CALSTRS

Investment Committee

Item Number 7b – Open Session

Subject: Collaborative Model Savings Report

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Item Type: Information

Date & Time: November 4, 2021 – 15 minutes

Attachment(s): Attachment 1 – Comparable Fee Source Hierarchy and Model
Attachment 2 – Collaborative Model Savings Per Asset Class and Investment Type

PowerPoint(s): Collaborative Model Savings Report

PURPOSE

To expand the annual cost reporting by providing defined metrics around savings from the CalSTRS "Collaborative Model".

DISCUSSION/SUMMARY

The Collaborative Model is an internally led approach to how CalSTRS engages in the investment marketplace. It is an investment strategy to manage more assets internally - to reduce costs, control risks and increase expected returns - and leverage our external partnerships to achieve similar benefits. CalSTRS embraces partnership and collaboration with world-class investment institutions, along with building internal (or 'direct') investing capabilities to achieve the benefits of internally managed assets. The Collaborative Model covers a spectrum of different types of investment strategies and investment ownership structures from simple to very complex. This report aims to quantify the savings achieved from the implementation of this strategy.

Collaborative Model Scope

The Collaborative Savings Model consists of three components:

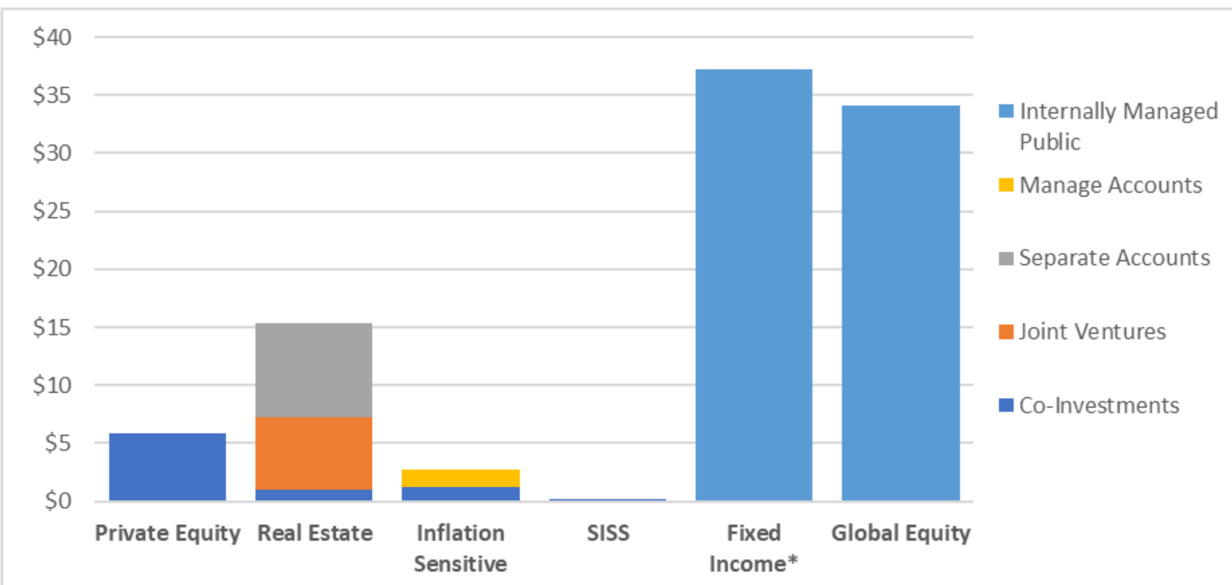
1) **Private Investments** where CalSTRS has collaborated with external industry partners.
    - *Co-Investments*: Private Equity, Real Estate, Inflation Sensitive and SISS
    - *Separate Accounts and Joint Ventures*: Real Estate
    - *Managed Accounts*: Inflation Sensitive

- *Other* Collaborative Structures: to be defined at on-set

2) **Internal Management** where CalSTRS has brought specific strategies in-house to leverage internal knowledge and achieve cost savings.
   - Global Equity *(inclusive of SISS)* and Fixed Income *(inclusive of RMS, Inflation Sensitive, and Currency strategies).*
3) **Relationship Rebate Agreements** where CalSTRS has negotiated rebates based on the size of business across the CalSTRS plan.

This report includes 156 collaborative private investment structures, 42 internally managed funds, and 2 rebate agreements that contributed to collaborative savings results as of 2020 and identifies the savings to the Total Fund on a per year basis going back to 2017. Though internal management and investment types like co-investments were around prior to this date, it will be used as the starting point for tracking as it correlates to the 2017 workplan project around direct investing and an allocation shift toward increased private investing, both in committed capital and the number of deals. Chart 1 below shows the collaborative assets under management for each asset class based on investment type as of the end of the 2020 calendar year.

Chart 1 – Collaborative Dollars per Asset Class ($ Billions)[1]



Of the collaborative components, internally managed public funds have the greatest amount of dollars invested with over $71 billion. Chart 1 does not include another $25.8 billion managed for the liquidity and securities lending programs in order not to double count assets, but the savings achieved from managing these portfolios internally is captured in the savings model.

[1] *Fixed Income does not include $25.8 billion in assets managed for the liquidity and securities lending programs

Collaborative Savings Methodology

The methodology used in the Collaborative Savings Model is intended to be consistent across components and easily repeatable. It uses standard assumptions (provided in Attachment 1) across components and investment types with regard to areas like, term of the investment and fee stage, and is therefore an estimate of the savings to the Total Fund. The intent is to provide a conservative savings figure in the first iteration and expand over time.

The methodology focuses on identifying "comparable" investment strategies (comparable) to each of the collaborative investment components (collaborative) and calculating the difference in actual vs. expected fees. Attachment 1 provides a hierarchy of the expected fee sourcing and model assumptions. In an effort to provide a conservative savings figure, the most aggressive terms were used. This means for a public comparable, the most aggressive (cheapest) external manager quote and for a private collaborative, the most expensive management fee. Many private assets will have a tiered rate structure that lessens in future stages of the investment or a blended rate structure with different rates based on the portion of investments allocated to each strategy. In these cases, the initial fee stage and the highest strategy rate was used in the model. The following describes the variables used to calculate the savings for each of the collaborative components.

Private Investment fee savings are calculated by comparing management fees and carried interest associated with a collaborative investment to a comparable investment's terms. In many cases, partnership expenses are reduced in collaborative structures, but for the purposes of this calculation they have not been included. A comparable is identified for each collaborative based on investment type. If a collaborative sells off pieces of the investment and realizes a gain, a net carried interest saved is calculated assuming hurdle rates have been met. The net difference in management fees and carried interest paid is considered the collaborative savings.

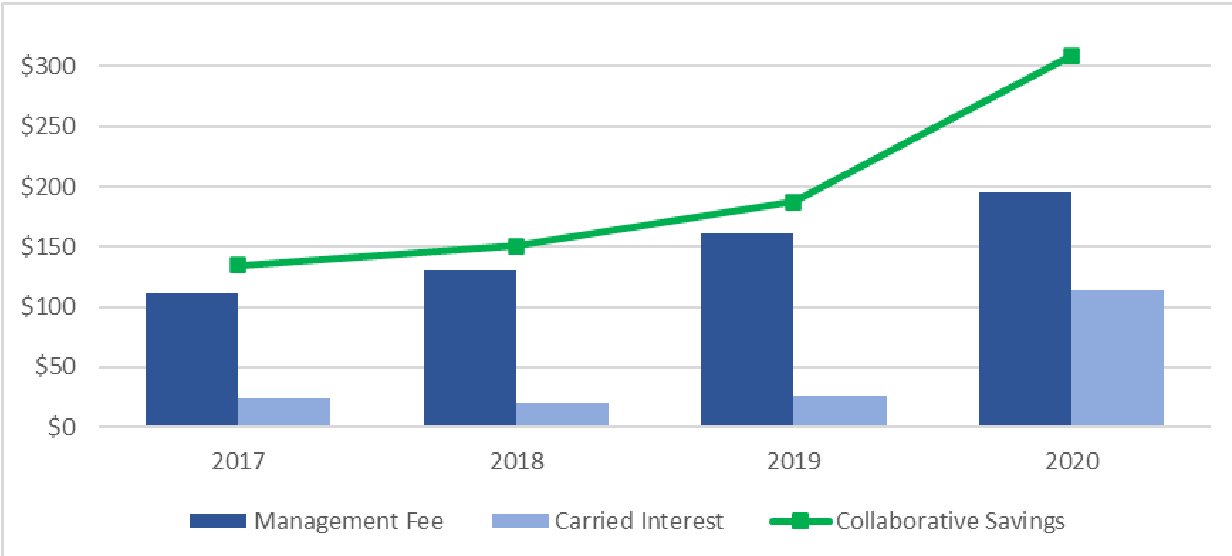
Internally Managed Funds fee savings are calculated by generating an average staff rate (cost per dollar) for each asset class, removing that from a comparable management fee, and applying the savings rate to the average monthly Net Asset Value (NAV) used in The Annual Cost Report. The average staff rate includes internal salaries and an estimation of additional expenses incurred by adding internal management staff related to trading & risk systems and licensing fees.

Rebate Agreements fee savings are calculated by obtaining the actual rebate paid to the Total Fund for a given year.

Collaborative Savings Results

As shown in Chart 2 below, CalSTRS has saved over $781 million since 2017, with an average annual savings of $195 million. The savings in management fees and carried interest has increased each year as the number of collaborative components has increased. This annual savings number will increase or decrease variably over time based on the amount of carried interest paid out in a given year and the number of collaborative components.

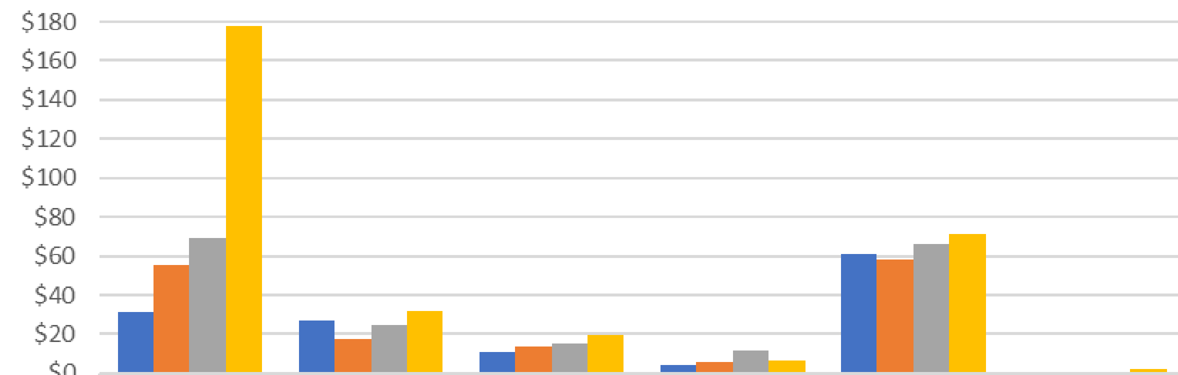
Chart 2 – Overall Savings per Year ($ Millions, since 2017)



($ millions)	2017	2018	2019	2020	Total 4 Yr Savings
Collaborative Savings	134.4	150.6	187.2	308.9	$781 M
Management Fee	110.8	130.2	161.4	195.3	
Carried Interest	23.6	20.3	25.8	113.5	
Component Count	106	140	167	200	

The collaborative components (investment types) were outlined in the model's scope above. Their savings are generated from different combinations of management fees and carried interest. Joint Ventures, Separate Accounts and Managed Accounts often have reduced fee and carried interest expenses. Internally managed public funds generate their savings from the elimination of management fees. Co-investments predominantly have zero management fees and carried interest. Chart 3 below outlines the savings results broken down by investment type.

Chart 3 – Savings per Investment Type ($ Millions)



	Co-Investments	Joint Ventures	Separate Accounts	Manage Accounts	Internally Managed	Rebate Agreements
2017	$31.6	$26.9	$11.1	$4.0	$60.8	$0.0
2018	$55.3	$17.6	$13.7	$5.5	$58.4	$0.1
2019	$69.0	$24.6	$15.4	$11.4	$66.3	$0.5
2020	$177.8	$31.6	$19.2	$6.7	$71.5	$2.0

As shown in the chart above, internally managed funds and co-investments have provided the greatest amount of savings over this time. Internally managed funds are compared against public managers with low fee structures, so the savings is derived significantly from the amount invested (Chart 1 – Collaborative Dollars per Asset Class). Private investments tend to have higher fee structures, so even with less invested, there can be significant savings in management fees. Co-investments, with their aggressively reduced fee structures (often zero fees and carry), will often reflect the greatest amount of savings in periods after bull markets when profits are realized without having to share profits with a General Partner (carried interest savings). This was seen in 2020, when co-investment savings rose dramatically after capturing over $100 million in saved carried interest paid.

Chart 4 – Savings per Asset Class ($ Millions, since 2017)

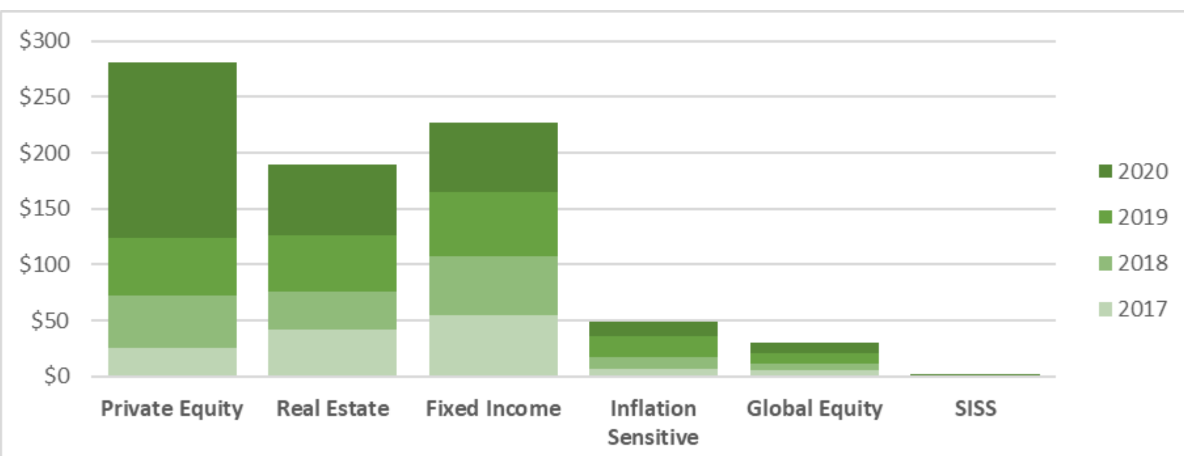


Chart 4 reflects the contributed savings per each asset class over the last four years. A complete breakdown of the dollars saved per asset class and investment type, broken out by management fees and carried interest is available in Attachment 2. An excerpt for 2020 is shown here.

($ Millions) Asset Class	2020 Management Fee	2020 Carried Interest
Private Equity	**$62.3**	**$95.6**
Co-Investments	$62.3	$95.6
Real Estate	**$46.4**	**$17.7**
Co-Investments	$6.2	$7.1
Joint Ventures	$21.0	$10.6
Separate Accounts	$19.2	$0.0
Inflation Sensitive	**$13.1**	**$0.0**
Co-Investments	$6.3	$0.0
Managed Accounts	$6.7	$0.0
SISS	**$0.3**	**$0.0**
Co-Investments	$0.3	$0.0
Fixed Income	**$62.3**	**$0.0**
Internal Managed	$62.3	$0.0
Global Equity	**$9.2**	**$0.0**
Internal Managed	$9.2	$0.0
Rebate Agreements	**$1.8**	**$0.2**
Total Savings	**$195.3**	**$113.5**

Over the 4-year period (Chart 4), Private Equity (PE) has contributed the most savings. PE has ramped up their investment into co-investments over the last three years, evidenced by a 2020 savings of $157.9 million - $95.6 million of this amount attributable to savings on carried interest paid.

Fixed Income internally managed funds have contributed the second most over the 4 years with a consistent savings on management fees. Though in 2020, the combination of management fee savings and savings on carried interest from Real Estate investments ($64.1 million) exceeded Fixed Income for the first time.

Table 1 - Collaborative Savings Impact on 2020 Returns[2] ($ Millions)

Asset Class	Net Dollars Earned	Collaborative Dollars Saved	2020 Return	Return with Savings Removed	Excess Return Added
Total Fund	$32,550.1	$308.9	13.01%	12.89%	**0.12%**
Private Equity	$3,991.8	$157.9	16.03%	15.39%	**0.63%**
Fixed Income	$1,428.2	$64.1	8.38%	8.17%	**0.22%**
Real Estate	$576.2	$13.1	4.13%	3.94%	**0.19%**
Inflation Sensitive	$2,424.7	$62.3	6.06%	5.92%	**0.14%**
Global Equity	$19,194.3	$9.2	16.24%	16.23%	**0.01%**
SISS	$1,488.8	$0.3	19.50%	19.50%	**0.00%**

Table 1 above estimates the impact the Collaborative Model had on each of the asset classes listed. The savings earned by reducing costs had a direct impact to the dollars earned (dollar return) over 2020. Removing this savings from the dollar return reduced each asset class return as shown above.

[2] Total Fund includes asset classes not listed

In 2020, the Collaborative Model saved the Total Fund roughly $309 million, adding an estimated 0.12% (12 basis points) to the 2020 net return.

Comparable Fee Source Hierarchy and Model Assumptions

<table>
<tr><th rowspan="2">Investment Type</th><th colspan="3">Comparable Fee Source Hierarchy</th><th rowspan="2">Impacted Asset Classes</th><th colspan="4">Investment Count</th></tr>
<tr><th>1</th><th>2</th><th>3</th><th>1</th><th>2</th><th>3</th><th>Total</th></tr>
<tr><td rowspan="2">Co-Investments</td><td>Sponsor Fund Terms</td><td>Avg Parent Fund Terms</td><td>RCLCO for Commingled RE Funds only</td><td rowspan="2">PE, RE, Inflation Sens, SISS</td><td rowspan="2">107</td><td rowspan="2">13</td><td rowspan="2">4</td><td rowspan="2">124</td></tr>
<tr><td colspan="3">Mngmt Fee = Sponsor Fee Rate - Co-Inv Fee Rate multiplied by Commitment
Carry = Sponsor Carry Rate * any realized cap gain from Co-Invest (adjusted for carry paid by co-invest and only if hurdle rate is achieved), less any carry paid by co-invest</td></tr>
<tr><td rowspan="2">Joint Ventures - Core
Joint Ventures - Opportunistic
Joint Ventures - Value Add
Separate Accounts - Value Add
Separate Accounts - Core</td><td>RCLCO Estimates</td><td>N/A</td><td>N/A</td><td rowspan="2">RE</td><td rowspan="2">27</td><td rowspan="2">-</td><td rowspan="2">-</td><td rowspan="2">27</td></tr>
<tr><td colspan="3">Mngmt Fee = Sponsor Fee Rate - JV or SA Fee Rate multiplied by Avg NAV
Carry = Comparable Carry Rate * any realized cap gain from investment (adjusted for carry paid by investment and only if hurdle rate is achieved), less any carry paid by investment</td></tr>
<tr><td rowspan="2">Managed Accounts</td><td>Meketa Estimates</td><td>N/A</td><td>N/A</td><td rowspan="2">Inflation Sens</td><td rowspan="2">5</td><td rowspan="2">-</td><td rowspan="2">-</td><td rowspan="2">5</td></tr>
<tr><td colspan="3">Mngmt Fee = Sponsor Fee Rate - JV or SA Fee Rate multiplied by Avg NAV
Carry = Comparable Carry Rate * any realized cap gain from investment (adjusted for carry paid by investment and only if hurdle rate is achieved), less any carry paid by investment</td></tr>
<tr><td rowspan="2">Internally Managed Funds</td><td>Direct Quote</td><td>eVestment</td><td>CEM Survey</td><td rowspan="2">GE, FI (inclusive of internal funds managed for RMS, Inflation Sens, Strat Overlay)</td><td rowspan="2">42</td><td rowspan="2">-</td><td rowspan="2">-</td><td rowspan="2">42</td></tr>
<tr><td>Quoted fee minus Staff rate</td><td>eVestment rate minus staff salary allocation $</td><td>Basis point difference of Internal survey cost vs. External peer survey cost for similar strategies</td></tr>
<tr><td>Rebate Agreements</td><td>Annual Rebate Earned</td><td>N/A</td><td>N/A</td><td>CalSTRS</td><td>2</td><td>-</td><td>-</td><td>2</td></tr>
</table>

Model Assumptions:

- Collaborative investments prior to 2010 were not included unless realized gains were achieved in 2017 – 2020
- Real Estate Joint Ventures and Separate Account fees are often based on Gross Asset Value. For the savings model, State Street reported Market Values were used (which may include Net or Gross Asset Values): Net being a more conservative savings calculation.
- Where Management Fees were not calculated based on GAV or NAV, actual Management Fees incurred were used and removed from the Comparable estimate to calculate savings
- Private Investment fee stage 1 used for rate comparisons

Collaborative Model Savings per Asset Class and Investment Type *($ in millions)*

($ Millions) Asset Class	2020 Management Fee	2020 Carried Interest	2019 Management Fee	2019 Carried Interest	2018 Management Fee	2018 Carried Interest	2017 Management Fee	2017 Carried Interest
Private Equity	**$62.3**	**$95.6**	**$43.6**	**$7.2**	**$28.3**	**$18.9**	**$15.4**	**$10.0**
Co-Investments	$62.3	$95.6	$43.6	$7.2	$28.3	$18.9	$15.4	$10.0
Real Estate	**$46.4**	**$17.7**	**$39.2**	**$10.4**	**$33.3**	**$1.5**	**$27.7**	**$13.6**
Co-Investments	$6.2	$7.1	$5.3	$4.3	$3.3	$0.2	$2.0	$1.4
Joint Ventures	$21.0	$10.6	$18.6	$6.0	$16.3	$1.3	$14.7	$12.2
Separate Accounts	$19.2	$0.0	$15.4	$0.0	$13.7	$0.0	$11.1	$0.0
Inflation Sensitive	**$13.1**	**$0.0**	**$11.5**	**$8.2**	**$9.9**	**$0.0**	**$6.6**	**$0.0**
Co-Investments	$6.3	$0.0	$4.8	$3.5	$4.4	$0.0	$2.6	$0.0
Managed Accounts	$6.7	$0.0	$6.7	$4.7	$5.5	$0.0	$4.0	$0.0
SISS	**$0.3**	**$0.0**	**$0.3**	**$0.0**	**$0.3**	**$0.0**	**$0.3**	**$0.0**
Co-Investments	$0.3	$0.0	$0.3	$0.0	$0.3	$0.0	$0.3	$0.0
Fixed Income	**$62.3**	**$0.0**	**$56.9**	**$0.0**	**$52.8**	**$0.0**	**$55.1**	**$0.0**
Internal Managed	$62.3	$0.0	$56.9	$0.0	$52.8	$0.0	$55.1	$0.0
Global Equity	**$9.2**	**$0.0**	**$9.4**	**$0.0**	**$5.5**	**$0.0**	**$5.7**	**$0.0**
Internal Managed	$9.2	$0.0	$9.4	$0.0	$5.5	$0.0	$5.7	$0.0
Rebate Agreements	**$1.8**	**$0.2**	**$0.5**	**$0.0**	**$0.1**	**$0.0**	**$0.0**	**$0.0**
Total Savings	**$195.3**	**$113.5**	**$161.4**	**$25.8**	**$130.2**	**$20.3**	**$110.8**	**$23.6**