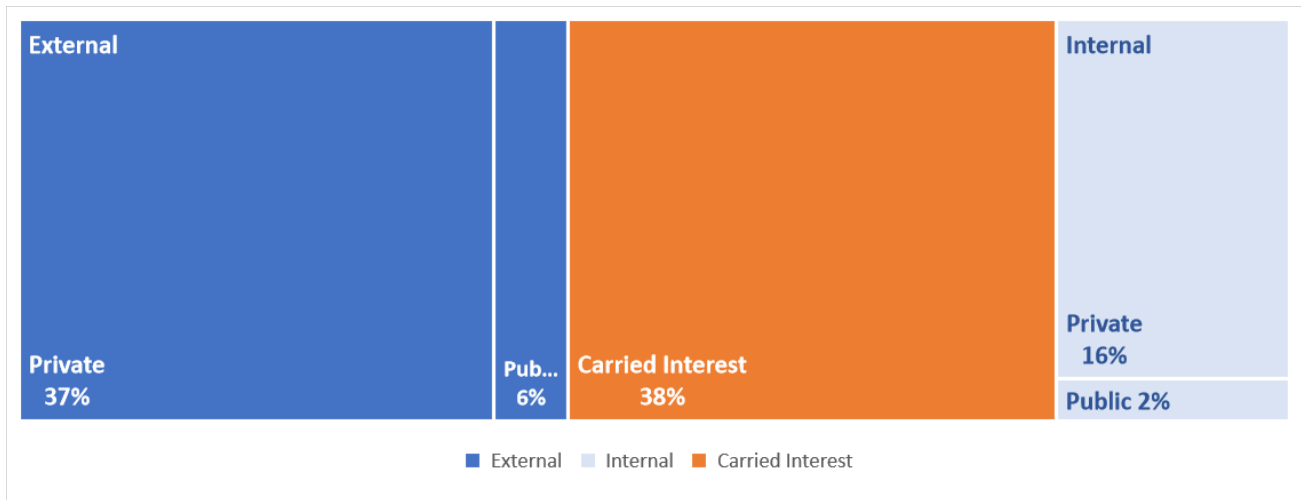
A higher annual return in an asset class where profit sharing agreements exist will increase total costs. The agreements are tied to profits realized over a period of years rather than a single year. Multiple factors influence how much carried interest is earned, which often fluctuates until it is ultimately paid. These range from the strategy of the investment, negotiated agreement, the economic environment over its life and the timing of when dry powder is put to use. To report realized costs with certainty, the Cost Report tracks carried interest as it is paid rather than accrued, making it intricate to attribute drivers in a single year. For 2022, carried interest paid increased by 9%, which indicates significant realized gains earned by private assets over the last few years.

Internal vs. External - Public vs. Private Costs

In general, it costs more to manage investments externally than internally. Internal investment management allows staff to focus on specific strategies while leveraging internal knowledge and adding

value by generating meaningful cost savings. However, there are strategies that require either significant infrastructure or specialized expertise that economically justify external management. For such strategies, external investment managers and partners are utilized, overseen, and monitored by internal staff and the Investment Committee’s general consultants.

Chart 4 – Total Portfolio Costs and Carried Interest Heat Maps

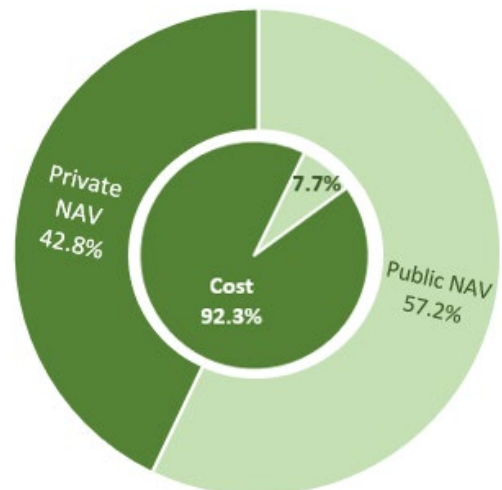


With the declines in the public equity and fixed income markets, the percentage of internally managed accounts (based on NAV) fell to 60%, down from 67% the previous year. Cost percentages, however, stayed almost identical to last year. Chart 4 demonstrates the size relationship between externally managed costs, carried interest paid, and internally managed costs. For 2022, CalSTRS paid \$3.3 Billion in overall costs: 38.4% in carried interest, 43.2% in external costs, and 18.4% in internal costs.

Chart 5 – Overall Costs: Public vs. Private (with Carried Interest)

There were approximately 971 private assets in 2022. The costs associated with 98.6% of the private assets, based on their NAV, have been obtained and reported within this report. General partners/managers of the remaining 1.4% of private assets were non-responsive as they are primarily composed of investments that are winding down and at the end of their life. Staff believes that 98.6% coverage provides a directionally accurate cost figure.

In 2022, the percentage of private assets grew to almost 43% (up from 32% the prior year). Private market costs, including carried interest, accounted for over 92% of the overall costs. This is typical, consistent with previous years, and expected as private assets are complex and require a higher degree of specialized expertise, resulting in higher costs. Studies have shown that a private equity program can add significant value to a portfolio in terms of diversified risk and higher expected



return specifically over a 10-20-year investment horizon. For a complete breakdown of costs, both public vs. private and internal vs. external, refer to Attachment 1.

Table 2 – Total Portfolio Costs as a Percentage of Net Asset Value (in Millions)

	NAV	%	Cost	%	Avg Cost in Basis Points	
Externally Managed	116,179	38%	1,412	70%	Private	
Private	81,611	26%	1,221	61%	External	Internal
Public	34,568	11%	191	9%	150	107
Internally Managed	192,130	62%	602	30%	Public	
Private	50,482	16%	540	27%	External	Internal
Public	141,648	46%	62	3%	55	4
Total	308,309	100%	2,014	100%		

In 2022, external management costs were approximately \$1.4 billion compared to \$602 million in internal management costs. Table 2 shows internally managed investments account for 62% of the Total Portfolio NAV, yet they represent only 30% of the Total Portfolio Costs. When looking at the average cost basis from year to year, the average cost of private assets decreased while the average cost of public assets increased. This is predominately the result of the asset growth discussed in the “Drivers of Cost” section: lower public market values increased average cost while higher private market values decreased average cost.

Capture Ratio Analysis

The Capture Ratio reflects the percentage of gross profits captured and reflected in the net returns over the eight-year period ending December 31, 2022. The ratio and its components are shown in cumulative since single year figures can swing based on carried interest from multiple years paid out in a single year.

Chart 5 – Total Portfolio Capture Ratio (Cumulative) Trend Line

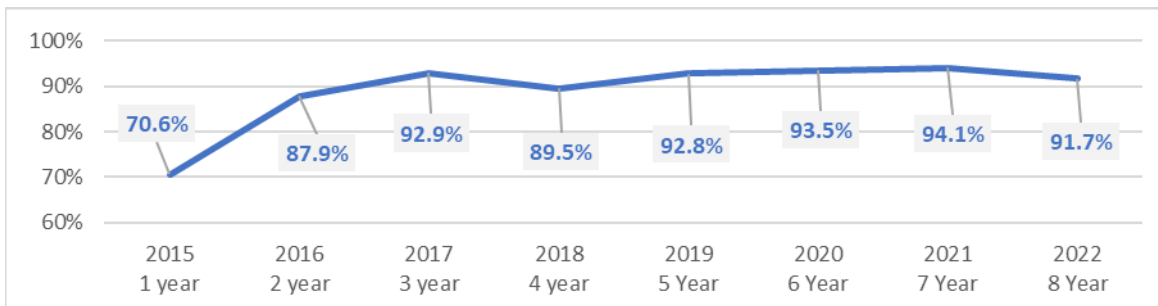


Chart 5 above shows that CalSTRS has captured 91.7% of the gross dollars earned over the last eight years. This ratio decreased from last year due to the increase in private asset allocation discussed throughout this report. The capture ratios for private asset classes will tend to be lower due to the carried interest paid out from these investment types, but this is offset by their long term expected net returns and risk diversification value.

Table 3 – Capture Ratio (in Millions)

8-Year Period Ending December 31, 2022		2022 Target Weights	Costs*	Gross Dollars**	Net Dollars**	Capture Ratio	Net Return (Time Weighted)
Total Portfolio			\$12,690	\$153,344	\$140,654	91.7%	7.70%
Growth	Global Equity	43%	990	67,417	66,427	98.5%	7.15%
	Private Equity	13%	5,644	33,040	27,396	82.9%	14.04%
Real Assets	Real Estate	15%	3,374	31,720	28,345	89.4%	11.01%
	Inflation Sensitive	5%	367	5,133	4,765	92.8%	7.38%
Diversifying	Fixed Income	12%	77	2,940	2,863	97.4%	1.45%
	Risk Mitigating Strategies	10%	1,183	6,916	5,732	82.9%	2.66%

* Management fees and carried interest are considered the industry standard for measuring costs

** Cumulative dollar gain or loss over the period

Table 3 shows that the Total Portfolio has earned \$140.6 billion over the last eight-years, while paying \$12.7 billion in fees and carried interest.

Peer Comparison²

Data for peer comparison was compiled and prepared by a third-party cost measurement service provider utilizing various customized methodologies different from this report. Information in this section is strictly for benchmarking purposes and differs from CalSTRS reported costs primarily due to the exclusion of broker commissions, partnership expenses and carried interest within the peer comparison.

- Based on a comparison of 14 global peers from \$112 billion to \$731 billion in AUM, CalSTRS investments was a low-cost fund.
- CalSTRS investment cost of 56.2 bps was below its expected cost of 63.3 bps, demonstrating the fund was low cost compared to peers, given an identical asset mix.
- CalSTRS Investment Branch saved 7.1 bps over the expected investment costs of 63.3 bps, which equates to approximately \$210 million saved compared to its peers, given an identical asset mix.

For further details on peer comparison, please refer to Attachment 4.

The full listing of glossary terms and definitions can be found at the following link [Investment terms glossary - CalSTRS](#).

² Data collected and compiled by CEM Benchmarking, Inc. for calendar year 2022.

Overall Cost Breakdown *(\$ in millions)*

External Management Costs ²										
Asset Class/ Investment Strategy	Net Asset Value	Ending Market Allocation	Management Fee	Operating Expense	Other Expenses	Total Expense	2022 Basis Points	2021 Basis Points	Carried Interest	2022 Basis Points w/Carry
Public Market Costs										
Global Equity	26,398	9%	129	12	12	152	57.7	49.7	0	57.7
Fixed Income	3,673	1%	7	2	0	10	26.3	26.8	0	26.3
Inflation Sensitive	1,833	1%	6	1	0	7.3	39.7	34.0	0	39.7
SISS	2,655	1%	14	1	1	16	61.9	21.0	0	61.9
Strategic Overlay ¹	9	0%	5	0	0	5	12.5	12.6	0	12.5
Total	\$ 34,568	11%	\$ 162	\$ 16	\$ 13	\$ 191	55.2	46.8	\$ -	55.2
Private Market Costs										
Private Equity	35,756	12%	443	25	200	668	186.9	210.2	471	318.7
Risk Mitigating Strategies	21,211	7%	136	10	68	214	101.0	102.0	312	248.0
Real Estate	15,950	5%	125	12	80	218	136.4	141.7	68	179.0
SISS	1,670	1%	14	1	6	21	124.4	130.2	21	250.0
Inflation Sensitive	4,669	2%	41	4	18	62.0	132.8	166.4	42	221.9
Innovative Strategies	2,336	1%	25	2	12	38	164.0	244.4	7	192.5
Fixed Income	20	0%	-	0	-	0	5.7	N/A	0	N/A
Total	\$ 81,611	26%	\$ 783	\$ 53	\$ 385	\$ 1,221	149.7	163.3	\$ 920	262.4
Total External Mgt.	\$ 116,179	38%	\$ 945	\$ 69	\$ 398	\$ 1,412	121.6		\$ 920	200.8

¹ Net Asset Value reflects gains / (losses) on notional values and uses notional values for calculating basis points for currency management.

² Zero '0' indicates a number rounded to less than 1 million. "--" indicates no value.

Internal Management Costs²										
Asset Class/ Investment Strategy	Net Asset Value	Ending Market Allocation	Manager Fee	Operating Expense	Other Expenses	Total Expense	2022 Basis Points	2021 Basis Points	Carried Interest	2022 Basis Points w/Carry
Public Market Costs										
Global Equity	87,295	28%	-	31	2	32	3.7	2.8	0	3.7
Fixed Income	28,719	9%	-	15	0	15	5.1	4.1	0	5.1
Risk Mitigating Strategies	9,051	3%	-	3	-	3	3.6	3.0	0	3.6
Cash / Liquidity	5,917	2%	-	2	-	2	4.0	3.2	0	4.0
Inflation Sensitive	4,867	2%	-	2	-	2.2	4.5	4.3	0	4.5
SISS	5,108	2%	-	2	1	3	5.3	4.4	0	5.3
Strategic Overlay ¹	691	0%	-	1	3	4	1.5	1.1	0	1.5
Total	\$ 141,648	46%	\$ -	\$ 57	\$ 5	\$ 62	4.4	3.3	\$ -	4.4
Private Market Costs										
Real Estate	33,301	11%	234	26	203	463	139.0	144.8	332	238.5
Private Equity	10,650	3%	6	7	20	33	31.2	37.8	3	33.6
Inflation Sensitive	5,440	2%	17	3	14	34.9	64.2	52.9	1.2	66.4
Innovative Strategies	952	0%	3	1	4	8.4	88.4	164.0	1.6	104.9
Fixed Income	100	0%	-	0	-	0	5.7	0	0	5.7
SISS	39	0%	0	0	0	0	92.7	21.0	0	92.7
Total	\$ 50,482	16%	\$ 260	\$ 38	\$ 243	\$ 540	106.9	111.6	\$ 337	173.6
Total Internal Mgt.	\$ 192,130	62%	\$ 260	\$ 94	\$ 248	\$ 602	31.3		\$ 337	48.9
Total Public Market	\$ 176,216	57%	\$ 162	\$ 73	\$ 18	\$ 253	14.3		\$ -	14.3
Total Private Market	\$ 132,093	43%	\$ 1,043	\$ 91	\$ 628	\$ 1,761	133.3		\$ 1,257	228.5
Grand Total	\$ 308,309	100%	\$ 1,204	\$ 163	\$ 646	\$ 2,014	65.3		\$ 1,257	106.1

¹ Net Asset Value reflects gains / (losses) on notional values and uses notional values for calculating basis points for currency management.

² Zero '0' indicates a number rounded to less than 1 million. "--" indicates no value.

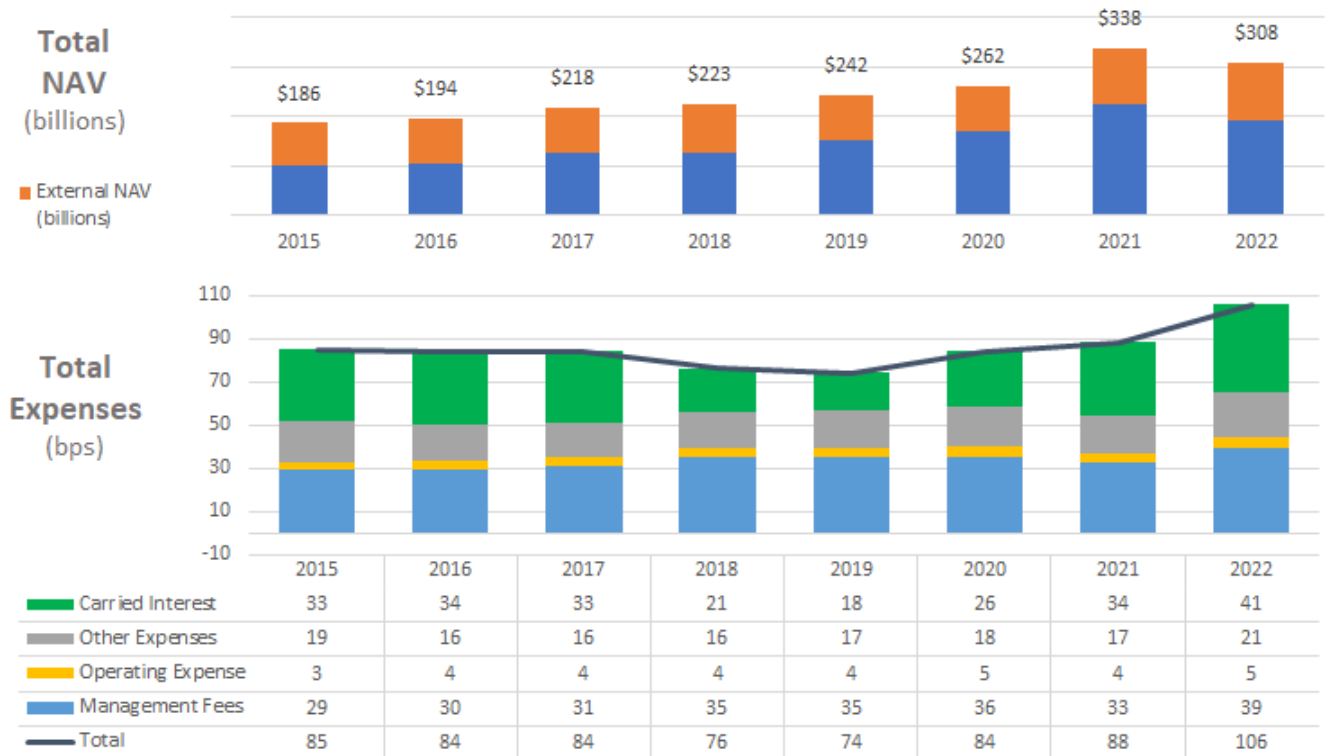
Overall Cost Breakout by Category (\$000)

Asset Class	Management & Performance Fees*	Operating Expenses								Other Expenses	
		Internal Salary & Travel	Org Wide Allocated Expenses	Advisors & Consultants	Legal	Custody & Other Operating	Research & Rating Services	Risk Management Systems	Trading Systems	Partnership	Broker Commission
Global Equity	128,907	14,421	13,417	554	3,384	4,898	2,034	3,498	679		13,090
SISS	28,030	1,983	1,118	110	282	409	169	291	57	6,464	1,365
Private Equity	449,009	14,257	5,476	6,175	1,381	1,996	830	1,428	277	220,474	266
Real Estate	358,524	15,197	5,812	10,707	1,466	2,121	881	1,515	294	283,813	25
Inflation Sensitive	63,975	5,219	1,984	245	500	724	301	517	100	32,377	446
Fixed Income	7,378	8,310	3,837	434	968	1,400	582	1,000	194		338
Risk Mitigating Strategies	136,192	5,669	3,571	202	901	1,303	541	931	181	68,059	
Innovative Strategies	27,483	2,272	388	59	98	142	59	101	20	16,097	
Strategic Overlay	5,000	987	83	3	21	30	13	22	4		3,208
Total Portfolio Allocations**	1,204,498	69,205	36,383	18,514	9,177	13,278	5,515	9,485	1,840	627,285	18,738

* Does not include carry

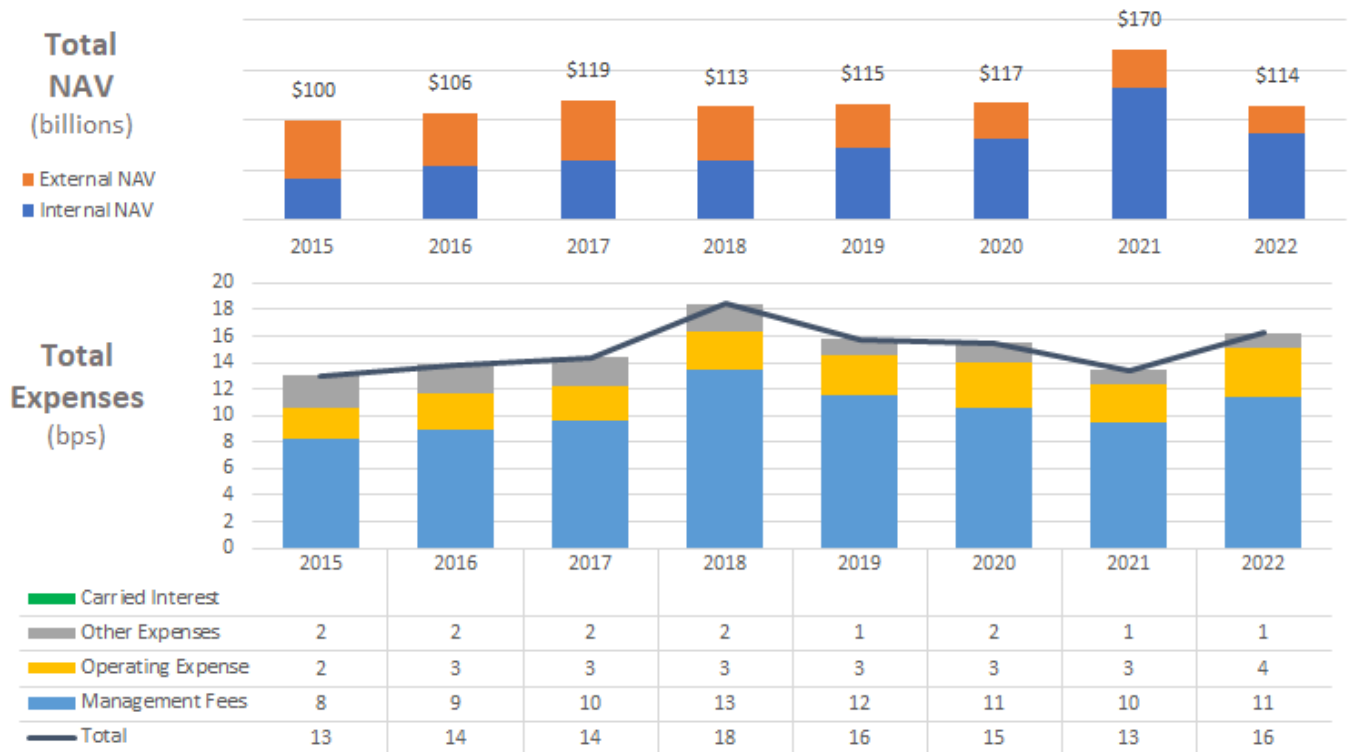
** Columns will not add as expenses related to the cash/liquidity portfolios are included only in the Total Portfolio Allocation amounts

Total Fund



- After experiencing growth over the previous 6 years, the Total Portfolio NAV decreased in 2022 by 9%:
2022 return close to -6.7%, 3 year return over 7.2%, 5 year return over 7.2%. Capture ratio decreased 2.4%
- Total Portfolio Costs increased 9% in absolute terms and relative to the NAV by 11 bps
 - The increase in absolute costs overall is attributed to an increase in the private asset allocation due partially to a strategy shift, but predominantly from a decline in the public market over 2022
 - Internally managed assets decreased as a result of the public market decline. CalSTRS manages more public assets in house

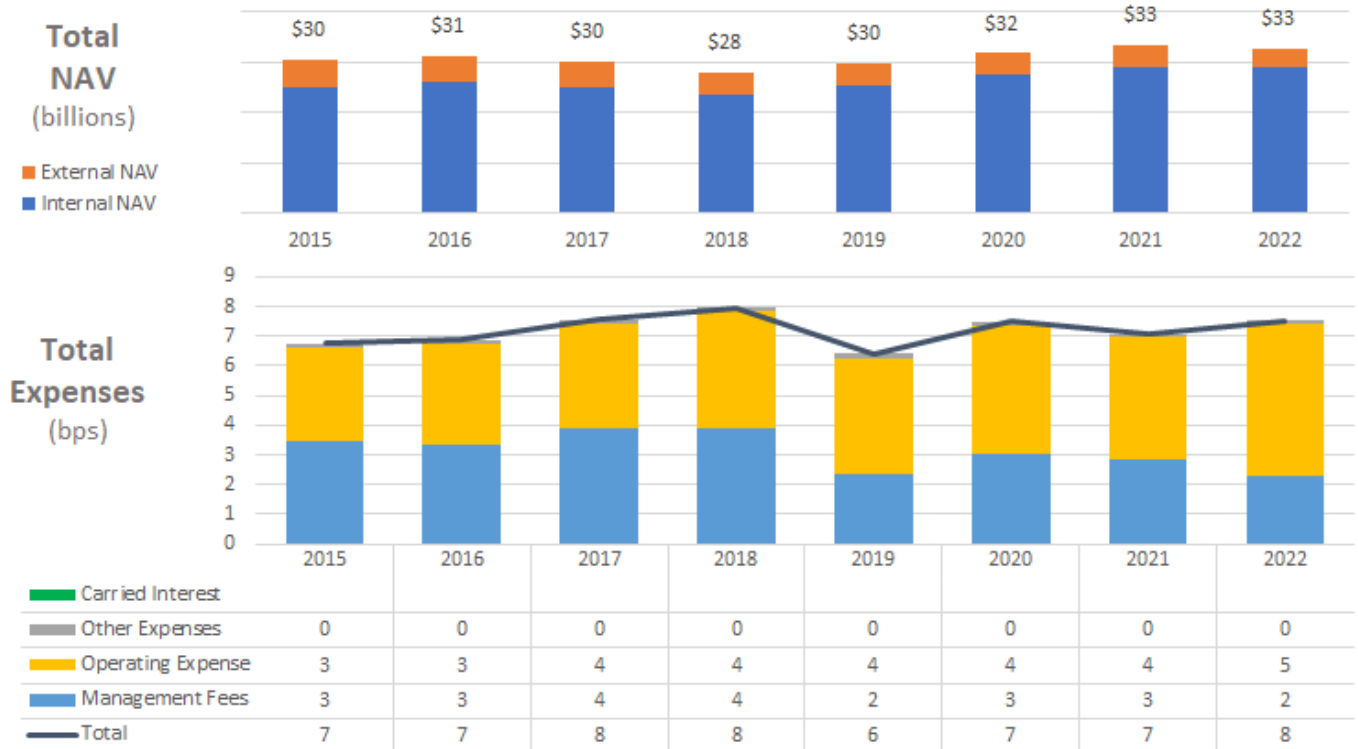
Global Equity



- The Global Equity NAV **decreased** in 2022 **driven by negative returns** for the year and **decreased cost capture**: 2022 return -18.1%, 3 year return 4.0% and 5 year 5.3%. Capture ratio decreased by 0.6%
- Total GE Portfolio Costs **decreased overall** by \$45M (20%), but they **increased relative to the NAV** by ~ 3 bps
 - The **decrease in absolute costs** overall is attributed to NAV change (management fee impact)
 - The **increase** in relative costs is partly attributed to **increased management fees**, which grew by ~ 2 bps relative to the NAV compared to last year

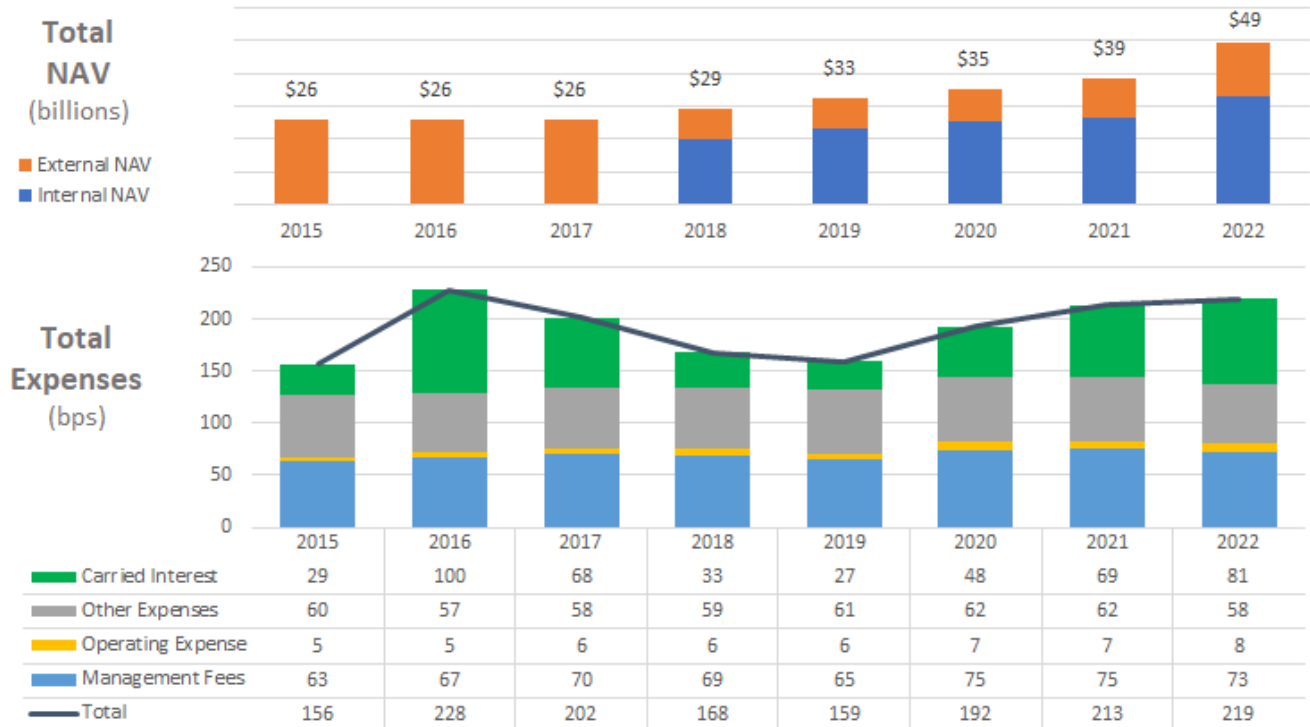
Note - The CY 2021 information has been restated due to four funds being incorrectly attributed to Global Equity instead of SISS. NAV and cost information presented here have been adjusted to reflect the corrected information.

Fixed Income



- The Fixed Income NAV remained **relatively stable** in 2022 even though the debt market decreased ~ 12% due to being allocated \$1.3B during the year:
2022 return -12.6%, 3 year return -2.1% and 5 year 0.6%. Capture ratio decreased by 1.7%.
- Total FI Portfolio Costs **increased** in absolute terms (4.4%), and relative to the NAV (1bp)
 - Fixed Income’s NAV was **relatively stable** from the prior period which resulted in a higher share of indirect org-wide expenses relative to other asset classes where NAV significantly decreased

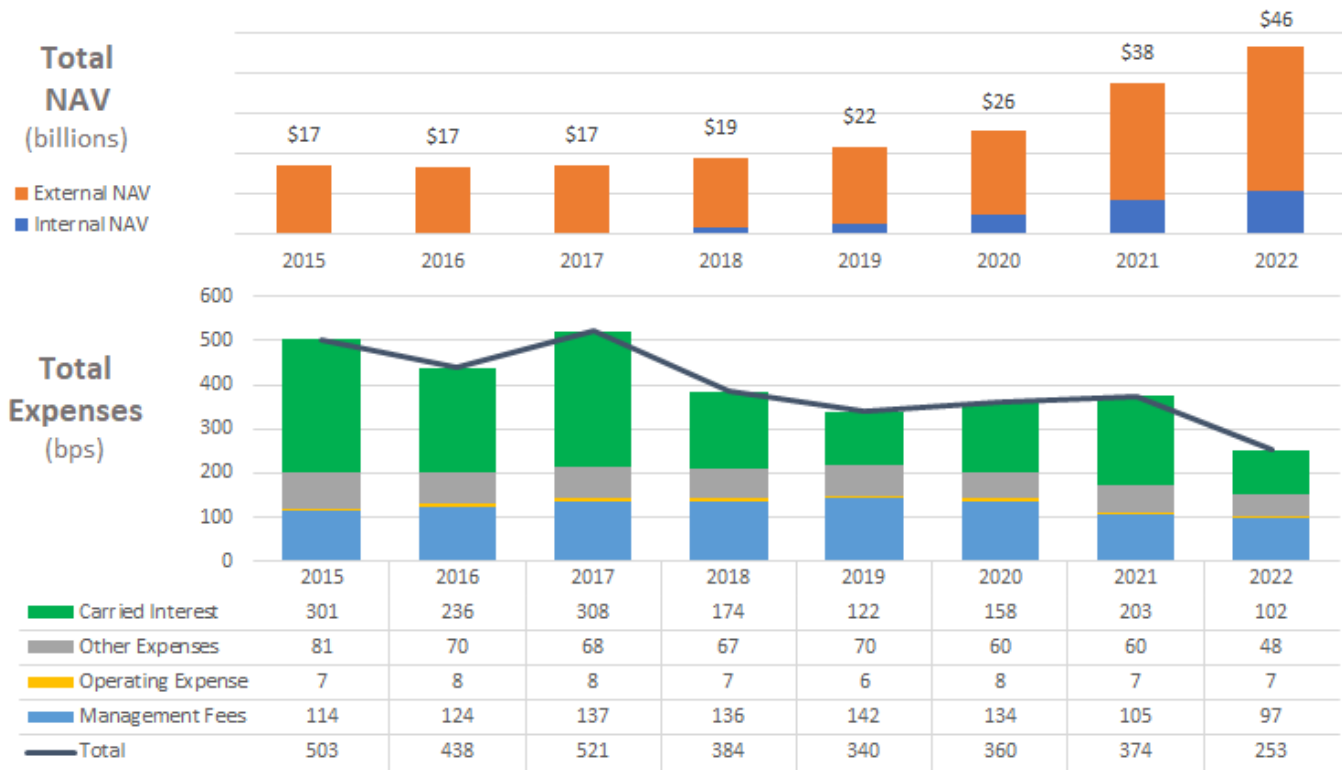
Real Estate



- The Real Estate NAV has **increased** significantly over the last 5 years **driven by solid returns** and increased **capture ratio**:
2022 return of 20.9%, 3 year return over 13%, 5 year return of 11.2%. Capture ratio increased 1.3%
- While Total RE Portfolio Costs increased in absolute terms (22.8%), they **decreased relative to the NAV** by ~ 6 bps
 - The **increase in absolute costs** overall is attributed to NAV growth (management fee impact) and an increase in partnership expenses
 - Operating expenses grew slightly relative to an increased allocation to Real Estate over 2022

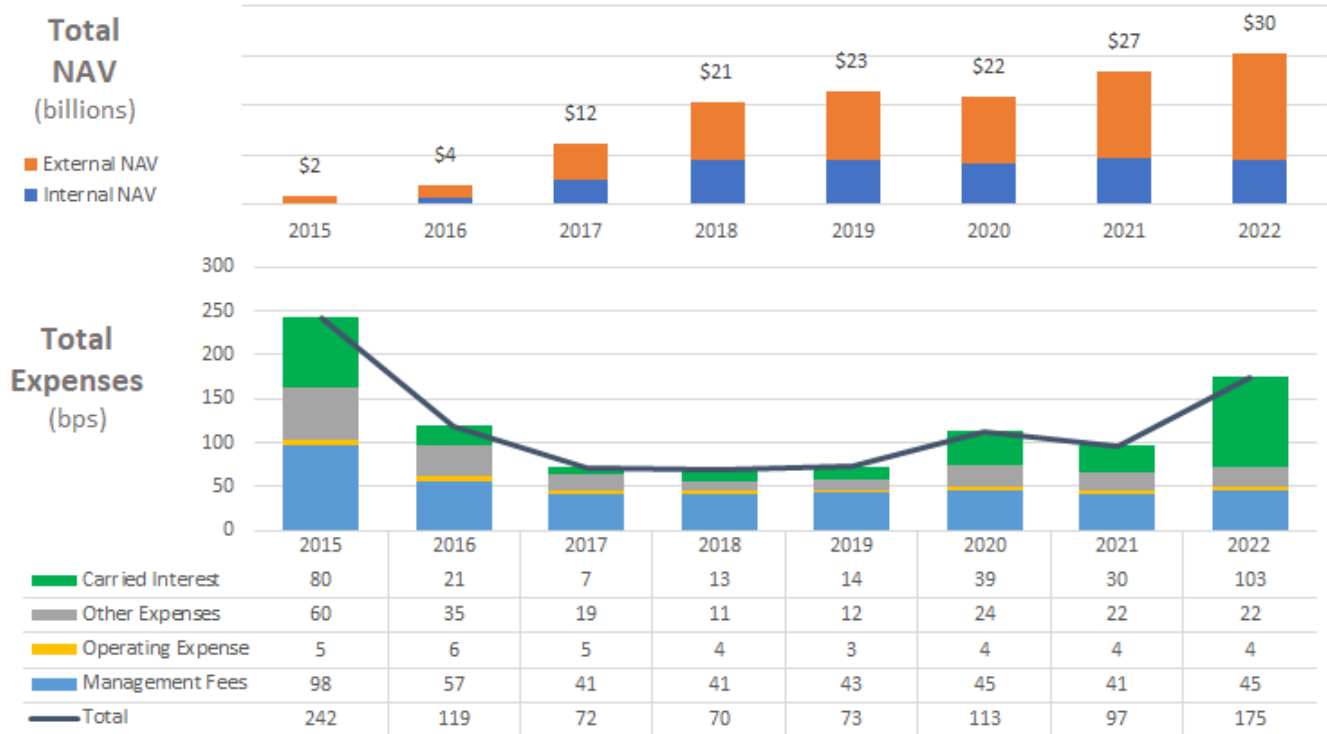
* Includes a less than 1% allocation to Public REIT managers

Private Equity



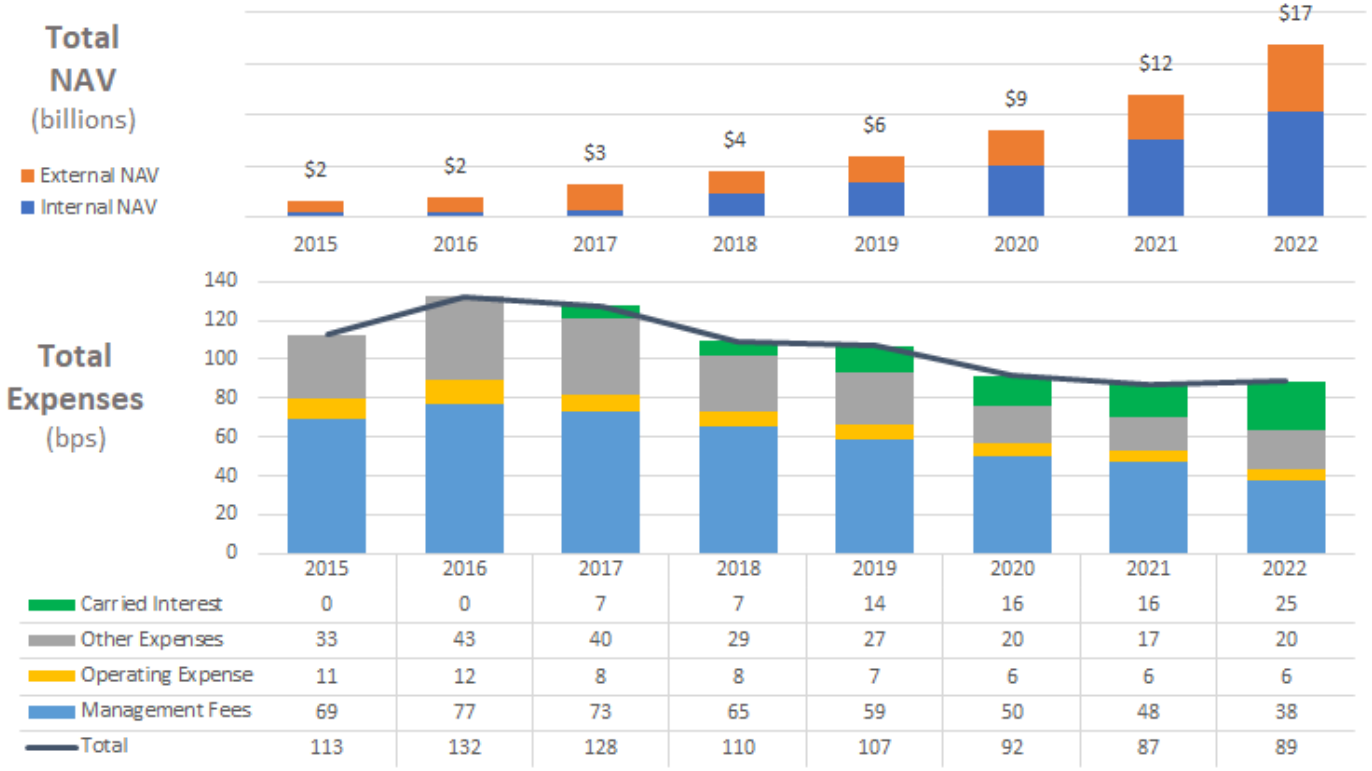
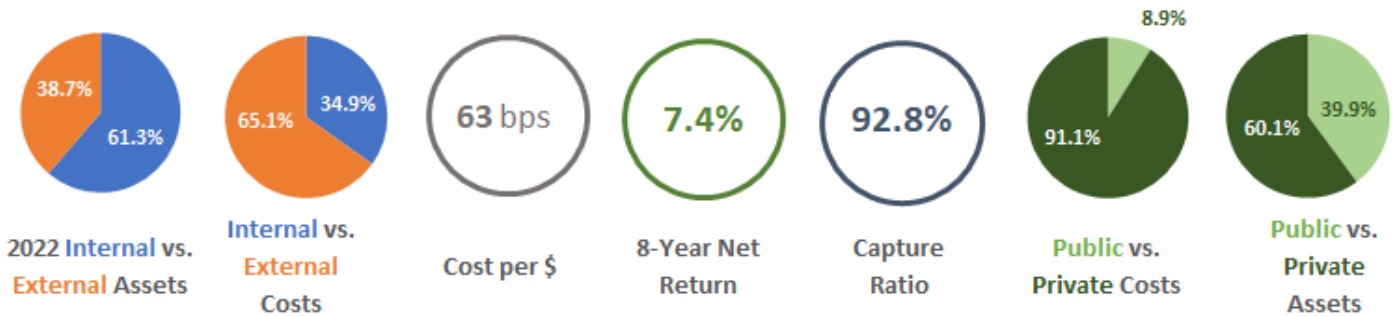
- The Private Equity **stayed flat** from a return perspective in 2022, but the NAV **grew due to increased allocation**
2022 return close to -0.5%, 3 year return over 19%, 5 year return over 16%. Capture ratio **decreased 1.4%**
- While Total PE Portfolio Costs increased in absolute terms (8.5%), they **decreased relative to the NAV** by ~ 20 bps
 - The Private Equity portfolio increased the commitment pace over the last five years, which generally leads to higher relative costs due to the J-curve effect
 - The **decrease in relative costs** is partly attributed to an **increased allocation to co-investments**, as external management fees decreased by 8 bps relative to the NAV

Risk Mitigating Strategies



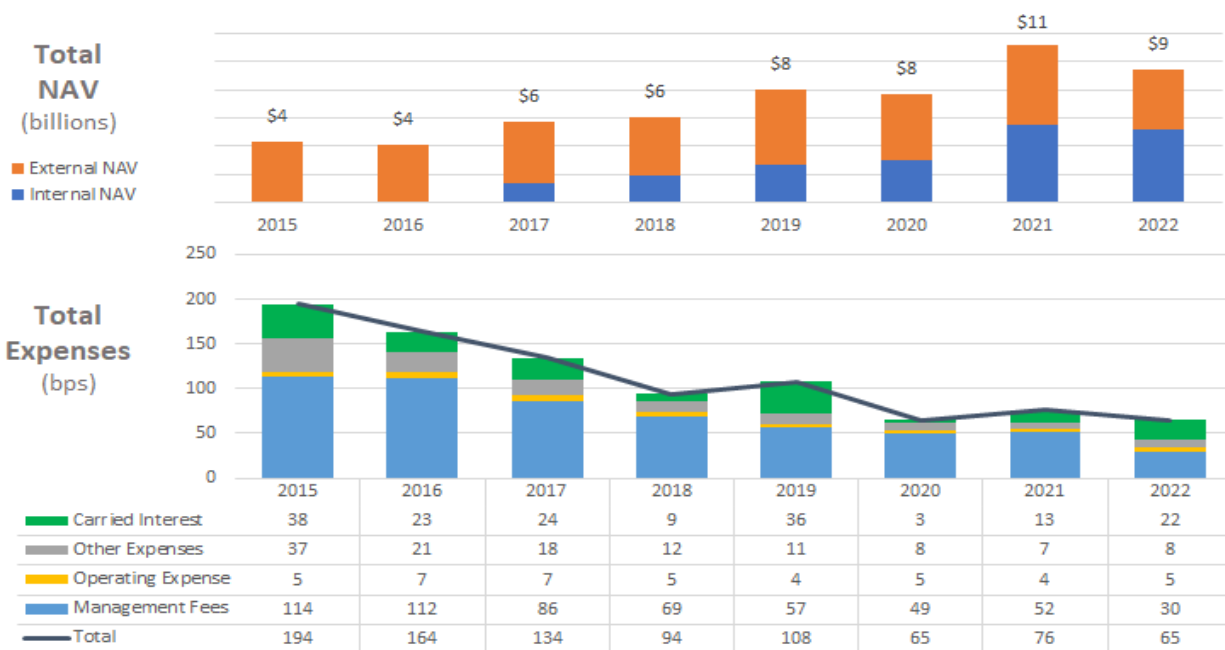
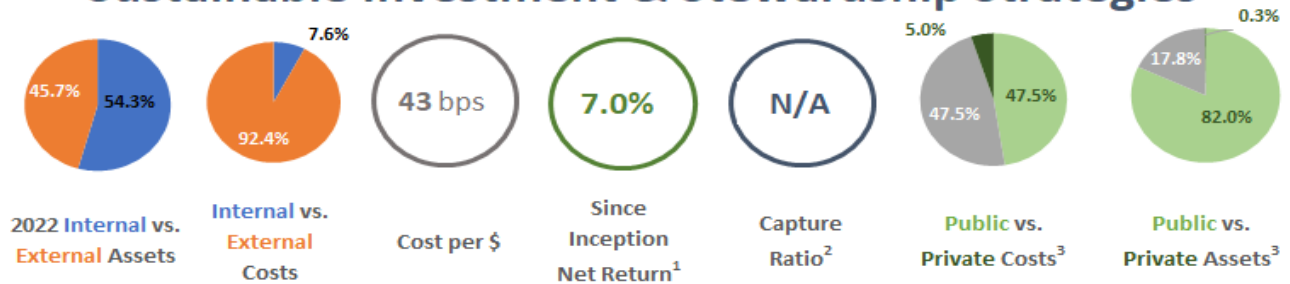
- The RMS NAV has **increased** significantly over the last 5 years **driven by an increased allocation** toward the strategy: 2022 return ~ 0.6%, 3 year return over 5.2%, 5 year return over 4.5%. Capture ratio decreased by 5%
- Total RMS Portfolio Costs **increased** in relative to the NAV by approximately 5 bps
 - The **increase** is attributed to NAV growth of the externally managed strategies, both management fees and organization wide cost allocations
 - **Other expenses stayed flat.** Note: portfolio costs increased by 12bps in 2020. This was due to a methodology change in how brokerage costs were reported. New regulation at the end of 2018 increased transparency around fees embedded in an assets price. When this methodology is applied to current period, RMS costs decreased
- **Carried interest increased** significantly as **exceptional returns in Trend Following** over the past few years were realized during 2022
- RMS' objective is to construct a portfolio that **provides protection to the total plan** during deep and extended equity market downturns

Inflation Sensitive



- The Inflation Sensitive NAV has **increased** significantly over the last 5 years **driven by** an increased allocation and positive **returns**:
2022 return ~ 6.3%, 3 year return ~ 10.6%, 5 year return ~ 9.0%. Capture ratio decreased 0.9%
- While Total Inflation Portfolio Costs increased in absolute terms (26%), they **decreased relative to the NAV** by ~ 7 bps
 - The **increase in absolute costs** overall is attributed to NAV growth (management fee impact), carried interest (realized profit sharing), and an increased percentage of private investments relative to public (Other and Operating expenses)

Sustainable Investment & Stewardship Strategies



- The SISS NAV may fluctuate over time given there is not a current allocation target.
2022 return ~ -19.9%, 3 year return ~ 4.3%, 5 year return ~ 6.0%
- Total SISS Portfolio Costs decreased in absolute terms (43%), and **relative to the NAV** by ~ 19 bps
 - The **decrease in absolute and relative costs** overall is attributed to a significant decrease in management fees, resulting from a sizeable shift toward internally managed public assets
- The SISS Portfolio is composed of the SISS Public Portfolio and the SISS Private Portfolio
 - The SISS Public Portfolio invests in public market securities across sustainability-focused managers and activist managers. The sustainability-focused managers are included as 'Public' costs. The activist portfolios are held in limited partnership vehicles, much like private assets, as such they are classified as 'Private' costs
 - The SISS Private Portfolio invests through a broad range of investment structures such as co-investment vehicles, separately managed accounts, and direct investments, in alignment with collaborative model objectives. These strategies are included as 'Private' costs

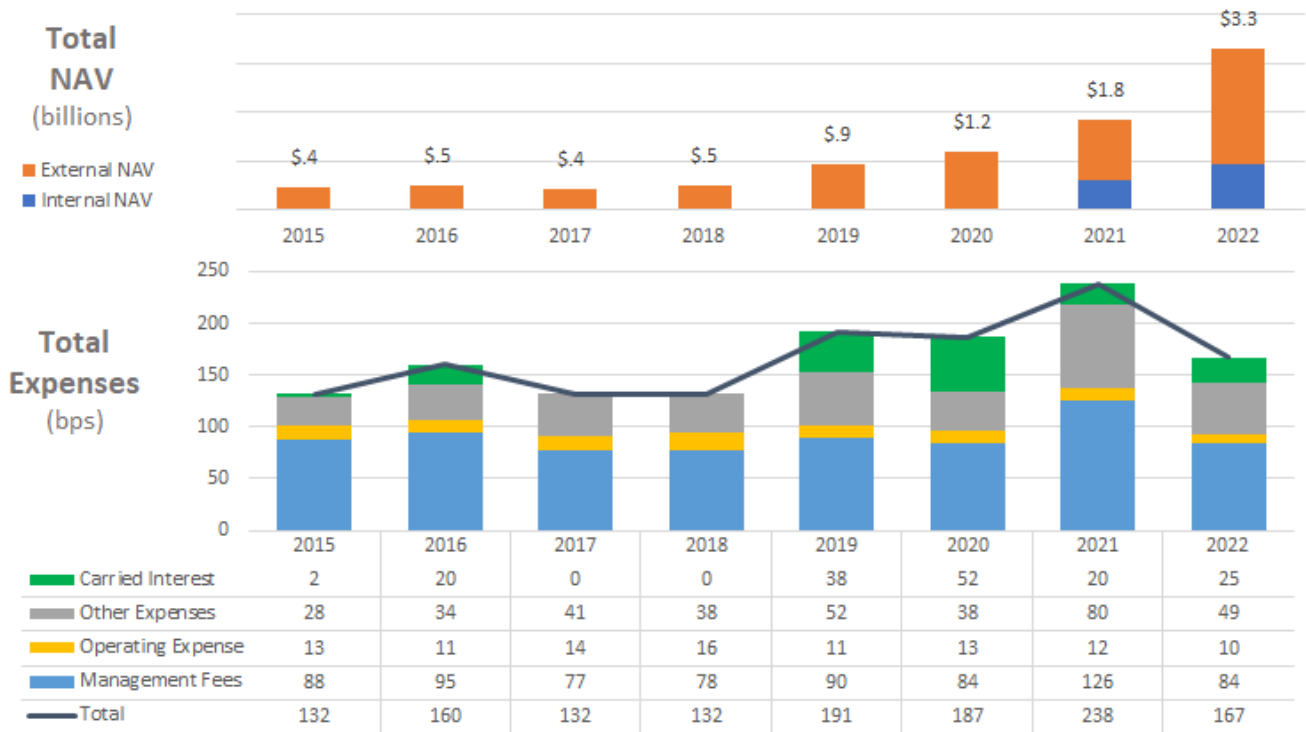
Note - The CY 2021 information has been restated due to four funds being incorrectly attributed to Global Equity instead of SISS. NAV and cost information presented here have been adjusted to reflect the corrected information.

¹ 8-year net return not provided as the SISS strategy does not have 8 years of return history - Inception date 07/2015

² Capture ratio N/A given potentially changing strategies over time and no target allocation

³ Private assets, and their associated costs, are broken out into SISS Private Portfolio assets (dark green) and SISS Public Portfolio - activist managers - assets (grey)

Innovative Strategies



• The Innovative Strategies NAV may fluctuate over time given there is not a current allocation target. Additionally, costs can fluctuate relative to changing strategies.

2022 return ~ 7.1%, 3 year return ~ 6.0%, 5 year return ~ 6.9%

• Total Innovation Portfolio Costs increased in absolute terms, but **decreased** relative to the NAV (76 bps)

- The **increase in absolute costs** overall is attributed to NAV growth (management fee impact), carried interest (realized profit sharing), and an increased percentage of private investments relative to public (Other and Operating expenses)

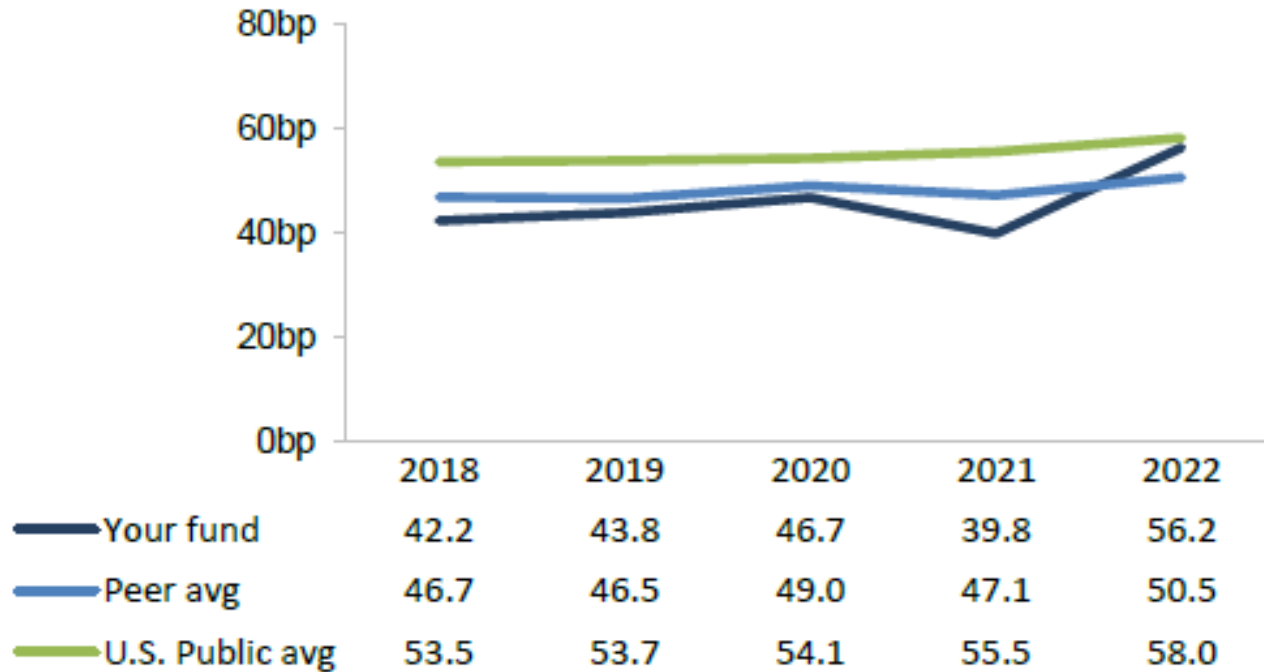
- The **decrease in relative costs** overall is attributed to lower management fees and a significant reduction in portfolio company fees

* Capture ratio N/A given potentially changing strategies over time and no target allocation

Peer Comparison (Developed by third party cost measurement service provider¹)

Trend in Total Investment Cost

Investment costs, excluding transaction costs and carried interest, increased relative to the previous two years due to public market strategy changes and increasing allocations toward private assets. Trend analysis includes 36 U.S. Public Funds and 14 global peer funds with 5 or more consecutive years of data.



¹ Data collected and compiled by CEM Benchmarking, Inc. for calendar year 2022.