CALSTRS

Investment Committee

Item Number 4a – Open Session

Subject: Annual Investment Cost Report

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Item Type: Information

Date & Time: November 3, 2022 – 15 minutes

Attachment(s): Attachment 1 – Cost Breakdown
Attachment 2 – Cost Trends
Attachment 3 – Peer Comparison
Attachment 4 – Portfolio Expense Breakout
Attachment 5 – Glossary

PowerPoint(s): 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 administering the Total Portfolio, presented in the following format:

1. Historical overall costs broken out by Total Portfolio, Asset Class, Internal vs. External Management, and Public vs. Private Investments (Attachments 1 & 2).

2. A capture ratio analysis to show cost effectiveness of the Total Portfolio and asset classes over time. This is a quantitative metric to compare costs (spending) against returns (Attachment 2).

3. A peer comparison of investment cost data prepared by an external cost measurement service provider. Their analysis compares CalSTRS to peers and reports cost effectiveness based on their methodology (Attachment 3).

4. A breakdown of portfolio costs captured: internal operating and administrative expenses, management and performance fees, brokerage commissions, and private asset costs that are often capitalized or netted from the investments (Attachment 4)

Executive Summary

Investment costs are an important determinant of fund performance and require close oversight and active monitoring. In alignment with CalSTRS Investment Belief 3, "Managing investment costs yield long-term benefits", the Annual Investment Cost Report strives to provide transparency and an in-depth look into all types of expenses incurred in managing the Total Portfolio. All costs and carried interest within this report are for calendar year 2021 and on a cash basis.

There is no industry standard or format for investment cost reporting. In many cases, comparability is not possible because every pension plan is unique. Differences between plans can include respective mandates, funding objectives and cash flow constraints. Additionally, private assets have characteristics such as non-standard reporting formats and variability in deal structures, making cost reporting exceptionally complex. Therefore, performance measurement and cost extraction are intricate and not always directly comparable to peers. While most partnerships have an audited annual financial statement, which is closely reviewed by staff, the netted costs and expenses are not uniformly disclosed nor are they delineated by each respective limited partner. As a result, the information must be carefully obtained one investment at a time through direct engagement. Mercer was hired as the project consultant to obtain these costs and continues to provide their services for obtaining and aggregating expenses, fees and carried intertest related to the private assets. The CalSTRS Annual Investment Cost Report sets best practice in cost reporting due to its comprehensiveness and thorough detail in reporting.

Background

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 investment 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.

Chart 1 – Overall Costs[1] in Basis Points

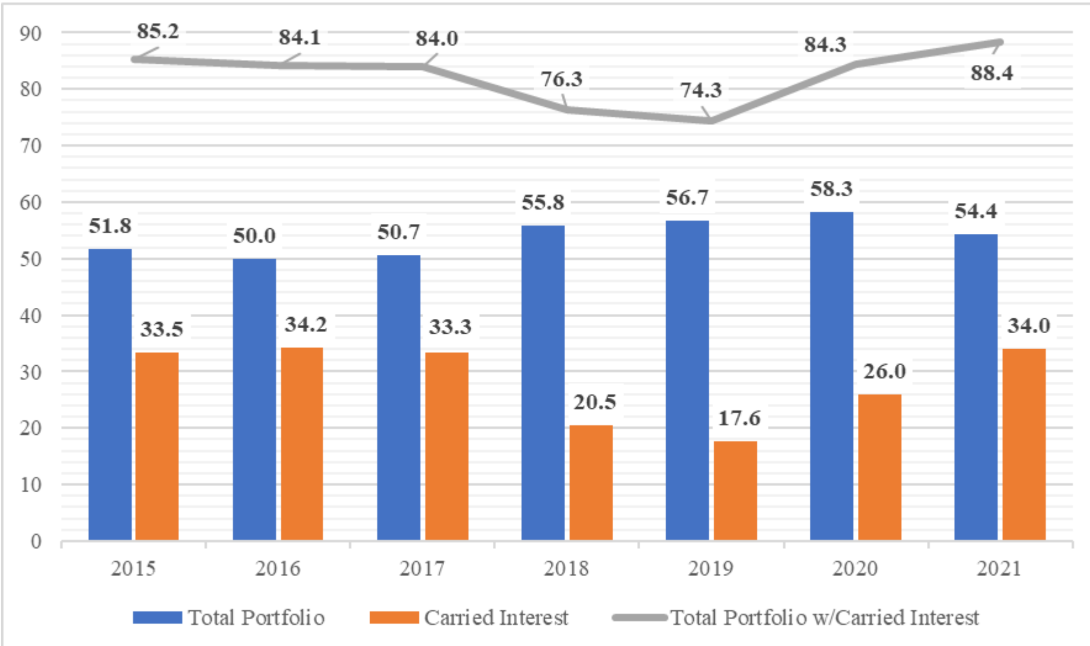


Chart 1 above expresses costs relative to the Net Asset Value (NAV) of the Total Portfolio:

- Overall costs for 2021 (grey line) increased by 4 basis points (bps).
- Total portfolio costs (blue bar) decreased relative to the NAV, for the first time in over five years by 4 bps.
- Carried interest (orange bar) increased by 8 bps.
- The seven-year average cost per dollar (excluding carried interest) is 54 bps.

Total portfolio costs and carried interest are driven by different factors. Total portfolio costs include management fees and internal operating costs that are highly correlated to the NAV of the Total Portfolio. Carried interest is 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 (further defined in Attachment 5).

[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.

Table 1 – Overall Costs in Absolute Dollars

($ in Millions)	2015	2016	2017	2018	2019	2020	2021	2021 Δ
NAV	186,100	194,698	218,215	225,703	242,190	261,992	**338,296**	29%
Total Portfolio Costs	**963**	**973**	**1,106**	**1,260**	**1,374**	**1,527**	**1,840**	**20%**
Carried Interest Paid	**623**	**665**	**727**	**463**	**426**	**681**	**1,150**	**69%**
Total w/Carried Interest	1,586	1,638	1,833	1,723	1,800	2,209	2,990	35%

Table 1 above reflects the costs paid in 2021 in absolute dollar terms.

- Total portfolio costs increased by 20%, around $313 million more than the previous year.
- Carried interest paid increased by 69%, paying out $469 million more than in 2020.

The Total Portfolio had significant growth over 2021, increasing its net assets by 29%. This is why total portfolio costs decreased from a basis point perspective even though they increased in absolute dollar terms. If things remain constant, portfolio costs shift in somewhat proportional relation to NAV. This proportionality decreases when there are shifts in asset allocations or changes in the percentage of funds managed internally. The following sections of this report will outline these drivers of cost and discuss the trends observed over the last seven years.

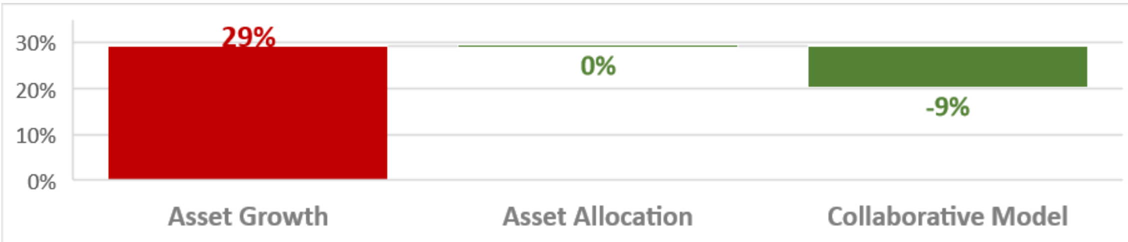
The Drivers of Cost

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.

Total portfolio costs and carried interest both increased in 2021 as indicated in Table 1. Carried interest increased by 69% and is discussed separately from portfolio costs given that it is captured on a cash basis and often corresponds to multiple years. Total portfolio costs increased by 20%, and are captured in the form of management fees, operating expenses, and other expenses (Attachment 4 provides a complete breakdown of the categories that make up operating expenses). Each of the drivers above affect these components differently. Below is a discussion attributing these changes to the four primary drivers of costs.

Chart 2 – Total Portfolio Cost Attribution for 2021



Asset Growth (Total Portfolio Costs)

A greater amount of assets under management will increase total costs in absolute terms. As the Total Portfolio NAV has increased over time, so have the dollar amounts of total portfolio costs. Much of this can be attributed simply to management fees based on NAV, but a larger Total Portfolio will incur greater operating and other expenses, as well. As shown in Table 1, the Total Portfolio NAV has grown steadily year over year by 82% since 2015, including 29% in 2021 alone. This 29% increase had a similar impact to costs over 2021.

Asset Allocation (Total Portfolio Costs)

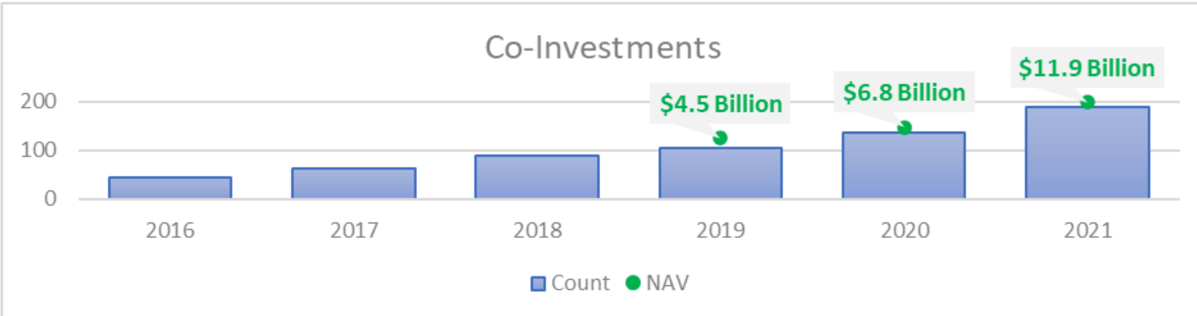
Private markets and active strategies have higher costs relative to public markets and passive strategies. A higher private asset allocation will often correlate to greater portfolio costs, to compensate the expertise needed to manage investments with higher risk/return profiles or additional diversifying aspects. The 2020 Annual Investment Cost Report showed that since 2016, the allocation to private assets had increased by over 7%. In 2021, the allocation to private assets stayed relatively flat to slightly decreased, which had a negligible impact to cost.

Collaborative Model (Total Portfolio Costs)

The execution of the CalSTRS Collaborative Model is crucial to the long-term return objectives of the Total Portfolio. It is an investment strategy to manage more assets internally to reduce costs, control risks and increase expected returns. This includes leveraging our external partnerships to achieve similar benefits and analyzing each asset classes overall strategy to find the best balance of risk and return.

The largest impact of the Collaborative Model will be defined by a savings in carried interest - which is outlined in the November 2022 Board Item 4b: Collaborative Model Savings – but these actions also have a direct impact on portfolio costs: management fees and other expenses. Operating expenses may increase slightly as the Collaborative Model's infrastructure is built, but then drop when economies of scale are obtained through growth. In 2021, the Collaborative Model reduced portfolio costs by 9%. Most of the savings was due to an increase in the allocation to co-investments. The number of co-investments grew from 135 to 188 over the year. This allocation to investments with lower fee structures accounted for almost 8% of the savings (see Collaborative Savings Report for more detail), with the remaining attributed to operating expense savings from economies of scale.

Chart 3 – Co-Investments Count



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.

The 2019 Annual Cost Report discussed a correlation between the carried interest paid, vintage years, and the amount of committed capital, that when combined with favorable economic cycles, help explain cyclical increases in the amount of carried interest paid out in a given year. For 2021, carried interest paid increased by 69%, which indicates significant realized gains earned by private assets over the last few years.

Internal vs. External Costs - Public vs. Private

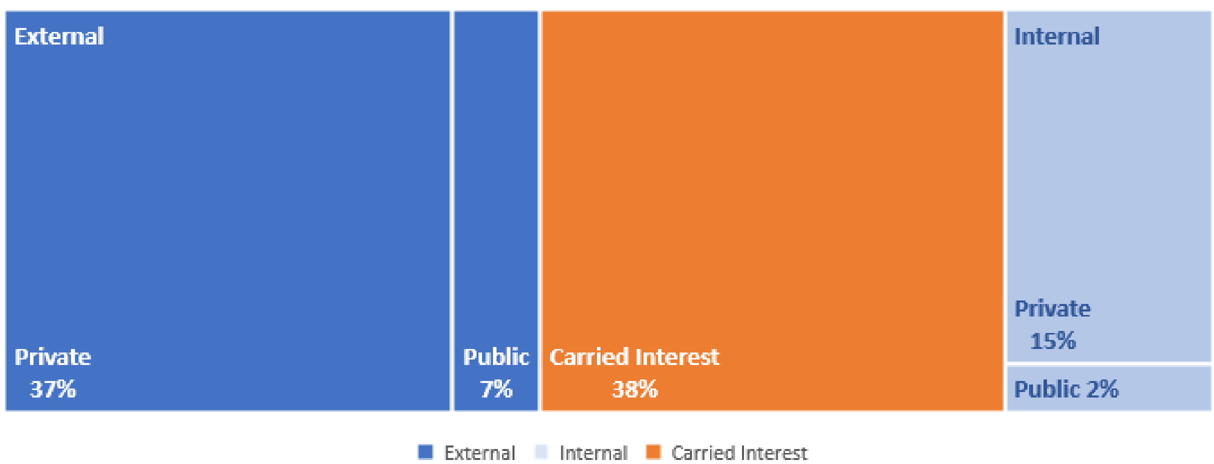
In general, it costs more to manage investments externally than internally. Internal investment management allows staff to focus on specific strategies while leveraging internal knowledge and adding value by generating meaningful cost savings. However, there are strategies that require either significant 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 below demonstrates the size relationship between externally managed costs, carried interest paid, and internally managed costs. It further breaks down external and internal costs into public and private. As shown in the heat map, private market costs, including carried interest, accounted for over 90% of the costs for 2021 even though they make up only 32% of the assets in the Total Portfolio (see Attachment 1). This is typical and expected as private market investments (private assets) are complex and require a higher degree of 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.

There were approximately 886 private assets in 2021. The costs associated with 98% of the private assets, based on their NAV, have been obtained and reported within this report. General partners/managers of the remaining 2% of private assets were non-responsive. They are primarily composed of investments that are winding down and at the end of their life. Staff believes that 98% coverage provides a directionally accurate cost figure.

To obtain the cost information of the private assets, Mercer utilized the reporting template (Fee Template) developed by the Institutional Limited Partners Association (ILPA) for private assets. Mercer will be available to discuss their process and answer any questions.

Chart 4 – Total Portfolio Costs and Carried Interest Heat Map



For 2021, CalSTRS paid roughly $3 Billion in overall costs: 38% in carried interest, 44% in external costs, and 17% in internal costs. Table 2 below further outlines the breakdown of public vs. private costs.

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

	NAV	%	Cost	%
Externally Managed	**112,629**	**33%**	**1,324**	**72%**
Private	*68,045*	*20%*	*1,111*	*60%*
Public	*44,585*	*13%*	*214*	*12%*
Internally Managed	**225,667**	**67%**	**516**	**28%**
Private	*40,724*	*12%*	*454*	*25%*
Public	*184,943*	*55%*	*61*	*3%*
Total	338,296	100%	1,840	100%

Cost *in Basis Points*	
Private	
External	Internal
163	112
Public	
External	Internal
48	3

In 2021, external management costs were approximately $1.3 billion compared to $516 million in internal management costs. Table 2 shows internally managed investments account for 67% of the Total Portfolio NAV, yet they represent only 28% of the Total Portfolio Costs. The difference in cost is even more evident when differentiating between public and private assets. Externally managed private assets cost $1.1 billion in 2021. This equates to 163 basis points vs 112 basis points per dollar for internally managed private assets. Internally managed private assets have a lower negotiated cost structure and include co-investments and joint ventures (please see the Glossary for a description of all included investments). External public assets cost 48 basis points per dollar while internal public assets cost 3 basis points. This difference includes unequal balances of active and passive strategies between external and internal management, but when strategies are directly compared, internal management is significantly less expensive.

Capture Ratio Analysis

The Capture Ratio reflects the percentage of gross profits captured and reflected in the net returns over the seven-year period ending December 31, 2021. 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. Table 3 below shows that the Total Portfolio has earned $162.5 billion over the last seven years, while paying $10 billion in fees and carried interest. 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)*

7-Year Period *Ending December 31, 2021*		2021 Target Weights	Costs*	Gross Dollars**	Net Dollars**	Capture Ratio	Net Return (Time Weighted)
	Total Portfolio		$10,230	$172,784	$162,553	**94.1%**	9.93%
Growth	Global Equity	47%	862	91,872	91,010	**99.1%**	11.34%
	Private Equity	11%	5,138	32,804	27,665	**84.3%**	16.28%
Real Assets	Real Estate	14%	2,618	22,018	19,399	**88.1%**	9.66%
	Inflation Sensitive	4%	261	4,119	3,858	**93.7%**	7.54%
Diversifying	Fixed Income	12%	69	7,477	7,407	**99.1%**	3.63%
	Risk Mitigating Strategies	10%	735	6,085	5,350	**87.9%**	2.96%

** Management fees and carried interest are considered the industry standard for measuring costs*
*** Cumulative dollar gain or loss over the period*

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

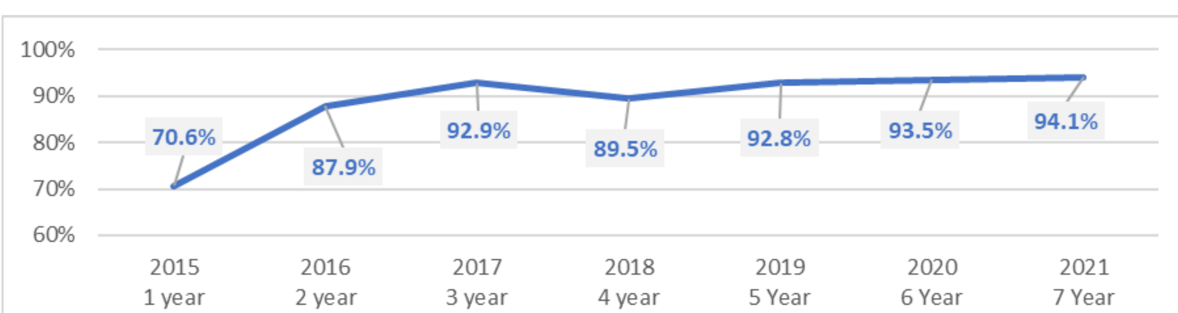


Chart 5 above shows that CalSTRS has captured 94.1% of the gross dollars earned over the last seven years.

Peer Comparison[2]

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 $100.6 billion to $751.0 billion in AUM, CalSTRS investments was a low-cost fund.

- CalSTRS investment cost of 39.8 bps was below its expected cost of 54.4 bps, demonstrating the fund was low cost compared to peers, given an identical asset mix.

- CalSTRS Investment Branch saved 14.6 bps over the expected investment costs of 54.4 bps, which equates to approximately $491 million saved compared to its peers.

For further details on peer comparison, please refer to Attachment 3.

CONCLUSION

CalSTRS staff has been reporting investment fees and expenses for many years. As reflected on the investment beliefs statements, staff acknowledges the long-term benefits of managing investment costs. Reducing costs is an integral part of CalSTRS investment decision making process and staff understands the importance of monitoring and measuring costs to meet the policy objectives.

This report is comprehensive, and through this process, costs across all asset classes and strategies are scrutinized and reported. The thoroughness and dedication to transparency, even prior to legislation requiring detailed cost reporting for California pension plans, continues to make CalSTRS the front-runners amongst peers in reporting investment costs.

The Peer Comparison (Attachment 3) provides insight into how CalSTRS is performing compared to global peers. There are challenges to the comparability of costs with peers - which includes the lack of standard practices across the industry for reporting these costs. Therefore, the peer comparison report excludes private asset performance fees and transactions costs except as a footnote.

Staff will continue to work with third party cost measurement service providers to monitor CalSTRS effectiveness in managing investment costs compared to peers. Staff has partnered together with other institutional investors and organizations (i.e., ILPA, P2F2) to advocate best practices across all the asset classes to enhance transparency and improve benchmarking. These efforts and the continued enhancements of the Annual Investment Cost Report will strive to provide the Committee the most meaningful and advanced investment cost information.

[2] Data collected and compiled by CEM Benchmarking, Inc. for calendar year 2021.

Strategic Plan Linkage: Goal 1 of the strategic plan. Trusted stewards – Ensuring a well-governed, financially sound trust fund.

Board Policy Linkage: CalSTRS Investment Policy and Management Plan

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Optional Reference Material: *(e.g., prior board items, supplemental educational materials, etc.)*