AGENDA

RETIREMENT BOARD MEETING

SECOND MONTHLY MEETING
April 26, 2017
9:00 a.m.

Retirement Board Conference Room
The Willows Office Park
1355 Willow Way, Suite 221
Concord, California

THE RETIREMENT BOARD MAY DISCUSS AND TAKE ACTION ON THE FOLLOWING:

1. Pledge of Allegiance.

2. Accept comments from the public.

3. Approve minutes from the March 8, 2017.

4. Presentation of staff recommendation to retain StepStone Group for private markets advisory and investment management services.

5. Consider and take possible action to retain StepStone Group for:
   a. Private equity advisory services to be implemented on a non-discretionary basis.
   b. Private credit advisory and investment management services to be implemented on a discretionary basis.

6. Educational presentation from Verus regarding potential investment strategies to be used in Diversifying sub-portfolio.

7. Presentation from Chief Investment Officer on Liquidity sub-portfolio monthly report.

8. Consider and take possible action to authorize Chief Executive Officer to extend the contract with Koff and Associates for a total compensation and classification study.

9. Appointment of ad hoc advisory committee to review the Chief Executive Officer compensation package.

10. Consider and take possible action to add meetings on June 14 and 28, 2017 and to cancel the meetings on June 7 and 21, 2017.

11. Consider authorizing the attendance of Board and/or staff:
    a. Trustees' Roundtable, CALAPRS, June 2, 2017, Burbank, CA
    b. Certificate of Achievement in Public Plan Policy-Pension Part II, IFEBP, June 15, 2017, San Jose, CA
    c. Principals of Pension Management, CALAPRS, August 28-31, 2017, Malibu, CA

12. Miscellaneous
    a. Staff Report
    b. Outside Professionals' Report
    c. Trustees' comments

The Retirement Board will provide reasonable accommodations for persons with disabilities planning to attend Board meetings who contact the Retirement Office at least 24 hours before a meeting.

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Meeting Date
04/26/17
Agenda Item
#3

CONTRA COSTA COUNTY CCCERA
Employees' Retirement Association

MINUTES

RETIREMENT BOARD MEETING MINUTES

REGULAR MEETING
March 8, 2017
9:00 a.m.

Retirement Board Conference Room
The Willows Office Park
1355 Willow Way, Suite 221
Concord, California

Present: Candace Andersen, Scott Gordon, Jerry Holcombe, Louie Kroll, David MacDonald, John Phillips, William Pigeon, Gabe Rodrigues, Todd Smithey, Jerry Telles and Rusty Watts

Absent: Debora Allen

Staff: Gail Strohl, Chief Executive Officer; Timothy Price, Chief Investment Officer; Karen Levy, General Counsel; Wrally Dutkiewicz, Compliance Officer; Christina Dunn, Administrative/HR Manager; Henry Gudino, Accounting Manager; Tim Hoppe, Retirement Services Manager; and Alexis Cox, Member Services Manager

Outside Professional Support:	Representing:
Susan Hastings	Laughlin, Falbo, Levy & Moresi LLP
Harvey Leiderman	Reed Smith LLP

1. **Pledge of Allegiance**

   Watts led all in the *Pledge of Allegiance.*

2. **Accept comments from the public**

   No member of the public offered comment.

3. **Approval of Minutes**

   It was **M/S/C** to approve the minutes of the January 25, 2017 meeting. (Yes: Andersen, Gordon, Holcombe, Kroll, MacDonald, Phillips, Rodrigues and Watts)

Pigeon and Telles were present for subsequent discussion and voting.

4. **Routine Items**

   It was **M/S/C** to approve the routine items of the March 8, 2017 meeting. (Yes: Andersen, Gordon, Holcombe, MacDonald, Phillips, Pigeon, Rodrigues, Telles and Watts)

Smithey was present for subsequent discussion and voting.

CLOSED SESSION
The Board moved into closed session pursuant to Govt. Code Section 54957 and 54956.9(d)(1).

The Board moved into open session.

5. It was **M/S/C** to accept the Medical Advisor's recommendation and grant the following disability benefits:

   a. Steve Evans – Service Connected (Yes: Andersen, Gordon, Holcombe, MacDonald, Phillips, Smithey, Telles and Watts. No: Rodrigues)

6.

   a. The Board voted unanimously to engage Reed Smith LLP to represent CCCERA and each of its' Board members in the case Peter J. Nowicki v. CCCERA, et al., United States District Court, N.D. Cal., Case No.: cv-00629. (Yes: Andersen, Gordon, Holcombe, MacDonald, Phillips, Rodrigues, Smithey, Telles and Watts)

   b. The Board voted unanimously to engage Laughlin, Falbo, Levy & Moresi to represent CCCERA and its' Board members in the case Nidia Santos v. CCCERA, et al., Contra Costa County Superior Court Case No.: N16-2334. (Yes: Andersen, Gordon, Holcombe, MacDonald, Phillips, Rodrigues, Smithey, Telles and Watts)

   c. There was no reportable action related to Govt. Code Section 54956.9(d)(1).

7. **Presentation on the compensation enhancement review process**

Levy reviewed the current laws on assessment of compensation enhancements including the 2012 legislative changes to the County Employees Retirement Law of 1937 (CERL) noting AB 340 and AB 197 became effective January 1, 2013. She reviewed the legal requirement for a procedure for assessing enhancements under Section 31542, the exclusion of compensation enhancements and compensation earnable under Section 31461, and the exclusion of compensation paid to increase a retirement benefit under Section 7522.34. She noted that Section 7522.34 defining pensionable compensation applies to PEPRA members, not legacy members. She reviewed Govt. Code 31539 which provides for the exclusion of improper increases in final compensation noting it has been in effect since 2004. She stated AB 340 added the authority for the Board to audit a county or district to determine the correctness of retirement benefits, reportable compensation and enrollment in, and reinstatement to the system. She briefly reviewed CCCERA's current policies and pending litigation.

Hoppe reviewed CCCERA's implementation of the Policy Regarding Assessment and Determination of Compensation Enhancements. He reviewed the process used by retirement counselors when a legacy member files an application to retire. He described the compensation enhancement review process noting the retirement counselors research and identify if the final average salary (FAS) is increased by 5% or more or if any element of pensionable compensation is increased by 5% or more. He stated the increases are mostly from cost of living increases, longevity pay and departmental transfers to higher paying positions. Once a final calculation is made, a second review and validation is completed by the Retirement Services Supervisor and if any items are questionable and need further research, the application is given to him, as the department manager, or if necessary to the Compliance Officer, General Counsel and/or the CEO as required. He noted the process has been in place since 2013.

8. **Consider and take possible action to revise the Policy Regarding Assessment and Determination of Compensation Enhancements**

Strohl recommended a revision to the Policy Regarding Assessment and Determination of Compensation Enhancements to include a provision in the policy to review the policy at least every 3 years and may be amended at any time. It was **M/S/C** to revise the Policy Regarding Assessment and Determination of Compensation Enhancements as presented. (Yes: Andersen, Gordon, Holcombe, MacDonald, Phillips, Rodrigues, Smithey, Telles and Watts)

9. **Consider and take possible action to provide direction pertaining to the CCCERA Retiree Lookback Project – Compensation Enhancement Study**

Dutkiewicz reviewed the background of the Retiree Lookback Project and the observations that were made during the project. He stated there were 188 retirees that were identified as having a 30% increase or more in the member's final average salary (FAS) period compared to the pre-FAS period. He noted after review of available information the pool was reduced to 42 retirees. At this point the universe of past incidents of unusual compensation increases has been exhausted and does not merit further review.

In public comment, Lola Ellwein, attorney and wife of retiree Jerry Yoshioka asked the Board: 1) How much did it cost the retirees to conduct the multiyear lookback project; 2) What tangible benefits did the retirees receive from the lookback project; and 3) What could have and should have been done differently. She also asked why CCCERA didn't ask the retirees first. She distributed a copy of an email from Jerry Yoshioka asking CCCERA how much the Project cost and a copy from CCCERA responding to his public records request. She stated CCCERA retirees are entitled to know how their money is spent. She also stated Mr. Yoshioka sent 2 emails to CCCERA asking what was needed from him and he did not receive a response. She asked that CCCERA put in writing that the pensions will no longer be reviewed.

Phillips reported that Trustee Allen has advised she concurs with ending the Lookback Project but would like CCCERA to take action to begin a culture change with respect to pension spiking and to establish a communications program to accomplish this.

It was **M/S/C** regarding the Retiree Lookback Project - Compensation Enhancement Study that: a) based on the observations contained in the staff reports and in light of the Board's prior decisions, no further unusual retiree compensation increases from 2004 to 2014 merit further review at this time; b) with the completion of the Retiree Lookback Project, the Board will continue to maintain its authority under applicable law to correct any errors upon discovery and take appropriate steps to ensure that retirement allowance payments and retirement contributions are correct; and c) the Board will continue to implement its procedure of assessing and determining whether an element of compensation was paid to enhance a CCCERA members benefit, as required pursuant to Government Code Section 31542, effective January 1, 2013. (Yes: Andersen, Gordon, Holcombe, MacDonald, Phillips, Rodrigues, Smithey, Telles and Watts)

Trustee Holcombe stated his concerns going forward and asked the Board to consider the following requests of staff: To make a detailed presentation to the Board covering the administrative procedures currently in effect to review individual employee or retiree calculations; provide a description of the formal steps and language used by CCCERA staff to communicate with employees or retirees regarding improper FAS enhancements; present a detailed report by month to include all apparently improper enhancements identified to date without including individual employee or retirees' names; provide the Board with periodic summaries of the apparently improper enhancements; confirm the existence or the establishment of a policy to secure the sponsoring employers' and departments' affirmative (written) acknowledgment of their understanding of the policy related to improper enhancements along with written confirmation of their actions to correct any questionable pay coding practices; present the Board with samples of all printed or written CCCERA materials as well as any retirement counselor scripts or talking points along with recommendations on how they will, if required, be modified to detail CCCERA's policy regarding potentially improper FAS enhancements; and, draft a document for Board review whereby all future employee counselees will be required to affirmatively acknowledge their understanding of what constitutes improper FAS enhancements and the possible ramification.

There was discussion on the current process, an educational session on this topic and lessons learned from this project.

10. **Disability Education Presentation**

Hoppe reviewed the disability application process, the definition of an application being accepted as filed vs. submitted, the time requirements for filing, and the counseling process noting that the service application process is easier to go through than the disability application process. He reviewed eligibility requirements for service connected and non-service connected disabilities, safety presumptions, and how disability benefits are calculated for Tier 1, Safety, Tier 3 and PEPRA. He explained the definition of substantial gainful employment noting the standard is unique to CCCERA.

He described the initial file review when an application is filed by a member and when one is filed by a employing department. He reviewed the casefile preparations including medical and employment records that may be requested which are then submitted to the medial advisor for their review and recommendations. He also reviewed the possible recommendations and the options available to members, including the hearing process. He noted there are currently 65 open applications at this time.

11. **Presentation of Semi-Annual Disability Retirement Report**

Hoppe gave an update on the semi-annual disability retirement report noting the number of disability applications dropped down in the second half of 2016 from the first half of 2016. He reviewed the applications received by department, type of injury and illness, and by employer.

12. **Review of Initial Report on Liquidity Sub-portfolio**

Price reported January 2017 was the first month the Liquidity program was used to pay benefit payments. He reviewed performance, manager positioning and functional roles for the Liquidity Sub-portfolio.

13. **Consider and take possible action to adopt BOR Resolution 2017-1, Investment Asset Allocation Targets and Ranges**

Price reported this Resolution provides the Phase 2 asset allocation targets and ranges as an interim step towards reaching the desired long-term asset allocation.

It was **M/S/C** to adopt BOR Resolution 2017-1, Investment Asset Allocation Targets and Ranges. (Yes: Andersen, Gordon, Holcombe, MacDonald, Phillips, Rodrigues, Smithey, Telles and Watts)

Andersen was no longer present for subsequent discussion and voting.

14. **Consider authorizing the attendance of Board and/or staff:**

a. It was **M/S/C** to authorize the attendance of 4 Board members at the Education in Private Equity, National Association of Securities Professionals, March 29-30, 2017, Los Angeles, CA. (Yes: Gordon, Holcombe, MacDonald, Phillips, Rodrigues, Smithey, Telles and Watts)
b. It was **M/S/C** to authorize the attendance of 2 Board members and 1 staff member at the Ares Annual Investors Meeting, Ares Energy Investors Funds, April 18-20, 2017. (Yes: Gordon, Holcombe, MacDonald, Phillips, Rodrigues, Smithey, Telles and Watts)
c. It was **M/S/C** to authorize the attendance of 2 Board members and 1 staff member at the Annual Investment Symposium, Dimensional Fund Advisors, April 24-26, 2017, Austin, TX. (Yes: Gordon, Holcombe, MacDonald, Phillips. Rodrigues, Smithey, Telles and Watts)

15. Miscellaneous

(a) Staff Report –

Strohl reported CCCERA became a member of NASRA (National Association of State Retirement Administrators) last year. She attended their winter meeting and felt it was very beneficial.

Price reported the on-site visit with TT International will be on March 28, 2017.

(b) Outside Professionals' Report -

None

(c) Trustees' comments –

Telles thanked and complimented Price for his participation at CALAPRS.

Phillips reported on the CALAPRS General Assembly noting he felt it was a productive meeting.

MacDonald reported he and Rodrigues attended the Commonfund Forum and felt it was very educational.

Rodrigues reported there have been changes to the recommended SACRS slate of officers and he will be making a recommendation at the next meeting.

Holcombe reported he attended the Sit Investment Associates Conference and felt it was very interesting.

It was **M/S/C** to adjourn the meeting. (Yes: Gordon, Holcombe, MacDonald, Phillips, Rodrigues, Smithey, Telles and Watts)

John Phillips, Chairman

Scott Gordon, Secretary

MEMORANDUM

Date: April 26, 2017

To: CCCERA Board of Retirement

From: Timothy Price, Chief Investment Officer

Subject: Private Markets Advisor Recommendation

Overview

A core component of the CCCERA asset allocation is the ability to seek out the best opportunities for growth assets, including an ability to accept relatively large allocations to illiquid asset classes including private equity and private credit. The private equity and credit allocations in the current CCCERA asset allocation are 12% and 16%, respectively. These target allocations translate to approximately $900 mm for private equity and $1.2 billion for private credit. The growth sub-portfolio results will be driven largely by the results of the private markets allocations, and therefore CCCERA requires additional expertise in implementing these programs.

At the June 22, 2016 Board meeting, the Board approved a search for a private markets advisor to work with CCCERA Investment Staff in implementing the private equity and private credit allocations. The private markets advisor will provide strategic design, portfolio construction guidance, and manager research for the private equity and private credit mandates. Our overarching goal in this process was to find the required expertise needed to craft a best in class CCCERA private markets program at a reasonable cost.

CCCERA Investment Staff conducted a RFP process to search for a more cost effective and customized approach to implementing a private markets program compared to the current practice of using fund-of-funds managers. After extensive due diligence of all candidate firms, CCCERA Investment Staff recommends that the Board retain the StepStone Group as its private markets advisor. We project that this implementation model will save CCCERA $25mm in advisory fees over the next decade.

StepStone proposes to implement the private equity structure through a traditional advisory relationship where StepStone assists CCCERA with capital commitment pacing plans, program design and manager research but CCCERA retains the responsibility to approve and contract with each individual fund as a named limited partner. The proposed implementation for private credit differs in that StepStone proposes to establish a single investor partnership vehicle for CCCERA that will invest in a core of separately managed accounts, select fund allocations and co-investment opportunities. The single investor partnership will handle all administrative functions, including legal, tax, valuation, reporting and audit. In the proposed structure, the CCCERA Board would allocate the private credit program to the single investor partnership and remain informed about all activity in the fund, but not be involved in the selection of underlying managers.

Background
As part of the implementation of the Functionally Focused Portfolio, the growth sub-portfolio has expanded targets to private equity and private credit. These asset classes are unique in that they require additional, specialized due diligence, sourcing, and contracting relative to public market investments. At the June 22, 2016 Board meeting, the Board was presented with three options for how to implement the expanded private markets allocation which included fund-of-funds, a specialized advisor/consultant, and a staff led model. The Board directed investment staff to move forward with a search for a specialized advisor/consultant to build out the private equity and credit allocations. CCCERA Investment Staff was open to discretionary and non-discretionary implementation models that met the goals of increased customization, lower fees and transfer of market knowledge to CCCERA staff.

CCCERA has historically implemented private markets through fund-of-funds, but as CCCERA has grown in total fund size and has grown commitment sizes to private markets, fund-of-funds may not be the most economic or tailored approach for CCCERA going forward. The advisor model, which has the potential to have a lower cost of implementation than fund-of-funds, allows for a more customized approach to private markets, and enables CCCERA to source some of the best in class aspects of private markets. The decision to use a private markets advisor instead of fund-of-funds to implement CCCERA's private market allocations has the potential to save more than $25mm in fees over the next ten years. Due to these benefits, the advisor approach was selected by the Board, and CCCERA Investment Staff conducted a search to identify an advisor for CCCERA.

CCCERA is in a unique position in its private market allocations and projected deployments. CCCERA has a target allocation to private equity of 12%, and a private credit target allocation of 16%. CCCERA's current private equity portfolio is near the long term target at 10% of plan assets, while the private credit portfolio is just over 2% of plan assets. This puts CCCERA with a nearly full private equity allocation, and nearly empty private credit allocation. This starting point made private credit capabilities a primary focus in selecting the private markets advisor. Candidate firms that had differentiated private credit capabilities, and proposed customized approaches to building CCCERA's private credit program were given preference in staff due diligence.

The private markets advisor will assist CCCERA in scaling into the material private credit allocation, while also providing on-going sourcing, diligence, and portfolio design services for the private equity portfolio. The private markets advisor will be a long term partner to CCCERA, assisting in permanent capital deployment into the private equity and private credit markets. The private markets advisor is viewed as a private markets expert, which will consult with CCCERA's Board and Investment Staff on prevailing opportunities in the markets, and will largely replace the roles of sourcing, strategic design, and monitoring that are currently filled by CCCERA's various fund-of-funds managers.

Search Process
The full timeline of the search process is outlined below:

August 25, 2016	RFP Issued
September 16, 2016	RFP Responses Due to CCCERA
October 4 -16, 2016	Initial on-site due diligence meetings
Oct 2016 – Feb 2017	Additional due diligence meetings & calls, reference checks, and data requests
March 1, 2017	CCCERA Compliance Officer on-site operational due diligence meeting
March 30, 2017	Final on-site with the StepStone Group

CCCERA Investment Staff developed a Request for Proposal, and issued the RFP on August 25, 2016. The RFP indicated that the CCCERA Investment Office was looking for a partner to provide investment sourcing, due diligence, strategic design and portfolio construction services for private equity and private credit. This package of services did not necessarily have to come in an explicitly advisor led format; CCCERA Investment Staff was open to fund of fund managers providing these services, though the costs for the services would be compared across all respondent types.

Below is the full list of firms that responded to the RFP, broken out by type of service model offered to CCCERA:

Advisor Model	Fund-of-Funds	Blend*
Cambridge Associates	Makena	Ardian
Cliffwater	Pathway	Grosvenor GCM
Hamilton Lane		Portfolio Advisors
Meketa		The StepStone Group
Pension Consulting Alliance (PCA)		
Summit Strategies Group		
Torrey Cove Capital Partners		
Verus		
Wilshire Associates		

**Firms that proposed a blended model proposed some elements of asset management and some elements of the advisor model to satisfy the full scope of services.*

Across all candidates, proposed annual fees ranged from $350,000 to over $3mm to provide the scope of services in the RFP.

Staff-Led Due Diligence
The due diligence process conducted by CCCERA Investment Staff can be broken down into three broad categories: RFP review, initial due diligence, and advanced due diligence.

In the review of the RFPs, Staff looked for qualified firms that had adequate resources and expertise to service CCCERA. In this initial stage of due diligence, firms were removed from consideration due to organizational instability, insufficient firm resources in terms of dedicated staff and technology, and high fees relative to peers with similar capabilities and service offerings. Additionally, organizations not specifically aligned to CCCERA's desired level of service or proposed client service models that Staff felt were insufficient were excluded from further due diligence. Six firms were removed from further consideration based on RFP responses.

Following the RFP reviews, nine firms were visited by CCCERA Investment Staff as part of initial on-site due diligence. The intent of these on-sites was to review candidate firms in their offices, interview proposed teams, and thoroughly review the proposed partnership model and firms' research and technology resources. Three firms were removed from further consideration as a result of the on-site visits.

Following the initial on-sites, CCCERA Investment Staff followed-up with the remaining six firms to answer outstanding questions and request additional data needed to fully understand the firms and their respective capabilities. Investment Staff thoroughly reviewed the private market allocation history of each of the remaining candidates, digging into metrics such as general partner history, private equity and private credit market segment expertise, fund size, allocation size, and client type. Staff favored advisors which had a deployment history to top tier general partners, and those advisors which were able to secure sizable allocations to high quality/hard to access general partners for their clients. As private credit is an asset class that has recently attracted a lot of institutional capital, CCCERA Investment Staff favored advisors which had a robust history of allocation to private credit, and deep relationships with high caliber general partners. Additionally, investment staff conducted reference checks of both listed and non-listed references for each advisor. Staff conducted calls with current clients of the candidate advisors, as well as general partners which have worked with the advisors. This was done to understand the quality of the due diligence the advisors do on the general partners, and to understand how the research conducted by the advisor is presented to the end client. Speaking with current clients of the advisors provided insight into how each advisor works with their clients in terms of sharing responsibilities for research and portfolio construction. Firms that had feedback from existing clients regarding poor partnership experiences and/or had poor ratings on due diligence quality from general partners were excluded from further consideration.

Staff continued to work with the remaining candidate firms to review very concrete specifics of what CCCERA's private equity and private credit activity would be with candidate firms. This involved designing pro-forma implementation models and reviewing them with each firm. During this advanced stage of due diligence the StepStone Group distinguished itself as having the capabilities best suited to CCCERA's needs. CCCERA Investment Staff conducted one final onsite to cover investment topics, and Wrally Dutkiewicz, Compliance Officer, conducted an operational due diligence on-site of StepStone in their New York offices.

Operational Due Diligence and Assessment

Given the importance of the private markets advisor to the implementation of growth portfolio specifically, but also to the overall success of the Functionally Focused Portfolio, CCCERA Investment Staff requested that CCCERA Compliance review and evaluate the StepStone Group and its affiliate Swiss Capital Alternative Investments. On March 1, 2017, Wrally Dutkiewicz met with individuals at the StepStone Group's New York offices to review StepStone's jurisdictional regulations, risk mitigating controls, and operational framework.

A review of all jurisdictional regulatory authorities' public disclosure of firm regulatory filings did not reveal any current enforcement actions, investigations, or derogatory disclosures as of the date of the filings were reviewed. Additionally, CCCERA Compliance concluded that reasonable and appropriate steps have been taken by StepStone to mitigate risks as they are identified through the firm's operational due diligence and investment evaluation process.

Proposed Firm and Model

The StepStone Group was founded in 2007 and is both a private equity investor and advisor with major offices in San Diego and New York, in addition to twelve global satellite offices. The large global footprint puts investment professionals close to investment opportunities around the world. StepStone has approximately 130 investment professionals, organized by private market segment, producing research and market intelligence that is delivered to clients through dedicated portfolio managers. The portfolio managers assigned to CCCERA's account are Tom Keck, Jose Fernandez and Natalie Walker, who will cover private equity and real assets and are based in San Diego, and Marcel Schindler and Urs von Büren, who will cover private credit and are based in Zurich, Switzerland. CCCERA Investment Staff met with the proposed portfolio managers multiple times in both CCCERA's offices and on-site at the portfolio managers' respective offices.

During due diligence, CCCERA Investment Staff found that StepStone has consistently invested in their business, expanding resources in technology that is available to clients, as well as building out and acquiring complementary research capabilities for the firm. In December 2016, the StepStone Group closed a merger with Swiss Capital, which is a private credit and hedge investor and advisor based in Zurich, Switzerland. It is StepStone's practice to keep ownership of acquired firms with the acquired firms, and this is the case with Swiss Capital. The merger was structured as an equity swap, aligning the interests of both the StepStone Group and Swiss Capital, with no professionals expected to cash out or retire as a result of the merger. Principals at Swiss Capital had worked with members of the StepStone Group for over two years before the merger officially closed. Swiss Capital will remain an existing business in order to service legacy Swiss Capital clients. Marcel Schindler is the CEO of Swiss Capital and Head of StepStone Private Debt, and will be the primary professional working with CCCERA on the implementation of the private credit portfolio.

StepStone and Swiss Capital have established relationships with top tier general partners, and have committed capital to a variety of private equity and credit market segments. Despite being a large firm, over 40% of StepStone's research time is dedicated to single client funds, which indicates that StepStone has the bandwidth to handle ad-hoc and tailored research requests for CCCERA. In reviewing the client loads of the proposed consultants, each of Marcel Schindler, Tom Keck, Jose Fernandez, and Natalie Walker have capacity to service CCCERA. StepStone's model for working with clients is to connect clients with their research personnel directly, with the portfolio managers acting as agents of portfolio construction. This works well with CCCERA's proposed staff buildout of having dedicated personnel focusing on private markets, who will be able to research funds alongside StepStone, with portfolio construction guidance from the portfolio managers.

In their proposal, the StepStone Group provided various approaches to the scaling of the private credit program, which were backed by very strong private credit portfolio construction and research capabilities. CCCERA Staff has worked extensively through what a relationship with StepStone as a private markets advisor would entail, and this is outlined in StepStone's "active mandate" service model. The "active mandate" focuses on the execution of core services, which will include researching funds and designing CCCERA's private equity and private credit portfolios, but recognizes that CCCERA has a lot of commitment work to do to build out a private credit program, while the private equity program is very near its long term target size (as a percentage of total fund assets). The active mandate would bring additional resources to the private credit program through the negotiation and establishment of separately managed accounts with premier general partners. These separately managed accounts would allow CCCERA to get the private credit program "off the ground" faster, and with more alignment between the general partners and CCCERA, and with the possibility of fee concessions (projected fee savings versus funds of 20% annually).

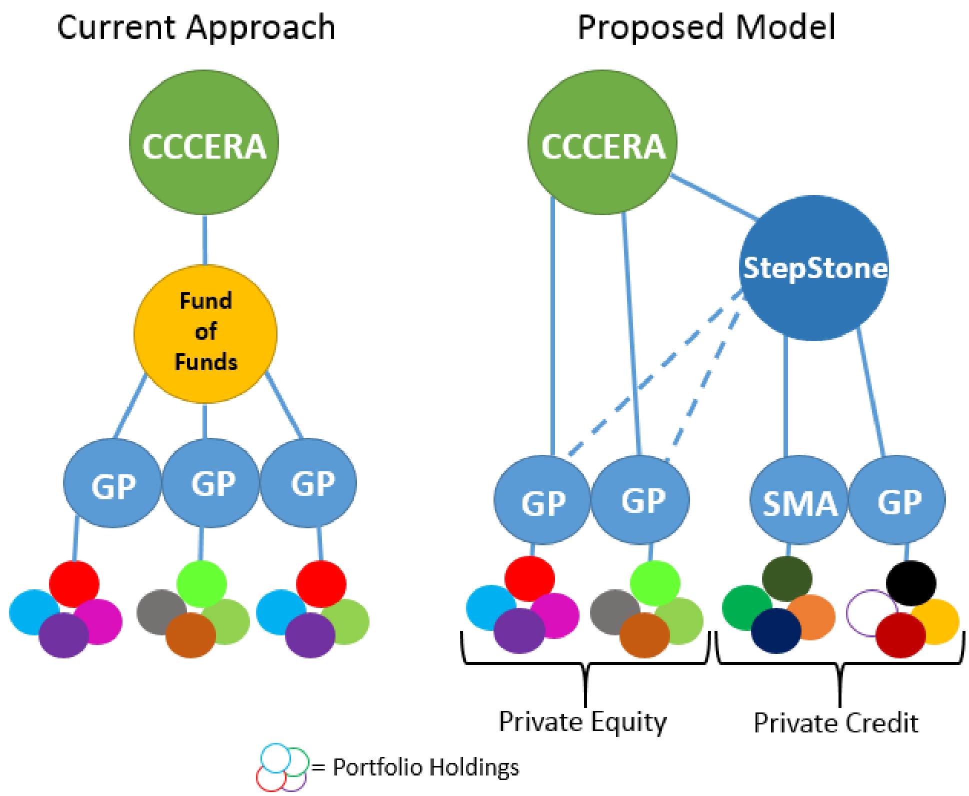
Below is a table summarizing the engagement model as proposed by StepStone:

	StepStone Role	CCCERA Investment Staff	CCCERA Board
Private Equity	Provide program pacing and target allocation information annually. Conduct fund research and make recommendations.	Provide input on relative appetite for regional and sector allocations. Review all proposed allocations and approve those below the delegated $100 mm threshold.	Meet with StepStone annually to review pacing and program structure. Review and approve all proposed allocations in excess of the delegate $100 mm threshold.
Private Credit	Act as General Partner in a "fund of one" for CCCERA. Provide pacing analysis and design program structure. Conduct manager research, retain managers (with staff advice), manage all cash flows, handle all administrative aspects (legal, tax, valuation, reporting, audit) of private credit program.	Provide advice to StepStone what CCCERA prefers in terms of organizational structure, regional allocations, sector allocations and other relevant factors when making final manager selection.	Approve StepStone structure, periodically review implementation and performance of the program.
Full Relationship	Provide full position and risk reporting, collaborate with general consultant on performance reporting. Provide guidance to staff and Board on private markets as needed.	Review implementation and underwriting produced by StepStone. Work closely with StepStone research staff to deepen staff knowledge of underlying managers.	In collaboration with general consultant, determine any changes to the target program allocations. Determine if any changes need to made to StepStone relationship.

Annual fees to StepStone would be $1.5mm for private credit (with an additional 40 bps for any co-investments) and $500k for private equity. There will be no carried interest paid to StepStone. Setting up a separately managed account for private debt will result in some administrative costs to CCCERA. These costs are estimated to be approximately $1mm annually, and will include administration, custody, audit and legal expenses, in addition to one-time set-up costs of approximately $200,000 for legal services for setting up the structure and negotiation of the separately managed account. By incurring these fees directly, CCCERA will not be paying for these services via a commingled fund structure if CCCERA were to invest in general partner sponsored funds.

In the proposed private credit model, CCCERA would commit to a StepStone/CCCERA single investor partnership that would in turn allocate to a combination of separately managed accounts, funds, and co-investments. The partnership will allow for customized mandates with top tier managers, and will be tailored for CCCERA's specific objectives. StepStone will be the general partner for the private credit relationship, and CCCERA the sole limited partner. In this structure the Board will approve the full private credit mandate and guidelines, but not individual strategies.

Shown below is the current process through which CCCERA accesses private market investments compared with the new structure proposed in the StepStone active mandate:

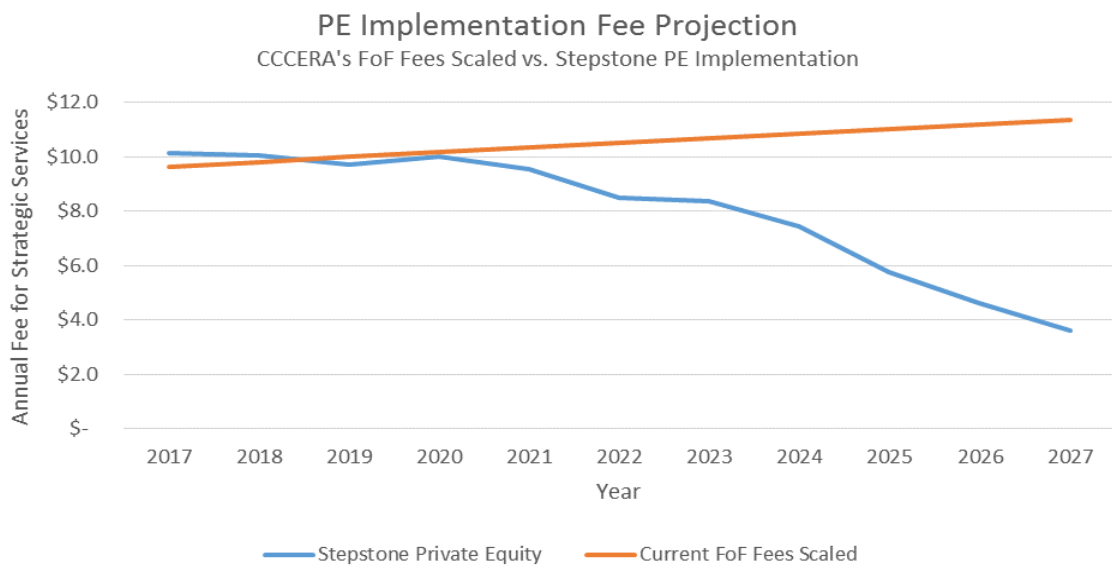


In the current structure, CCCERA selects a fund-of-funds manager (or several fund-of-funds managers), and all portfolio level decisions are executed by the fund-of-funds managers without input from CCCERA. In the current structure, CCCERA has no input into general partner selection, portfolio exposures, or investment pacing. CCCERA is also not involved in general partner research in terms of on-site visits, due diligence, or contract negotiation, and instead relies on the fund-of-funds manager for all of these functions. While operationally efficient, this puts CCCERA at a disadvantage because CCCERA is unable to be completely informed about its private market investments, while also not being in a position to design the private markets program to suit CCCERA's specific needs. The alternative structure proposed by partnering with a private markets advisor addresses many of these issues, and puts CCCERA in a position of more control with access to better information compared to fund-of-funds.

CCCERA Investment Staff favors an actively implemented private credit mandate where StepStone retains final decision-making authority, but CCCERA staff can provide advice on the portfolio construction and design of the private credit program, and brings a greater amount of StepStone's unique resources to bear for the benefit of CCCERA. The separately managed account brings to bear capabilities in StepStone's monitoring and reporting platform, and provides administrative consistency for CCCERA. This includes providing independent valuations of private debt investments to satisfy GASB 72 requirements. CCCERA Investment Staff will have access to all of StepStone's research, technology, and personnel for the purpose of designing a customized program, and will be able to engage with both StepStone and general partners directly for contract negotiations. The outcome is a private markets program that is more tailored to CCCERA's needs, where CCCERA has better information for ongoing oversight and due diligence. The ancillary benefit is that deeper private markets knowledge will be built within the CCCERA Investment Staff.

Advantages of New Model

CCCERA Investment Staff believes there is a material benefit to an advisor in private equity and real assets versus a fund-of-funds approach, which CCCERA has used historically. Shown in the table below is the comparison of CCCERA's current fund-of-funds fees (scaled to the full allocation for private equity over the next ten calendar years) to CCCERA's fees for similar services through a private markets advisor covering private equity and real assets:



Annual Private Equity Fees ($mm)

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Stepstone Private Equity	10.1	10.0	9.7	10.0	9.6	8.5	8.4	7.4	5.8	4.6	3.6
Current FoF Fees Scaled	9.6	9.8	10.0	10.2	10.3	10.5	10.7	10.9	11.0	11.2	11.4

The depiction of CCCERA's current fees being scaled assumes CCCERA continues to make new commitments to fund-of-funds over the next ten years to maintain the target allocation. The StepStone Private Equity cost assumes we begin paying the advisor while our fund-of-funds are continuing to make new investments, but that we do not re-up with the fund-of-funds, and the portfolios run off, to be replaced by direct underlying investments. The advisor benefit is material cost savings, in addition to the ability to create a more customized private equity and real assets portfolio for CCCERA instead of investing in "off the shelf" commingled funds, which can result in over-diversification. Additionally, investing directly in funds provides an opportunity for better monitoring and oversight of the portfolio as CCCERA will have direct access to the general partners. CCCERA does not currently have a dedicated private credit program. Investments in private credit structures, such as those in Torchlight and the Angelo Gordon Energy Credit Opportunities Fund, have historically been housed in the fixed income and opportunistic allocations, respectively.

The desire for the "active mandate" with StepStone is a desire to build, effectively from the ground up, a best-in-class private credit program by partnering with premier managers to create a customized program that will begin deploying capital quickly. The active mandate for private credit emphasizes the establishment of separately managed accounts (versus commingled funds), and a collaboration between CCCERA Investment Staff, StepStone, and the managers. This approach is appropriate for CCCERA because there are very few legacy investments that would need to be incorporated, as is the case with private equity.

The StepStone Group would be an important partner to CCCERA: Staff from StepStone will work with CCCERA Investment Staff to source and underwrite private equity and private credit funds, and StepStone would work with the general consultant to provide enhanced reporting on private market investments that would be provided to the Board. StepStone would provide dedicated oversight, monitoring, and reporting on the private equity and private credit portfolios, and work with CCCERA Investment Staff to ensure alignment and achievement of objectives. Additionally, StepStone would present annually to the Board on the state of the private markets program, and preview opportunities for the forthcoming year.

With StepStone as a private markets advisor, at least one CCCERA Investment Staff member will be committed full-time to working with StepStone and engaging in private markets. The level of interaction will include ongoing monitoring, oversight, and due diligence of both StepStone and the underlying general partners, as well as engaging in portfolio construction and due diligence activity. Similar to how the general consultant provides the Board with regular total fund updates, the CCCERA Investment Staff member, with the support of StepStone, will provide regular updates to the Board on the progress of the private markets portfolio implementation, as well as forthcoming opportunities and capital activity. CCCERA Investment Staff believes it is important to have a committed member of the investment office covering the private markets mandate to bridge the continuity for institutional knowledge, especially in the event that CCCERA chooses to replace StepStone as an advisor and/or general partner.

Next Steps

If the Board retains StepStone as the private markets advisor and manager, CCCERA Investment Staff and StepStone professionals will immediately begin designing the program. Prospective program design was a large part of the advanced due diligence conducted by staff, so program design would involve the fine tuning elements of exposure planning, commitment pacing, vehicle structure, and general partner due diligence and selection. CCCERA Investment Staff will keep the Board apprised on the program design, and will regularly report on the progress of the design and implementation phases. If the Board approves the StepStone mandate, CCCERA Investment Staff will target completing program design in the third quarter of 2017, with commitment activity to begin in the fourth quarter of 2017.

Conclusion & Recommendation

CCCERA Investment Staff conducted a RFP process to search for a more cost effective and customized approach to implementing a private markets program compared to the current practice of using fund-of-funds managers. CCCERA Investment Staff found that a private markets advisor and manager will provide many of the services currently accessed by CCCERA via fund-of-funds (portfolio design, general partner sourcing, contracting, reporting and on-going due diligence) at a lower cost to CCCERA and with a greater amount of control given to CCCERA (both Board and Staff).

CCCERA Investment Staff recommends that the Board retain the StepStone Group as the private markets advisor and manager according to the following structure:

1. Retain StepStone to provide private equity oversight and implementation services on a non-discretionary basis at the annual fee of $500,000. The current target allocation to private equity is approximately $900 million.
2. Retain StepStone to provide private credit oversight and implementation services on a discretionary basis in a "Fund of One" structure at the annual fee of $1,500,000 plus 40 bps on any co-investments. The current target allocation to private credit is approximately $1.2 billion.

These recommendations will be subject to customary legal and due diligence review.

STEPSTONE
inside private markets

CONTRA COSTA COUNTY CCCERA
Employees' Retirement Association

Board Presentation

April 2017

Disclosure

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The presentation is being made based on the understanding that each recipient has sufficient knowledge and experience to evaluate the merits and risks of investing in private equity products. All expressions of opinion are intended solely as general market commentary and do not constitute investment advice or a guarantee of returns. All expressions of opinion are as of the date of this document, are subject to change without notice and may differ from views held by other businesses of StepStone.

All valuations are based on current values provided by the general partners of the Underlying Funds and may include both realized and unrealized investments. Due to the inherent uncertainty of valuation, the stated value may differ significantly from the value that would have been used had a ready market existed for all of the portfolio investments, and the difference could be material. The long-term value of these investments may be lesser or greater than the valuations provided.

StepStone is not in the business of providing tax or legal advice. These materials and any tax-related statements are not intended or written to be used, and cannot be used or relied upon, by any taxpayer for the purpose of avoiding tax penalties. Tax-related statements, if any, may have been written in connection with the "promotion or marketing" of the transaction(s) or matter(s) addressed by these materials, to the extent allowed by applicable law. Any taxpayer should seek advice based on the taxpayer's particular circumstances from an independent tax advisor.

Prospective investors should inform themselves and take appropriate advice as to any applicable legal requirements and any applicable taxation and exchange control regulations in the countries of their citizenship, residence or domicile which might be relevant to the subscription, purchase, holding, exchange, redemption or disposal of any investments. Each prospective investor is urged to discuss any prospective investment with its legal, tax and regulatory advisors in order to make an independent determination of the suitability and consequences of such an investment.

An investment involves a number of risks and there are conflicts of interest. Please refer to the risks and conflicts disclosed herein.

Each of StepStone Group LP, StepStone Group Real Assets LP and StepStone Group Real Estate LP is an investment adviser registered with the Securities and Exchange Commission ("SEC"). StepStone Group Europe LLP is authorized and regulated by the Financial Conduct Authority, firm reference number 551580. Swiss Capital Invest Holding (Dublin) Ltd ("SCHIDL") is an SEC Registered Investment Advisor and Swiss Capital Alternative Investments AG ("SCAI") (together with SCHIDL, "Swiss Cap") is registered as a Relying Advisor with the SEC. Such registrations do not imply a certain level of skill or training and no inference to the contrary should be made.

All data is as of March 1, 2017 unless otherwise noted.

PAST PERFORMANCE IS NOT NECESSARILY INDICATIVE OF FUTURE RESULTS. ACTUAL PERFORMANCE MAY VARY.

Biographies

Jose Fernandez, Partner, COO

Mr. Fernandez focuses on US-based small market managers and Latin American investments, as well as the firm's general administration.

Prior to founding StepStone, Mr. Fernandez was a managing director of Pacific Corporate Group, a private equity investment firm for institutional investors. Mr. Fernandez previously worked with Latham and Watkins LLP's private equity/investment fund group, a practice focused on joint ventures and the structuring, negotiation and operation of pooled investment vehicles such as private equity funds.

Mr. Fernandez received his BA from the University of Michigan, Ann Arbor and JD from Stanford Law School.

Tom Keck, Partner, Head of Research

Mr. Keck chairs the Firm's Investment Committee and focuses on venture capital, growth equity, infrastructure and real asset investments and co-investments.

Prior to founding StepStone, Mr. Keck was a Managing Director at Pacific Corporate Group, a private equity investment firm that oversaw over US$15 billion of private equity commitments for institutional investors. Prior to that, Mr. Keck was a Principal with Blue Capital, a middle market buyout firm. Mr. Keck also worked in the Corporate Finance practice at McKinsey & Company, performing M&A advisory and due diligence support for strategic acquirers and financial sponsors.

Mr. Keck graduated cum laude with a BA from the George Washington University and received his MBA with high honors from the University of Chicago Booth School of Business. He served in the US Navy as a Naval Flight Officer, receiving numerous decorations flying EA-6Bs off the USS Nimitz (CVN-68).

Marcel Schindler, Partner, Head StepStone Private Debt

Mr. Schindler is the head of StepStone Private Debt and StepStone Hedge Funds.

Prior to StepStone, Mr. Schindler was CFO at a publicly held financial company in Switzerland where he focused on equity investments. Before that he was a member of the European risk management team at Arthur Andersen. Previously, Mr. Schindler focused on commercial and mortgage lending at UBS.

Mr. Schindler received his MBA from the University of Zurich and is a CPA in Switzerland.

Natalie Walker, Principal

Ms. Walker is a member of the research team and focuses on US-based small market managers and secondary investments.

Prior to StepStone, Ms. Walker was a Research Analyst at Oppenheimer & Co., a leading national investment bank and full-service investment firm offering investment banking, financial advisory services, capital markets services, asset management, wealth management, and related products and services worldwide. Ms. Walker was a member of Oppenheimer's private equity team, where she conducted due diligence and research on private equity funds, secondary investments and co-investments. Prior to that, Ms. Walker worked for a private equity backed start-up and Women-owned Business Enterprise (WBE), Sundance Energy.

Ms. Walker received her BA from Georgetown University McDonough School of Business.

Overview

I. Firm Overview

II. Consulting Relationship

III. Approach to Private Debt

IV. Appendix 1 – Investment Tools

V. Appendix 2 – Fee Proposal

I. Firm Overview

StepStone at a Glance

StepStone's global private markets platform, dedicated research teams, proprietary databases, and management experience provide a distinct advantage in the private markets sector

Diversified Platform	Global Team	Research-Focused	Active Investor
Private Equity Infrastructure & Real Assets Real Estate Private Debt Hedge Funds	**130+** investment professionals **270+** employees	SPI™ Database **30,000** companies **24,000** funds **9,500** GPs	**$100+ bn**[1] including **$28 bn** AUM
Primary Secondary Co-Investment Direct Investment & Asset Advisory Portfolio & Risk Management	**14** offices **10** countries	M&R tracks **2,500+** funds **14,000+** annual cash flows **$110+** bn initial commitments	**$18 bn** annual commitments[2]

As of February 2017.
All dollars are US$
1. $100 billion indicates total private markets allocations and includes approximately $28 billion in assets under management.
2. StepStone deployed over US$18 billion in 2016.

Global Platform with Sophisticated Client Base

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StepStone has 14 offices in 10 countries, to serve its global client base

Pennsylvania State Employees' Retirement System

Los Angeles County Employees Retirement Association

United Nations Joint Staff Pension Fund

New York City Employees' Retirement System

AMPCAPITAL

GATES CAPITAL PARTNERS

New York City Fire Department

TransGlobe 全球

CERN

HESTA An Industry SuperFund

first state super

PSPRS

Arizona Public Safety Pension

Standard Chartered

SDCERS San Diego City Employees' Retirement System

國泰人壽 Cathay Life Insurance

SWIB State of Wisconsin Investment Board

Morgan Stanley

Service Offerings

StepStone offers a full suite of customizable private market investment services specifically tailored to address our clients' individual investment goals

Customized Solutions

- Separate Accounts
- Targeted Commingled Funds
  - Co-Investments
  - Secondaries
  - Real Estate
  - Venture Capital
  - Private Debt

Research & Advisory

- Strategic Advice
- Manager Selection
- Market Research
- Portfolio Planning

Monitoring & Reporting

- Investment Monitoring
- Performance & Analytics
- Fund Administration
- Replacement Manager Capabilities
- Portfolio & Risk Management

Access to Proprietary Research & Intelligence

Reports & Materials

Investment Memo

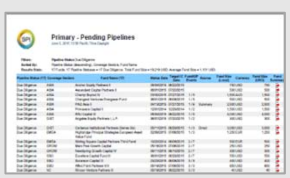
Fund Summary

Client Report

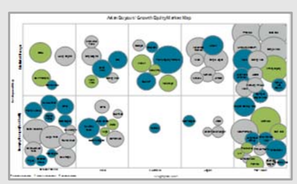
Client Portal

Research Reports

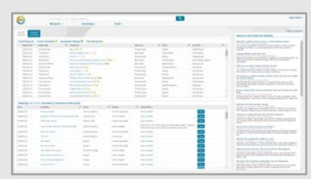
Tools & Analytics



Pipeline Report



Market Maps



SPI™

eFront

Customized Approach

StepStone has an integrated and full service platform, enabling us to provide fully customizable services

Sector Specialists

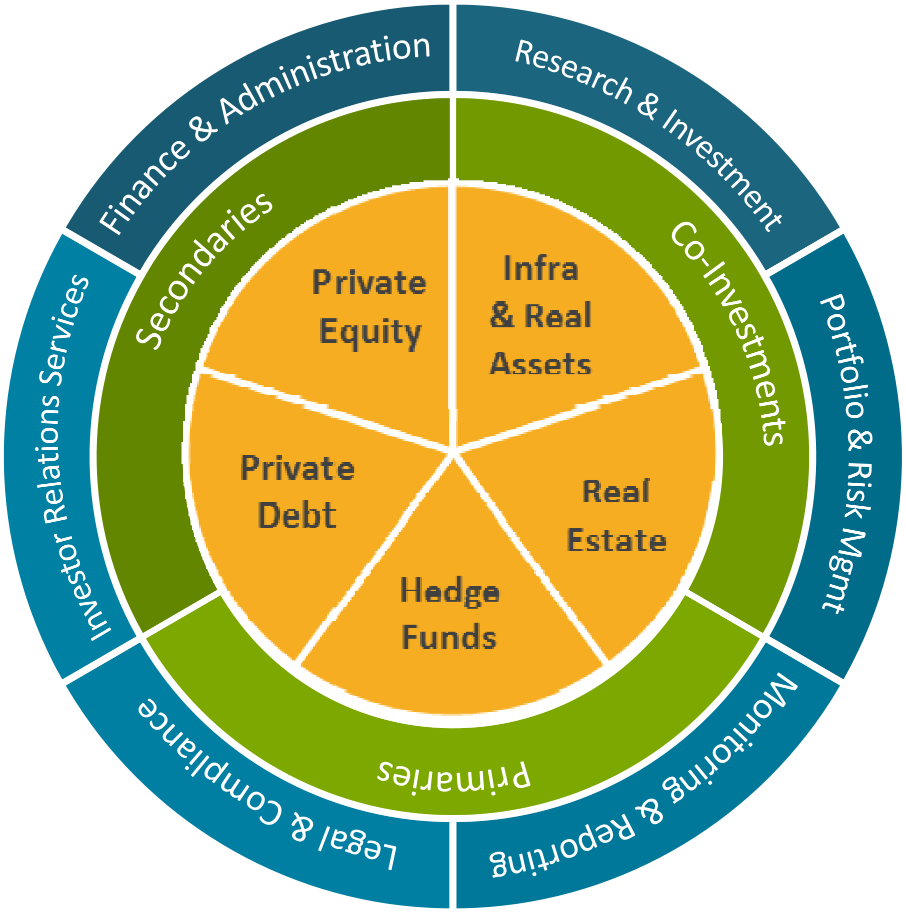
StepStone has teams of research professionals devoted to 12 sectors across the private markets

Across All Strategies

StepStone's research team of 130+ professionals engages in all strategies across private markets

Full Service Platform

StepStone provides a broad suite of services, allowing us to support investors through every step of the investment process



StepStone is a full service private markets specialist, providing access to all private market strategies and sectors

Capabilities Across the Spectrum of Private Markets

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Ability to customize portfolios across all structures and strategies

Private Equity	• We believe our experience and investment process is competitive, providing better information for LPs to make decisions • Active secondary and co-investment market participation provides differentiated perspective and increased primary deal flow • Through the collective efforts of the senior professionals at StepStone, we have developed this access through proactive relationship building with top-performing general partners and best-in-class emerging managers
Infrastructure & Real Assets	• Full coverage of infrastructure and real assets (timber, agriculture, energy and natural resources) • Cohesive multi-asset class approach allows for consistent capital deployment across market and funding cycles
Real Estate	• Customized exposure to private real estate through broad market relationships, deep research capabilities, granular due diligence, and differentiated structuring capabilities • Team led by industry veterans who have worked together for nearly a decade
Private Debt	• Sector team has extensive fixed income, capital markets and hedge fund experience • Direct investment background facilitates understanding of mezzanine underwriting and structuring capabilities, allowing us to identify managers with differentiated approaches
Hedge Funds	• Seeks to provide liquid solutions to protect against or exploit market volatility • Offers strategies to diversify returns and minimize risk in overall portfolio context and can provide complementary returns to fixed income or equity through replacement strategies

Investment Philosophy

StepStone's investment philosophy as private markets investors:

Portfolio Construction:

- ✓ Invest with partners we trust and respect
- ✓ Avoid over-diversification
- ✓ Favor focused strategies to gain the benefits of specialization
- ✓ Be opportunistic
- ✓ Do not follow the crowd

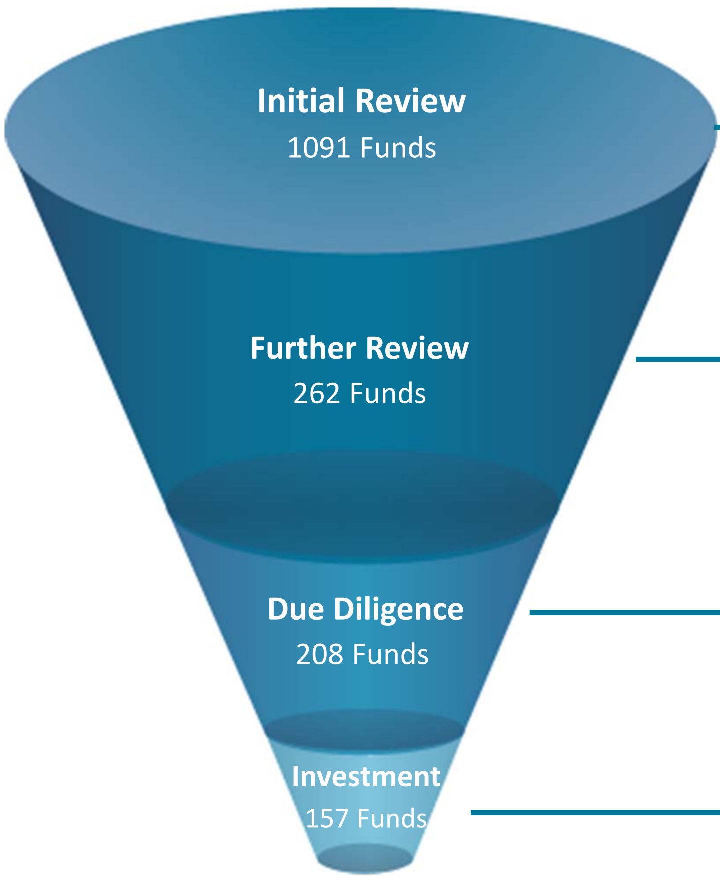
Due Diligence:

- ✓ Focus on risk-adjusted returns
- ✓ Be highly selective
- ✓ Seek out investments where interests are strongly aligned
- ✓ Utilize both macro and manager or asset level analysis
- ✓ Consider the manager's environmental, social responsibility and corporate governance practices

Favor investments where our information, data or market relationships provide an advantage – search for market inefficiencies from which we are strategically positioned to potentially benefit

Broad and Deep Market Coverage

StepStone has the ability to review a large cross section of managers globally, regardless of fundraising cycles, using our proprietary manager database of 24,000 funds



Initial Review

Review provides informative summary information across strategy, track record, professionals and structure for institutional funds in market

Further Review

Captures supplemental work performed, such as in-person meetings and off sheet reference calls

Due Diligence

Performed when the Investment Committee believes that the manager is "best in class" and there is a client portfolio fit

Investment

On average, approximately 15% of all institutional funds receive approval from the Investment Committee

Deep market coverage ensures maximum GP quality and portfolio fit

Source: StepStone, last 12 months as of December 31, 2016.

Focus on Top Quartile

Investing in the top quartile

StepStone employs numerous techniques for deal sourcing

- Leverage attractive client base
- Exploit StepStone relationships
- Specialized teams for broad and deep coverage

StepStone has competitive advantages in analyzing and evaluating GPs

- **Direct Investment Experience** – Our background as direct investment professionals gives us a differentiated perspective in evaluating funds
- **Co-Investment Presence** – Our co-investment activity positions us to have differentiated views in all phases of due diligence
- **Rigorous Analytics** – We are able to obtain more information about the private equity market because we are a preferred investor, and use that information to better analyze investment opportunities

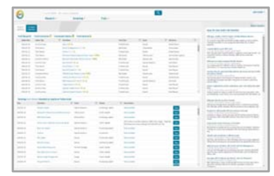
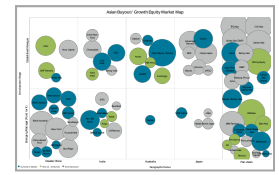
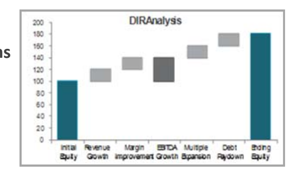
StepStone has high quality deal execution skills

- **Structuring & Negotiation** – Experience negotiating from both sides of the table
- **Monitoring & Reporting** – Follow-up after signing a deal is a form of continuing due diligence, and can preserve value by safeguarding LP's rights and options
- **Institutional Processes** – Possess the necessary compliance infrastructure to fulfill our fiduciary duty

StepStone strives to consistently identify top-quartile GPs through proactive sourcing and in-depth evaluation, complemented by excellent deal execution

STEPSTONE inside private markets

StepStone utilizes extensive research and database-enabled analysis to support our investment process

Stage	Action	Tools and Deliverables
Stage 1 Initial Review	Research Vertical Assigned Initial Review Deal Team Discussion ⇢ No Further Action	 SPI™  Market Maps  Research Reports
Stage 2 Further Review	Fund Summary GP Meeting Investment Committee Discussion ⇢ Fail to Mature	 Fund Summary
Stage 3 Due Diligence	Formal Due Diligence (• Questionnaire • T.R./Cash Flow Template • Reference Calls • L.P.A.: Terms and Conditions) Onsite Meeting Investment Committee Discussion ⇢ Not Approved Approval	 DIR Analysis  Cash Flow Analysis
Stage 4 Final Approval Legal Documents	Fund Memo / Analysis to Investor Ongoing Legal Negotiations / Fund Close	 Investment Memo

Fund references above are for illustrative purposes only and do not constitute investment recommendations.

II. Consulting Relationship

Dedicated Private Markets Team

CCCERA Board

Portfolio Managers

Tom Keck, Partner, Head of Research
La Jolla
19 yrs. investment experience
PCG, Blue Capital, McKinsey

Natalie Walker, Principal
La Jolla
10 yrs. investment experience
Oppenheimer & Co.

Marcel Schindler, Partner, Head of Private Debt
Zurich
29 yrs. investment experience
Arthur Anderson, UBS

- **130+** investment professionals cover 12 sectors across primaries, secondaries and co-investments
- Sought after allocator of **$18+ bn** annually[1]
- Highly networked team attends **1,800+** GP meetings annually
- Senior team averages **15** yrs. investment experience

- Team of **54** investment professionals across Corporate, Real Estate and Infrastructure Debt
- Senior team averages **17 yrs**. investment experience

Investor Relations

Jose Fernandez, Partner, COO
La Jolla
19 yrs. investment experience
PCG, Latham & Watkins LLP

- **50** professionals provide monitoring and reporting and investor relations services
- Service ~**13,000** investors across **33** HNW programs and **130+** underlying vehicles
- Senior team averages **14** yrs. relevant experience

Legal/Structuring

Jason Ment, Partner, GC, CCO
New York
15 yrs. relevant experience
Citi Private Equity, O'Melveny & Myers LLP

- **5** professionals negotiate transaction documents and execute fund structuring solutions
- Senior team averages **15** yrs. relevant experience
- **3** additional legal and compliance professionals focused on private debt and hedge fund activities

Research Capabilities

- Strategic Advice
- Manager Selection
- Market Research
- Portfolio Planning

Customized Separate Accounts

- Separate Accounts
- Targeted Commingled Funds
  - Co-Investments
  - Secondaries
  - Real Estate
  - Venture Capital
  - Private Debt

Thorough Account Administration

- Investment Monitoring
- Performance & Analytics
- Fund Administration
- Replacement Manager Capabilities
- Portfolio & Risk Management

1. StepStone allocated over US$18 billion in 2016.

Customized Private Markets Program

Program	Description
Implementation	- Private Equity: Investment Advisory - Private Debt: Investment Management within Separately Managed Account

Objectives	- Private Equity: Target net return > 15%
	- Private Debt: Target net return > 10%
	  - Core SMAs: Leverage of 0.5x to 1.0x, unlevered gross yield ca. 7.5%
	  - Satellite Funds: Limited leverage, 2nd lien, mezzanine, opportunistic & specialties

Investments	- Private Equity Primary Managers 5-10 - Private Debt – Core SMAs 2-4 - Private Debt – Satellite Managers 4-6

Allocations	- Private Equity up to $800 mm
	- Private Debt
	  - Core up to $700 mm
	  - Satellite up to $450 mm

Deployment Pace	- Private Equity:
	  - Commit to 3-4 funds within 24 months (commit up to $200 mm), scaling to $200-400 mm per annum thereafter
	- Private Debt:
	  - Set-up 3 SMAs within 12 months (commit up to $700 mm)
	  - Fund allocations over 18-24 months (commit up to $250 mm)
	  - Co-Investments over 24 months (commit up to $200 mm)

Note: Target returns are hypothetical and are neither guarantees nor predictions or projections of future performance. Future performance indications and financial market scenarios are no guarantee of current or future performance. There can be no assurance that such target IRR will be achieved or that the investment will be able to implement its investment strategy, achieve its investment objectives or avoid substantial losses. Further information regarding net IRR calculation is available upon request.

Collaborative Relationship

StepStone will work with CCCERA throughout the portfolio planning, implementation and reporting process

	Private Equity	Private Debt
Program Guidelines	StepStone CCCERA Investment Staff CCCERA Board	StepStone CCCERA Investment Staff CCCERA Board
Portfolio Construction	StepStone CCCERA Investment Staff	StepStone CCCERA Investment Staff
Manager Research	StepStone CCCERA Investment Staff	StepStone CCCERA Investment Staff
Manager Hires	StepStone CCCERA Investment Staff CCCERA Board (pending $100 mm threshold)	StepStone CCCERA Investment Staff
Portfolio Monitoring	StepStone CCCERA Investment Staff CCCERA Board	StepStone CCCERA Investment Staff CCCERA Board

Private Equity Investment Advisory

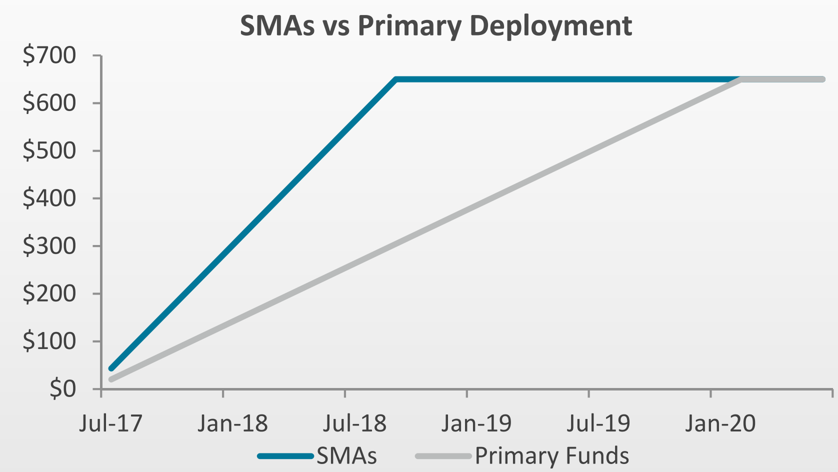
CCCERA Investment Strategy: Build top performing global private equity portfolio for CCCERA with thorough research-intensive investment approach in helping to identify managers who we believe to be best positioned to outperform the market

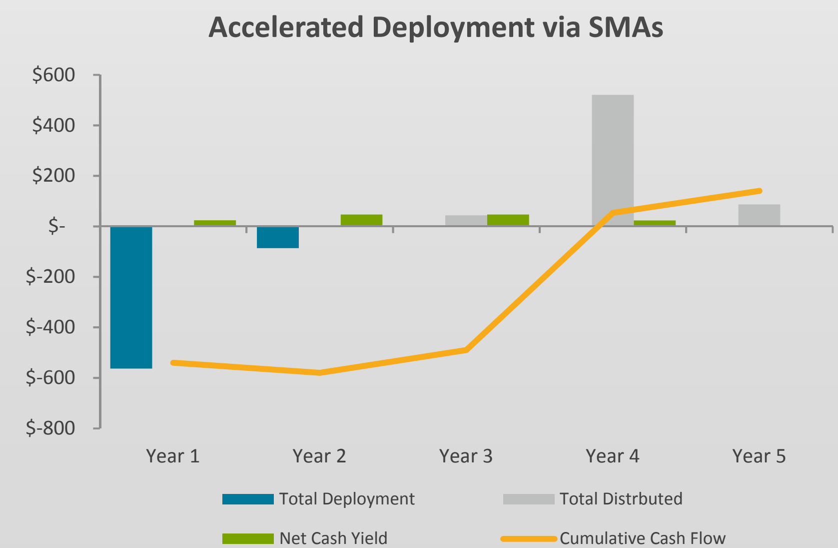
- Global investment platform designed to support collaborative approach in assisting CCCERA
- Extensive experience designing investment programs and building top-performing private markets portfolios
- Services include program design and analytics, portfolio allocation (strategy and geography) based on proprietary global research, due diligence, investment analysis and portfolio monitoring and reporting
- Investment process further enhanced by our sector specialization, which provides valuable domain expertise, and the information advantages provided by StepStone's integrated private markets platform
- Proprietary technical analysis tools provide support and resources to CCCERA:
  - StepStone Strategy™ research reports
  - StepStone Private Markets Intelligence (SPI™) database
  - StepStone Market Maps™
  - Investment Fund Summaries
  - Deal-Level Performance Analyzer (DLPA™)
  - Drivers of Investment Returns (DIR™) analysis
  - Detailed Investment Reports (typically 30 – 60 pages in length)

Private Debt Separately Managed Account

CCCERA Investment Strategy: Build a top performing private debt portfolio using a separately managed account structure customized to fit the strategic and allocation goals of CCCERA through a combination of core SMAs, satellite funds, and co-investments

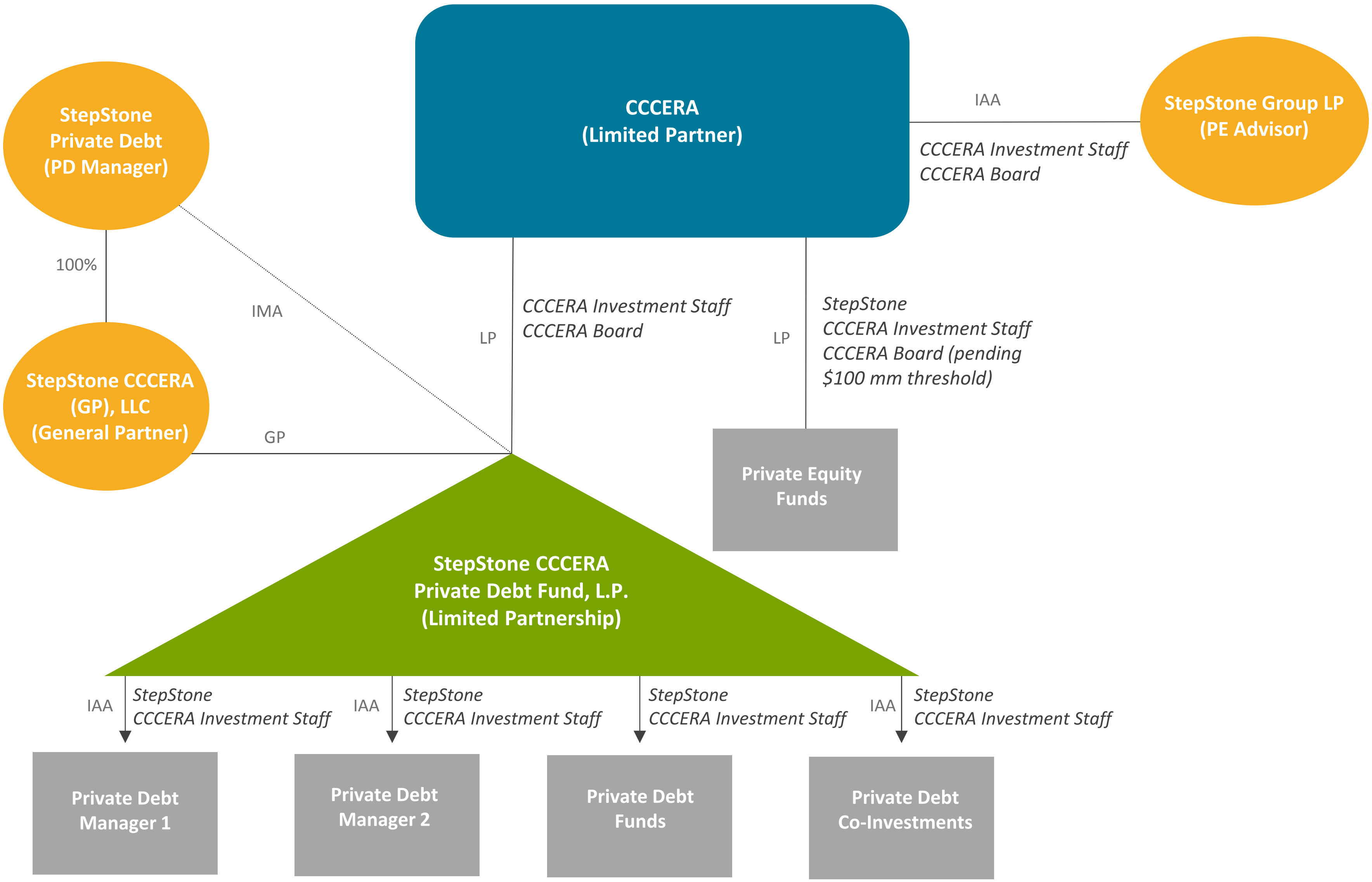
- Private Debt core strategy to be implemented via 2-3 SMAs to emphasize deployment speed
  - SMAs enable a slightly higher concentration of single loan positions per manager leading to a shorter ramp up period (15 – 18 months)
  - SMAs allow much more efficient reinvestment
  - Control and steer leverage and limit need to over-commitments
- Designed as an attractive alternative to using a primary fund to build private debt exposure, advantages include:
  - Customized portfolio and targeted exposure
  - Increased flexibility
  - Lower fees





1. For illustrative purposes only. Target returns are hypothetical and are neither guarantees nor predictions or projections of future performance. There can be no assurance funds will be able to implement investment strategies, achieve investment objectives or avoid substantial losses.

CCCERA Private Markets Structure



For illustrative purposes only. Text in *italics* represents investment decision makers.

III. Approach to Private Debt

Private Debt Overview[1]

StepStone's private debt program leverages the Firm's global platform to target privately negotiated debt transactions across corporate, real estate and infrastructure debt

Investment Team[1]

Experienced and global team of over 50 investment professionals with significant senior leadership across all major geographies

50+ investment professionals

Including **15** Partners

Corporate

Real Estate

Infrastructure

Private Debt Strategy

Income strategy with an emphasis on capital preservation and potential for capital appreciation through performing and non-performing investment strategies

Customized Offerings

Flexible and adaptive solutions across the full breadth of illiquid debt markets through separate accounts and commingled funds

Multiple **Tailored Mandates**

10th Fund in a Series

US$17+ bn AUM/AUA

18 years of experience investing in private debt markets

Expertise

Team with almost two decades of experience investing in the private debt markets, with proven ability to execute through multiple credit cycles

1. The Private Debt investment team also leverages the expertise of the Firm's dedicated Real Estate and Infrastructure & Real Assets professionals, which are included in the headcount and AUM/AUA presented above. Data as of March 2017.

Investment Coverage

StepStone covers the full range of opportunities in the Private Debt market, including both performing and non-performing debt

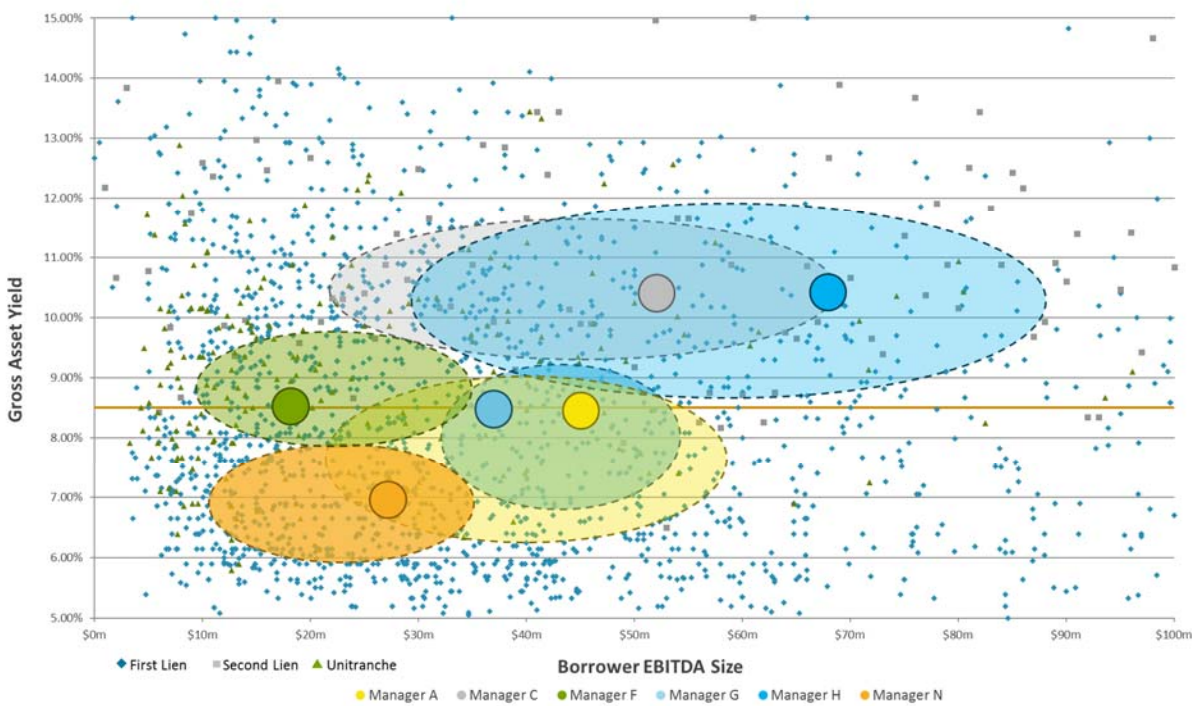
Risk / Return →

Sector	Senior Secured	Unitranche	Mezzanine	Unsecured	Single Name Stressed / Distressed	Non-Performing Loan Portfolios
Corporate	• Syndicated loans • Direct Lending • High Yield • CLO • Long/short credit				• Secondary corporate securities	• SME loan portfolio sales
Real Estate	• Direct lending strategies • RMBS • CMBS				• Single asset loans • Construction loans	• CRE portfolios • Residential mortgage portfolios
Infrastructure & Real Assets	• Core infrastructure debt • Energy and power • Mining and resources • MLP					• Non-core asset portfolio

Flexibility, resources and experience to move to where opportunities are most attractive

Power of Data & Knowledge for Portfolio Construction: Direct Lending Example

Different Manager Strategies: Yield and Size



Comments

- **Private Debt**
  - Transparency only for specialists
  - Privately negotiated investments
  - Knowledge and impacts
- **StepStone's proprietary data**
  - 5,000 loan transactions
  - 100 - 120 data points per transaction
- **Data enables**
  - Deep understanding of manager's activities
  - Manager selection
  - Portfolio construction

Source: StepStone, March 2017.
Note: For illustrative purposes only.

STEPSTONE inside private markets

Implementation of Private Debt for CCCERA with allocation thresholds

Core	Satellite	
AUM $550 – $700 mm	AUM $150 – $250 mm	up to $200 mm
Managers 2 - 4	Managers 4 – 6	max. $20 mm per investment
SMA	**Primaries**	**Co-investments**
Flexibility & Control	**Fund Investments**	• Accelerated deployment • Reduced costs • Additional diversification
• Strategy • Deployment • Operations • Costs		
Up to 70%	**Up to 30%**	**Up to 20%**

Source: StepStone

StepStone Private Debt Platform & SMAs

SMA / Platform

Strategy

- Investment discipline
- Flexibility

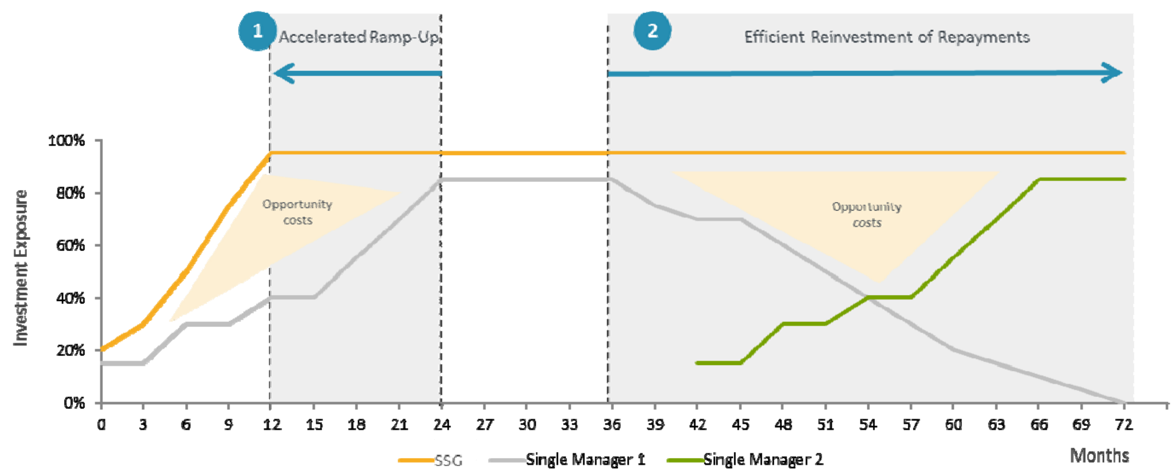
Operations

- Control
- Efficiency

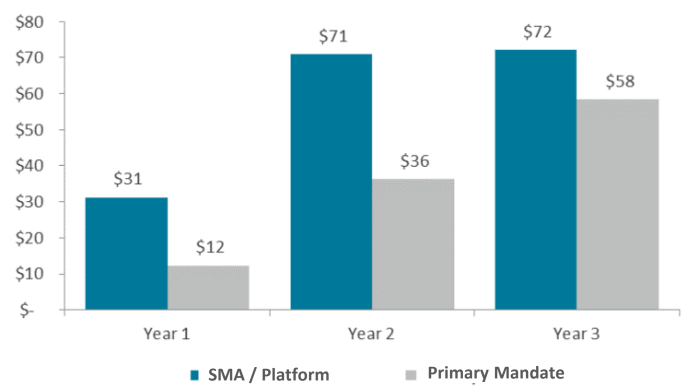
Risk Management

- Transparency
- Data access (analysis)

Comparison SMA to Fund



Results



- At marginal additional costs
- Full transparency
- Increased flexibility
- Increased oversight / governance

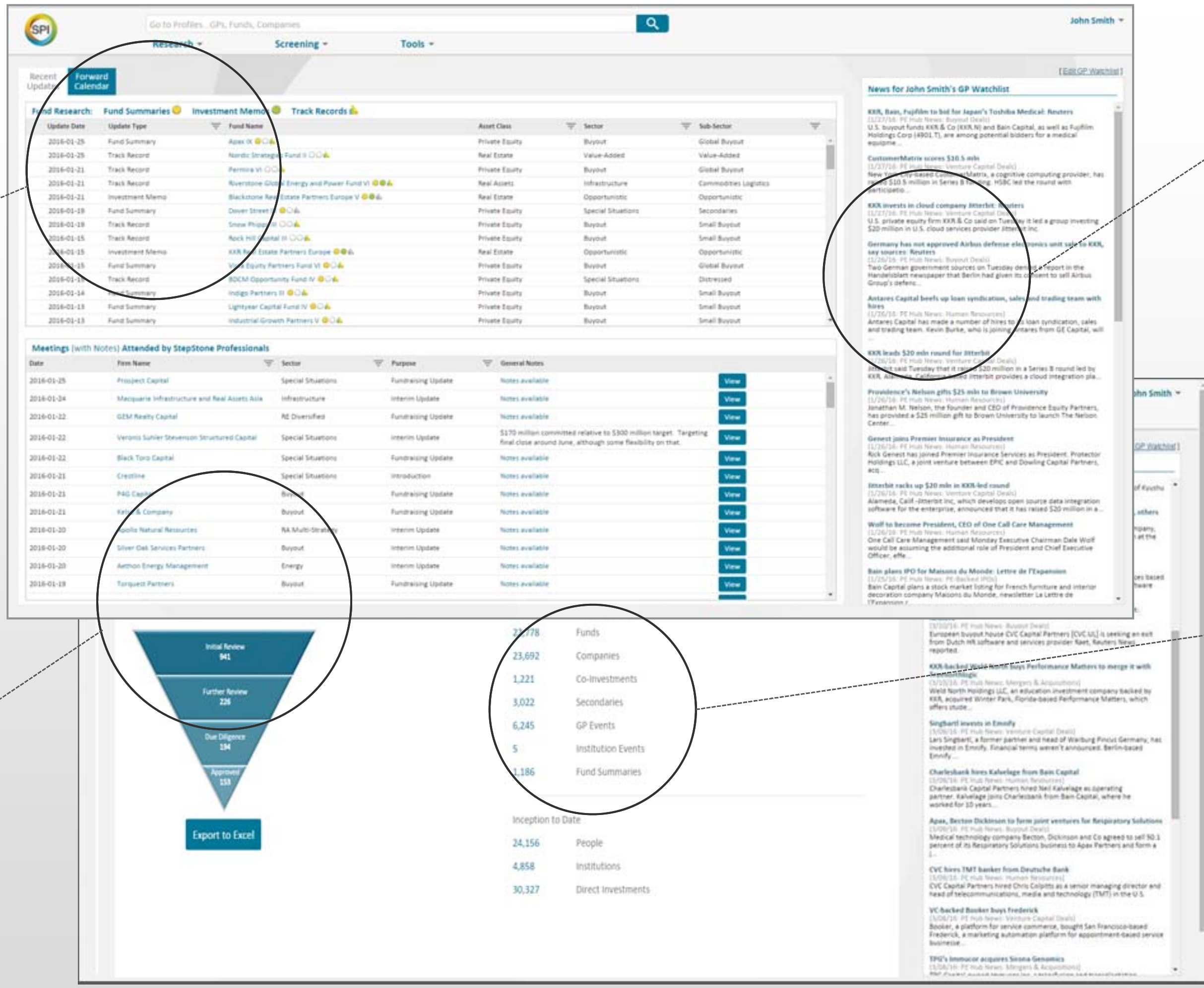
Source: StepStone
For illustrative purposes only.

IV. Appendix 1 – Investment Tools

Investment Tools

SPI™ Database

Purpose: Provides clients and investment professionals access to a proprietary collection of data and tools to generate bespoke analytics and research



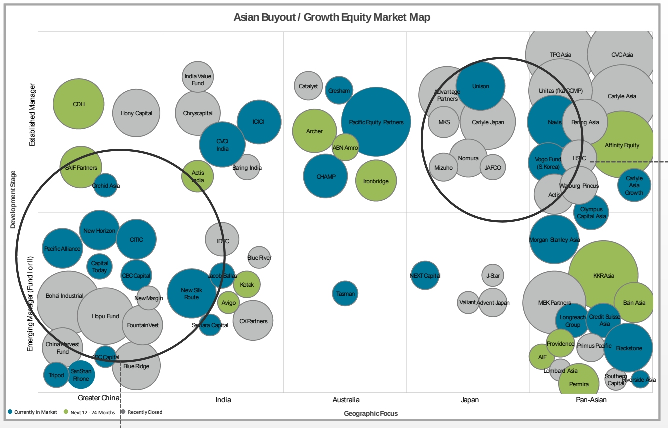
Process: Ability to manage new GP information along with fund performance updates and has filtering options via IRR, TVM, fund size, and our proprietary rating

Transparency: Clients have access to market intelligence from various stages of the investment process, including meeting notes, fund summaries, and track record analysis

Coverage: Tracks 24,000 funds, utilizing various search criteria. Additionally, tracks timing of funds coming to market, a critical tool in the portfolio planning process

Investment Tools (continued)

Market Maps

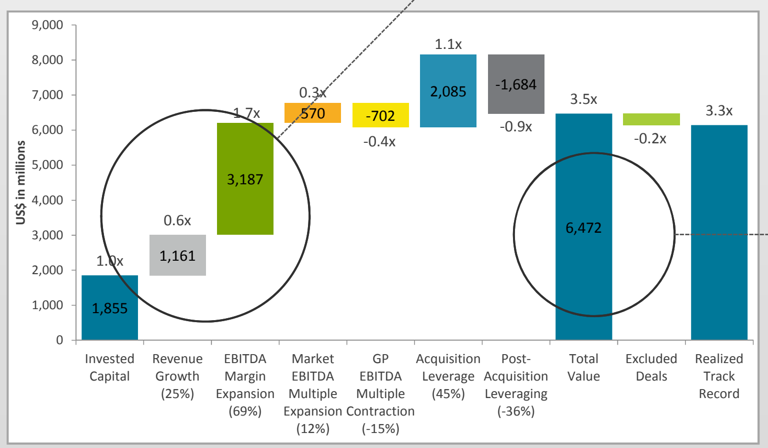


Inventory: Market maps are tracked for each of the eleven sectors for which StepStone's research team does diligence

Purpose: Clear and visual presentation of key competitors broken out by recently closed, currently in the market, or expected in market shortly

Drivers of Investment Returns ("DIR"): revenue growth, margin improvement, earnings multiple expansion from both market and GP sources, leverage, and debt pay-down. This provides additional insight into how managers are creating value within portfolio companies and the relative risk that is being taken

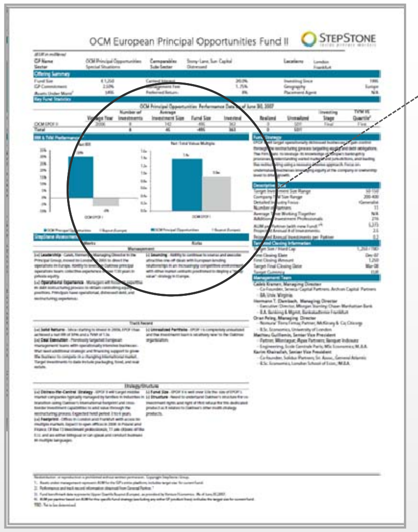
DIR™ Analysis



Inventory: Sources of returns are mapped against StepStone's applicable strategy and geographic thesis to determine if manager approach to return generation is a good fit for current investment environment

Research and Investment Analysis Materials

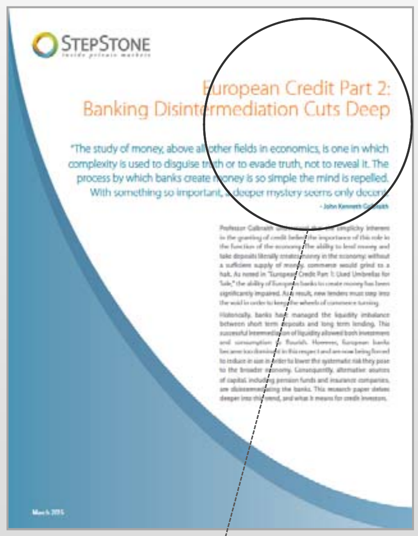
Fund Summary



Purpose: StepStone's research team creates Fund Summaries on funds that are reasonable prospects for private equity portfolios

Fund Summaries include:
- Key metrics on current offering
- Fund strategy
- Comparable General Partners
- Prior fund metrics and performance vs. benchmarks
- Detail investment target data
- Target closing information
- Risks and merits on organization, performance and strategy/ structure
- Key investment professionals

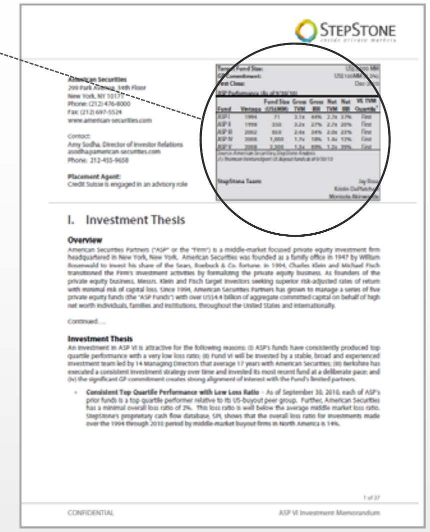
Research Reports



Purpose: StepStone performs detailed research on industries, sectors, and geographic regions and reports the current and forecast market conditions to clients

Investment Memo

Purpose: The final step in the investment process provides a comprehensive review of the investment, firm, strategy, performance analysis and structure. The memo includes detailed merits and risks of the investment



Investment Memos include detailed discussion and analysis organized as follows:
- Executive Summary
- Investment Thesis
- Key Risk Factors
- Organization and Structure
- Strategy
- ESG
- Performance
- StepStone Assessment
- Appendices include:
  - Investment professionals detail
  - Fund Terms
  - Operational Due Diligence
  - Track Record
  - Sector Market Maps

V. Appendix 2 – Fee Proposal

Fee Proposal

StepStone Fee Proposal

Mandate	Fee Proposal	Amount USD
Private Equity Advisory	Flat Fee (gross) p.a.	$0.5 mm
Private Debt Separately Managed Account	Flat Fee (gross) p.a. Co-Investments management fee	$1.5 mm 40bps

Private Debt Implementation Cost Estimate

Category		Amount USD
Admin Fees and Expenses	- Administration Fee p.a. (approx. 8bps on US$1.0bn AUM) dependent on Assets (gross/net/leverage) and bps (range between 6 and 10 bps)	$0.8 mm
External Fees	- Audit Fees (3 SMAs plus consolidation of LPS) - Legal & Tax Advice	$0.20 mm $0.05 mm
Set-up Costs (one time)	- Legal Fees for structure set-up - Legal Fees for SMA negotiation	$0.03 mm $0.17 mm

StepStone will charge flat management fees, in addition to administration, legal, audit, and others related to the private debt SMA. StepStone will consult with CCCERA on any decisions regarding service providers and related terms. With the exception of the flat management fees, the amounts indicated in table above are assumptions. Effective costs will form part of partnership expenses. The estimates do not include management and performance fees of SMA managers as these are very dependent on party, structure, leverage, etc.

Risks and Other Considerations

Risks Associated with Investments. Identifying attractive investment opportunities and the right underlying fund managers is difficult and involves a high degree of uncertainty. There is no assurance that the investments will be profitable and there is a substantial risk that losses and expenses will exceed income and gains.

Restrictions on Transfer and Withdrawal; Illiquidity of Interests; Interests Not Registered. The investment is highly illiquid and subject to transfer restrictions and should only be acquired by an investor able to commit its funds for a significant period of time and to bear the risk inherent in such investment, with no certainty of return. Interests in the investment have not been and will not be registered under the laws of any jurisdiction. Investment has not been recommended by any securities commission or regulatory authority. Furthermore, the aforementioned authorities have not confirmed the accuracy or determined the adequacy of this document.

Limited Diversification of Investments. The investment opportunity does not have fixed guidelines for diversification and may make a limited number of investments.

Reliance on Third Parties. StepStone will require, and rely upon, the services of a variety of third parties, including but not limited to attorneys, accountants, brokers, custodians, consultants and other agents and failure by any of these third parties to perform their duties could have a material adverse effect on the investment.

Reliance on Managers. The investment will be highly dependent on the capabilities of the managers.

Risk Associated with Portfolio Companies. The environment in which the investors directly or indirectly invest will sometimes involve a high degree of business and financial risk. StepStone generally will not seek control over the management of the portfolio companies in which investments are made, and the success of each investment generally will depend on the ability and success of the management of the portfolio company.

Taxation. An investment involves numerous tax risks. Please consult with your independent tax advisor.

Conflicts of Interest. Conflicts of interest may arise between StepStone and investors. Certain potential conflicts of interest are described below; however, they are by no means exhaustive. There can be no assurance that any particular conflict of interest will be resolved in favor of an investor.

Allocation of Investment Opportunities. StepStone currently makes investments, and in the future will make investments, for separate accounts having overlapping investment objectives. In making investments for separate accounts, these accounts may be in competition for investment opportunities.

Existing Relationships. StepStone and its principals have long-term relationships with many private equity managers. StepStone clients may seek to invest in the pooled investment vehicles and/or the portfolio companies managed by those managers.

Carried Interest. The entitlement of StepStone and the underlying portfolio fund managers to carried interest over and above their basic management fees could create an incentive for StepStone and the portfolio fund managers to make investments that are riskier or more speculative than would otherwise be the case.

Other Activities. Employees of StepStone are not required to devote all of their time to the investment and may spend a substantial portion of their time on matters other than the investment.

Material, Non-Public Information. From time to time, StepStone may come into possession of material, non-public information that would limit their ability to buy and sell investments.

PERSPECTIVES
THAT DRIVE
ENTERPRISE
SUCCESS

APRIL 2017

Risk Diversifying Strategies

Contra Costa County Employees’ Retirement Association

Table of Contents

Verus

VERUSINVESTMENTS.COM

SEATTLE 206-622-3700
LOS ANGELES 310-297-1777
SAN FRANCISCO 415-362-3484

Executive summary

Executive summary

— CCCERA’s asset allocation prescribes a 9% allocation to Risk Diversifying strategies
  - In the 2017 asset allocation study reviewed by the Board at the March meeting, this allocation was modeled utilizing Verus’ Risk Parity and Hedge Fund capital market assumptions

— Within the context of the Functionally Focused Portfolio, the purpose of this allocation is to:
  - Provide diversification to offset the potential volatility associated with the large growth portfolio allocations; and
  - Be a source of funds to buy cheap growth assets in the case of a meaningful market correction

— This presentation is intended to provide the Board with:
  - Risk parity education;
  - An overview of risk diversifying strategies within the context of the goals of the sub-portfolio;
  - Specific information on the spectrum of risk diversifying strategies; and
  - Various approaches to implementing the Plan’s risk diversifying allocation

— No formal recommendation is being made at this time. Additional Board discussion will be required in order to determine the approach to be employed

Risk diversifying strategies

In order to fulfill the objectives of the risk diversifying sub-portfolio, desirable characteristics of potential strategies include:

- Low to negative correlation with the growth portfolio (to provide a diversification benefit);
- Positive expected return in normal market environments; and
- High degree of liquidity in periods of equity market stress (source of funds to buy cheap growth assets)

	RETURN ROLES				DIVERSIFICATION & VOLATILITY ROLES		
	Benefit from GDP Growth	Earn Risk Premium	Produce Stable Income	Hedge Against Inflation	Low Absolute Volatility	Low Corr. To Other Assets	Reduce Portfolio Volatility
Growth	●	◕	◔	◑	○	◔	◔
Liquidity	◔	◔	●	◔	◕	◕	◕
Risk diversifying *(intended role)*	○	◔	○	○	●	●	●

Risk parity education

What is risk parity?

A long-only portfolio seeking to generate returns through persistent exposure to Global Equity, Global Fixed Income, and Global Inflation-Protected Assets

- Global Equities for upside participation in periods of strong growth
- Global Fixed Income for downside protection in periods of weaker growth
- Commodities and Global Inflation-Linked Bonds to preserve real rates of return in inflationary periods

Risk parity strategies seek balanced exposure for consistent performance across market environments by targeting expected levels of risk (i.e. volatility of returns).

Risk parity vs. traditional portfolio construction

The traditional approach to portfolio construction :

- Accepts the volatility level of the asset classes available in the marketplace
- Constructs a portfolio with those asset classes

This means that each asset class contributes a different level of risk to the portfolio.

A risk parity approach does two key things:

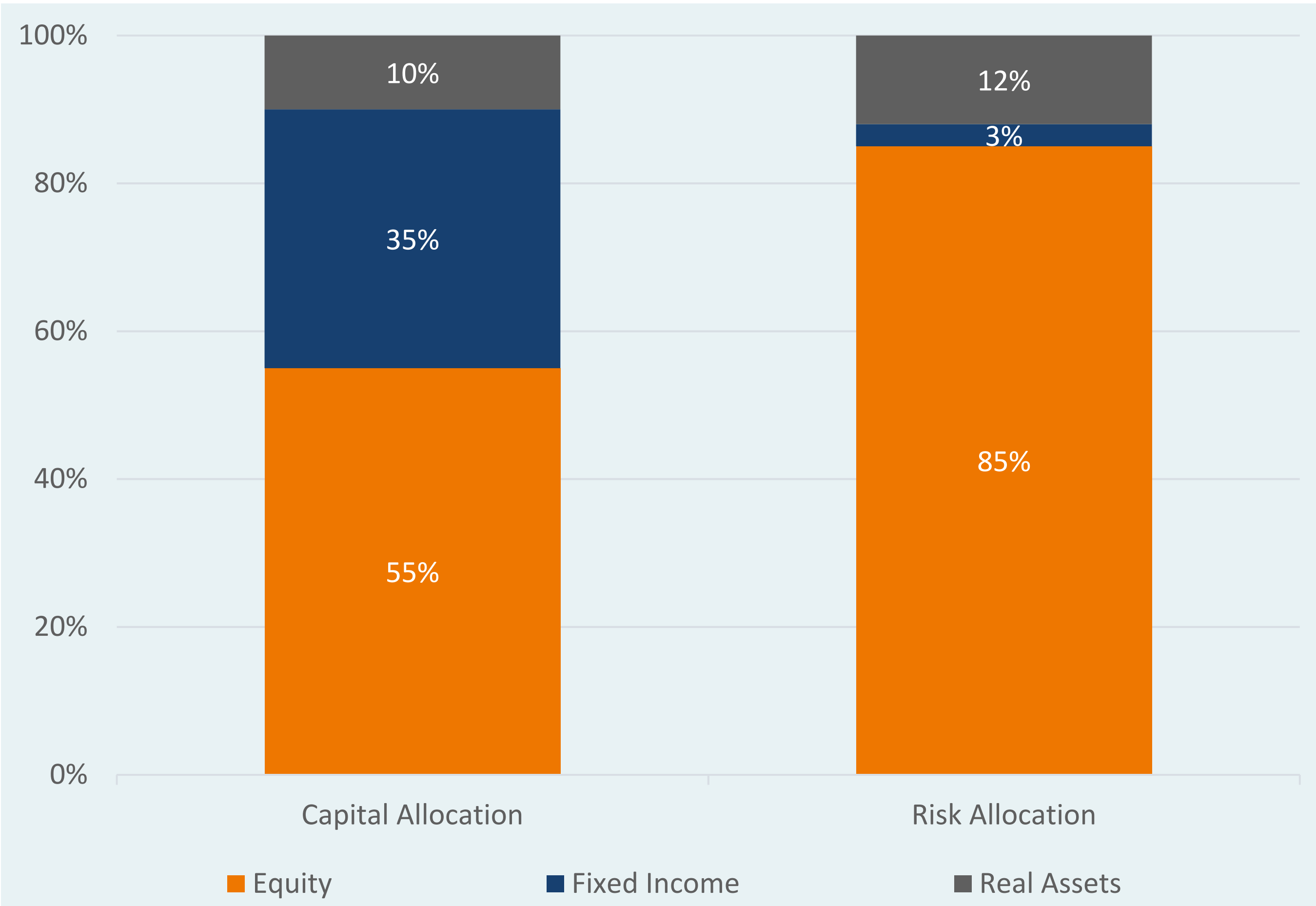
- Uses leverage to adjust the volatility of each asset class to the same level
- Weights the asset class exposures so that each asset class contributes an equal amount of expected volatility to the portfolio

This means that each asset class contributes the same level of risk to the portfolio

Risk parity is about how to gain exposure to asset classes in a portfolio; it is not an alpha-based strategy.

Traditional portfolio

CAPITAL AND RISK ALLOCATION

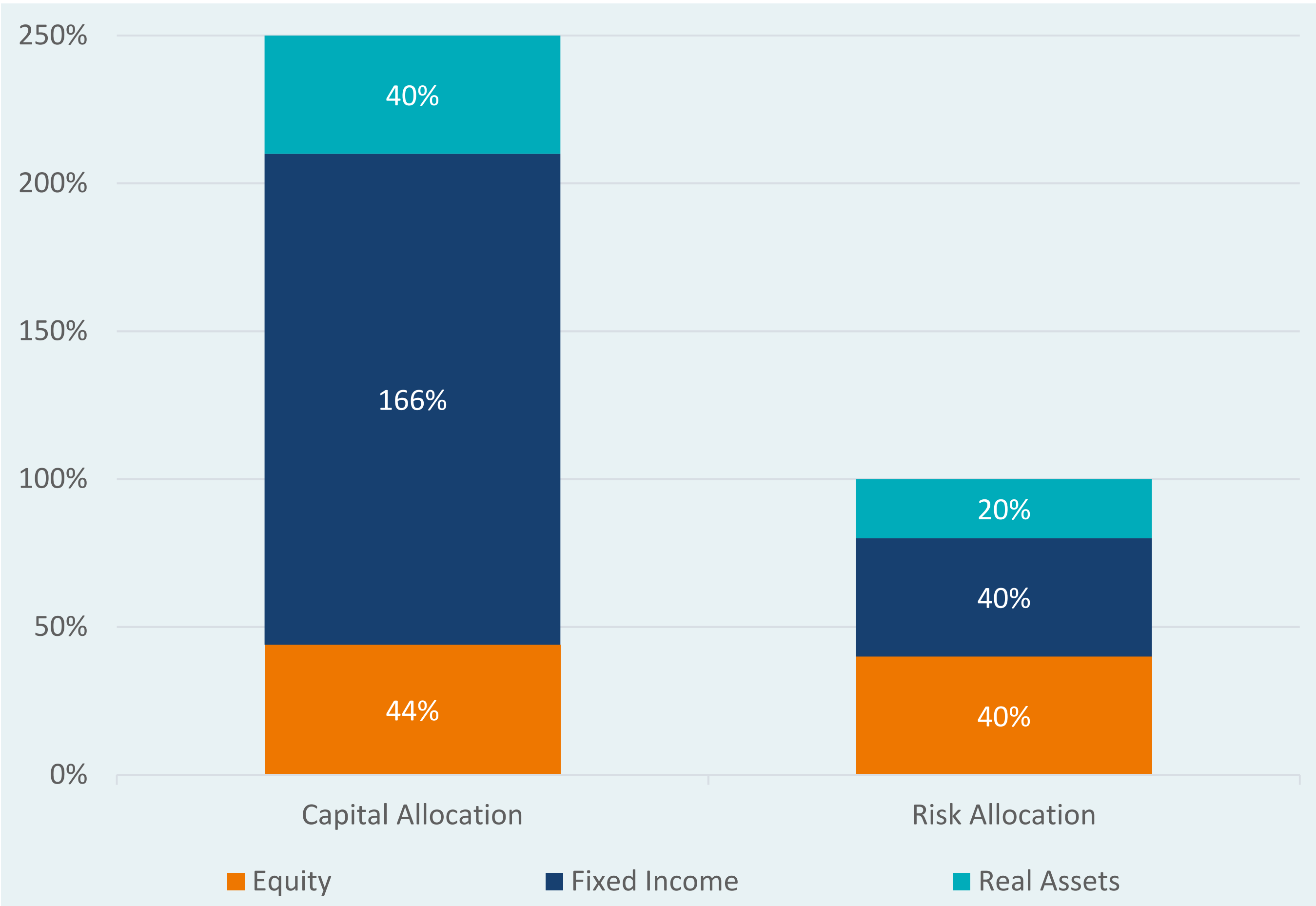


The Traditional Approach may result in the Plan closely tracking the outcome of the equity market.

Source: PanAgora Asset Management, Inc.

Risk parity portfolio

CAPITAL AND RISK ALLOCATION



The Risk Parity Approach, through the use of futures, increases the exposure to fixed income assets so that each asset class contributes meaningfully to the total volatility of the portfolio.

Source: PanAgora Asset Management, Inc.

Leverage in portfolios

Just like Risk Parity, most investments contain leverage

- Public and Private Equity, Real Estate, Infrastructure, and Hedge Funds
  - Leverage is embedded throughout the portfolio but often encapsulated
- Securitization (or in the case of Risk Parity – commingled fund) allows it to be non-recourse leverage

In Risk Parity, leverage is generally obtained through the use of futures.

Risks of leverage can be controlled with good risk management

- Applying leverage to the safest & lowest volatility assets (i.e., Treasuries, TIPS)
- Explicit strategy level limits on notional exposure
- Active rebalancing to target constant and balanced market risk
- Maintaining high levels of unencumbered cash
- Utilizing instrument leverage through exchange-traded and centrally cleared futures (not borrowed leverage)

Adding risk parity to portfolios

Risk Parity can improve expected outcomes

- The “Typical Peer” has no allocation to risk parity
- The other examples allocate 5, 10, or 20% while proportionately reducing exposures to the other asset classes
- Sharpe ratios increased through the addition of Risk Parity
- 50th percentile returns increased with the addition of Risk Parity
- The poorest outcomes were mitigated with Risk Parity

	Typical Peer	+5% RP	+10% RP	+20% RP
Volatility				
	10.0	9.9	9.8	9.5
Sharpe Ratio				
	0.43	0.45	0.46	0.48
Median (50th percentile) Forecasted Return				
	5.99	6.06	6.13	6.26
1 Year (1st Percentile) Drawdown				
	-23.29	-22.56	-21.90	-20.62

Typical Peer is based on BNY Mellon Universe data of DB Plans >$2 Billion and is composed of 45% Global Equity, 35% Core Fixed Income, 5% Private Equity, 5% Real Estate, 5% Hedge Funds, and 5% Commodities

Risk diversifying strategies overview

Strategy summary matrix

Strategy	Diversification of Growth Assets	Liquidity	Expected Return
Return Enhancing - Generally long-biased strategies that trade in public equity or credit markets and seek to profit from corporate actions			
Equity Hedged: Fundamental Long/Short/Activist	○	●	◕
Event Driven: Distressed/Restructuring	◔	○	◕
Event Driven: Merger Arbitrage/Special Situations	◔	○	◕
Relative Value: Corporate/Convert	◔	◑	◑
Diversified Core – Broad exposure to strategies that seek consistent risk-adjusted returns across asset classes and market environments			
Multi-strategy	◑	◑	◑
Alternative Beta/Risk Premia	◑	●	◑
Risk Diversifying - Strategies that are generally less directional and uncorrelated to traditional betas such as equity and credit markets			
Equity Hedged: Market Neutral	◕	●	◑
Relative Value: Structured/Sovereign	◕	◑	◑
Macro: Discretionary	●	●	◔
Macro: Systematic/CTA	●	●	◔

Unique considerations - Leverage

Funds can borrow against their balance sheet or use derivatives

— Explicit leverage

- Borrowing against the fund's balance sheet from prime brokers to obtain additional buying power (a.k.a. going on margin).
- Using proceeds from securities sold short to fund additional purchases.
- Measured by the ratio of gross market value of securities owned to fund NAV.

—Strategies with typically higher leverage: Market neutral, Macro, Merger Arb, Fixed Income Arb

— Implicit leverage

- Investing in options, swaps, futures, or forwards to gain exposure without paying for it
- Can be done over the counter via banks (swaps) or through exchanges which use clearing houses.
- Measured by the ratio of notional exposure to fund NAV.

—Strategies with typically lower leverage: Long/Short Equity, Long/Short Credit, Distressed, Activist

Unique considerations - Liquidity

Potential asset/liability risk for managers with illiquid positions

— Liquidity risk arises when there is demand for liquidity from investors, but the fund is invested in illiquid assets. To allow for redemptions, funds may be forced to sell the most liquid positions, increasing the illiquidity of the fund.

— Methods for managing liquidity risk include:

- Redemption gates: Limits the proportion of assets that can be withdrawn on any one redemption date. Can be in place at the investor level or the fund level.
- Suspend redemptions: Provision in place to allow the fund to refuse to redeem shares strictly due to liquidity concerns.
- Payment in specie: Fulfilling redemptions with securities rather than cash, to avoid selling illiquid assets at significant discounts.
- Side pockets: Illiquid assets are placed in a side pocket, which becomes a separate vehicle. Holders of side pocket shares cannot redeem until the side pocket is liquidated.

Unique considerations - Shorting

Challenges include higher cost, lower rebates, harder to locate “borrow”

— Motivation for building short positions typically falls under a few distinct categories:

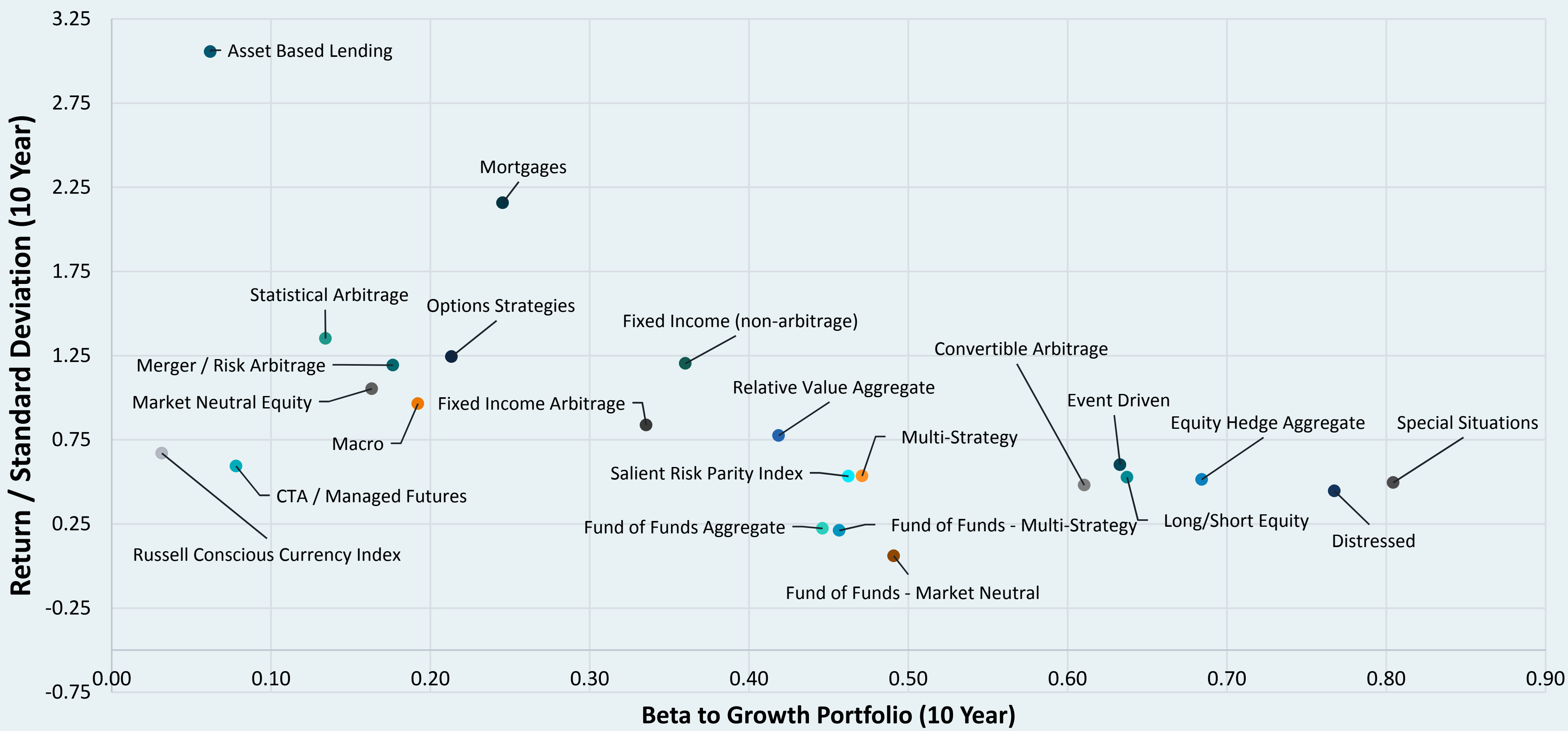
- “Alpha” shorts: concluding that the stock price will decline.
- Pair-trades: believing that one stock price will increase less or decline more than another holding, typically peers in same industry. Example: long Home Depot, short Lowes.
- Hedging: using ETFs or swaps to short an index to isolate company-specific risk from commodity exposure, for example, and otherwise reduce market beta.

— Strategies such as long/short equity, long/short credit and discretionary macro require managers to be effective short sellers

— Less liquid or systematic strategies are less dependent on short positions to provide positive absolute returns.

Risk diversifying strategies

Beta to CCCERA Growth Portfolio vs. risk adjusted performance

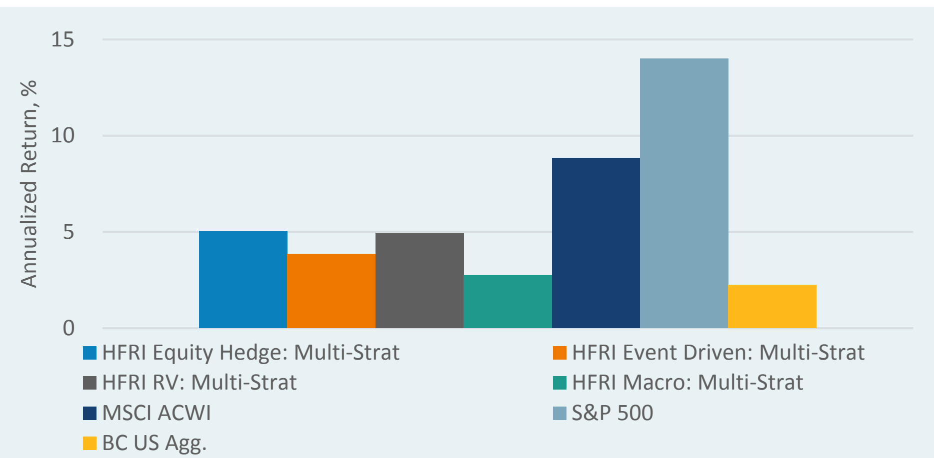


Source: HFN, eVestment,

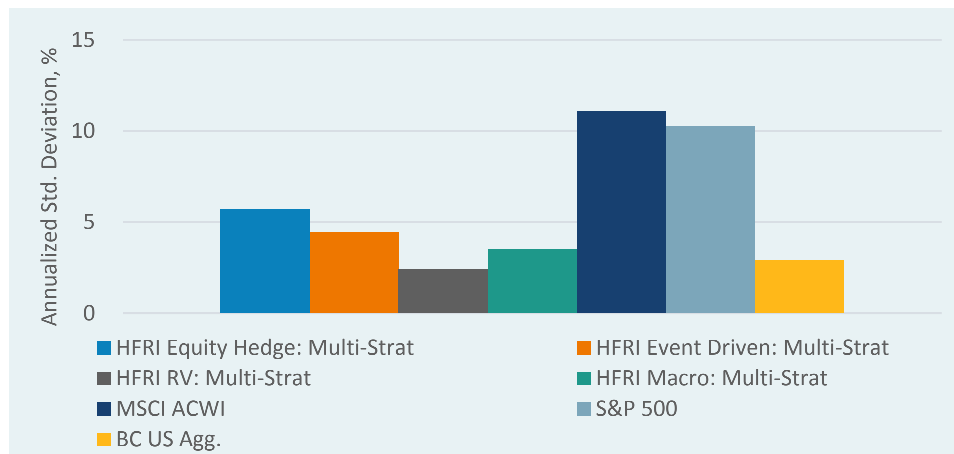
Multi-strategy

- Return Profile:
  - Generally targeting consistently positive absolute returns throughout all market cycles
  - More directional funds will have higher expected returns (and correlation to the growth portfolio) than those with a relative value philosophy
- Risk:
  - Volatility is often low compared to other strategies given the diversification of several sub-strategies
  - The broad peer group does exhibit some equity market sensitivity
  - Leverage can be low

PERFORMANCE – LAST 5 YEARS



RISK – LAST 5 YEARS



Source: Morningstar, HFRI, MPI. As of 2/28/2017

Multi-strategy

— Portfolio:

- Typically specialize in one or two primary styles (e.g., equity, corporate credit)
- Some are true multi-strategy funds with multiple dedicated sleeves and teams managing each style

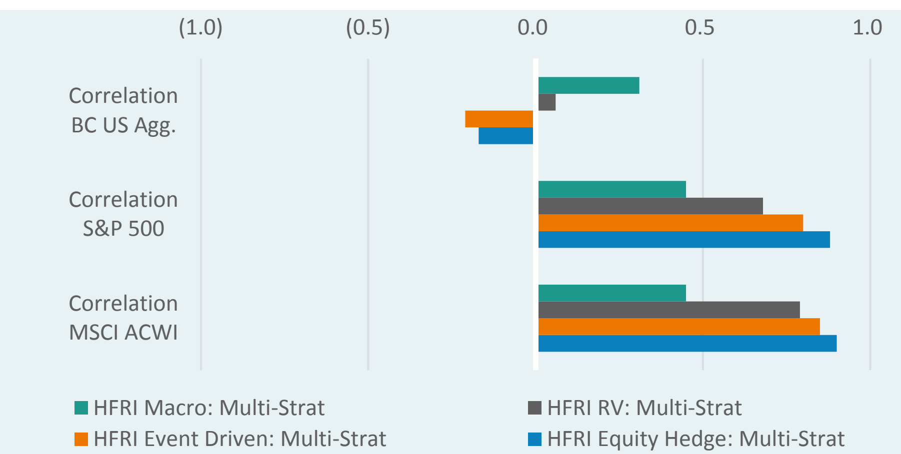
— Liquidity:

- Some managers may invest in less liquid securities such as distressed credit, private equity, or emerging markets

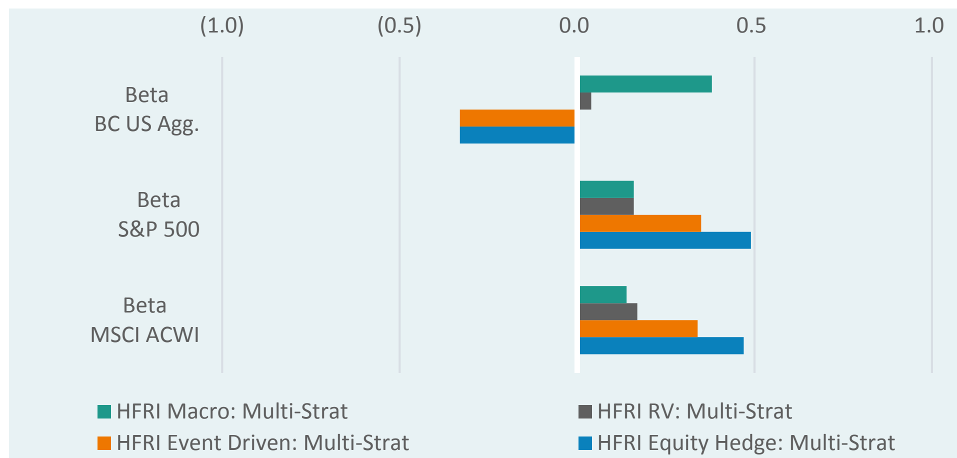
— Fees:

- Generally the standard 2&20 although some "platform" funds may charge fees in excess of the standard 2&20 in the form of pass-through expenses

CORRELATION – LAST 5 YEARS



BETA – LAST 5 YEARS



Source: Morningstar, HFRI, MPI. As of 2/28/2017

Alternative beta

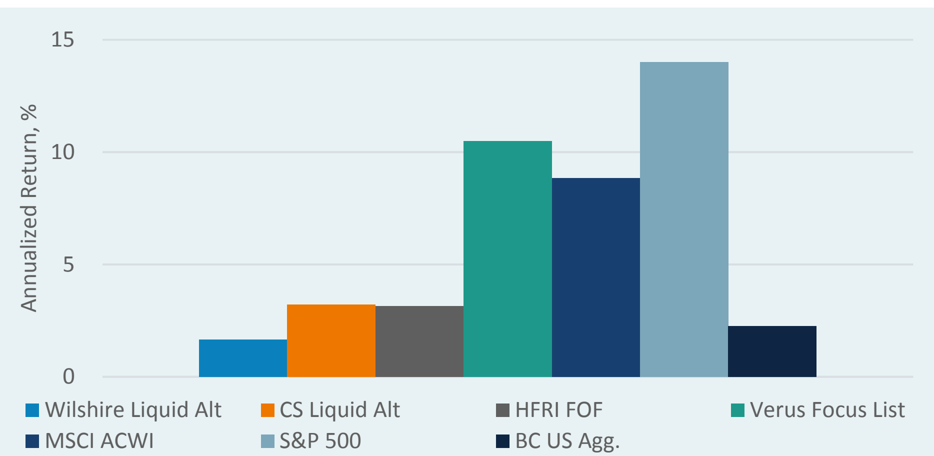
— Return Profile:

- Targeting consistently positive absolute returns equal to or above the broader hedge fund industry
- Most funds are meant to deliver the returns that investors had historically come to expect from a diversified hedge fund portfolio

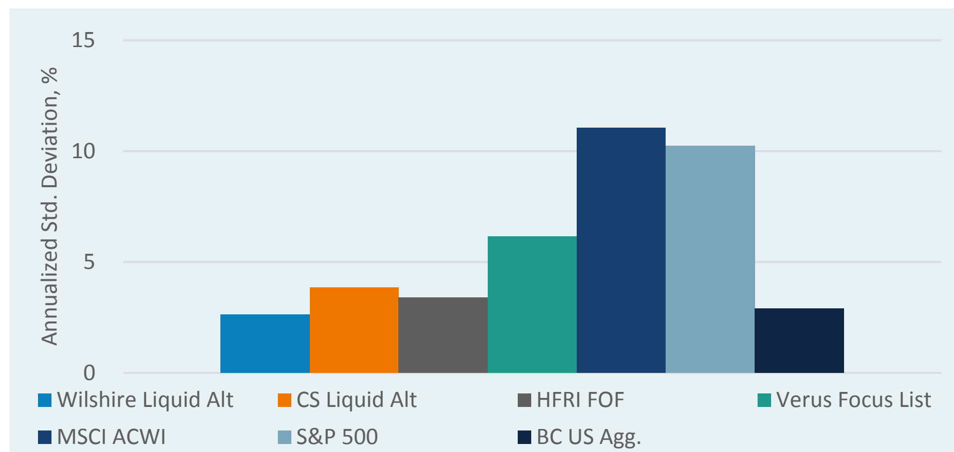
— Risk:

- Typical volatility targets will range between 8-12%
- Sensitivity to broader markets will mimic hedge fund composites but some funds are designed to be neutral
- Leverage is moderate to high given the market neutral approach – 3 to 6 turns of leverage per side are common

PERFORMANCE – LAST 5 YEARS



RISK – LAST 5 YEARS



Source: Morningstar, Wilshire, Credit Suisse, HFR, MPI. As of 2/28/2017

Alternative beta

— Portfolio:

- Typically specialize in either style factors (value, momentum, etc.) or alternative betas (hedge fund styles)
- Portfolios are systematic in nature and highly diversified across asset, market, and strategy type

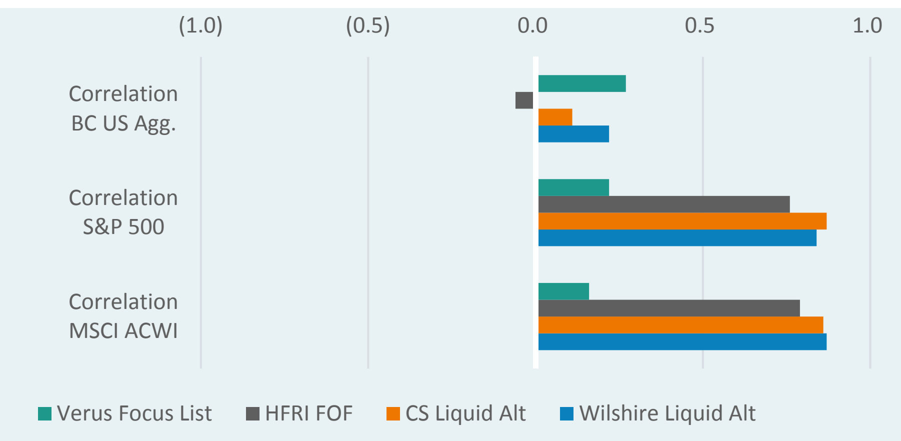
— Liquidity:

- Most managers will invest in only the most liquid securities markets given the higher turnover and leverage

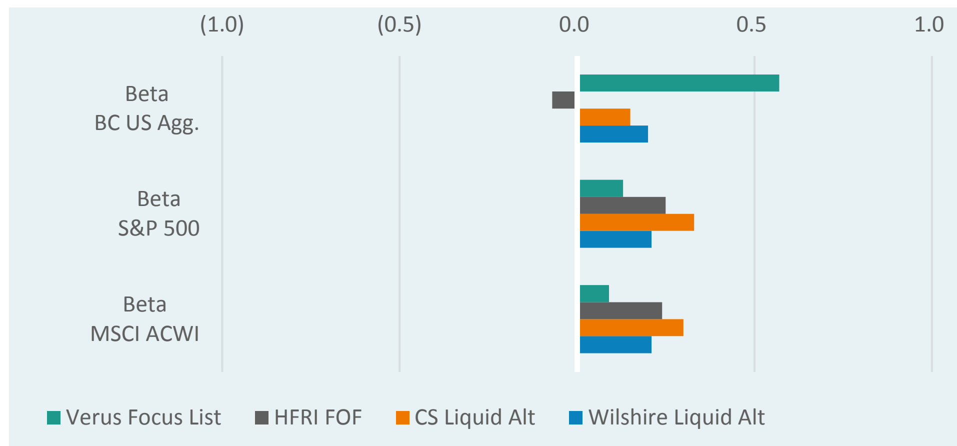
— Fees:

- Style factor strategies are often 1% flat fee or less, while hedge fund style funds are slightly more expensive

CORRELATION – LAST 5 YEARS



BETA – LAST 5 YEARS



Source: Morningstar, Wilshire, Credit Suisse, HFR, MPI. As of 2/28/2017

Relative value – structured & sovereign

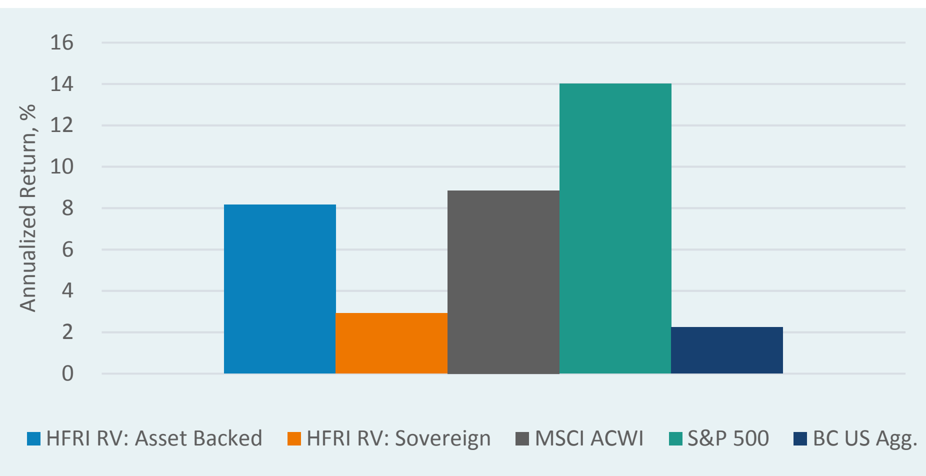
— Return Profile:

- These strategies typically have a positive carry profile with little to no duration and offer a range of return expectations, from sovereign bonds and fixed income arbitrage on the low end to structured credit on the high end

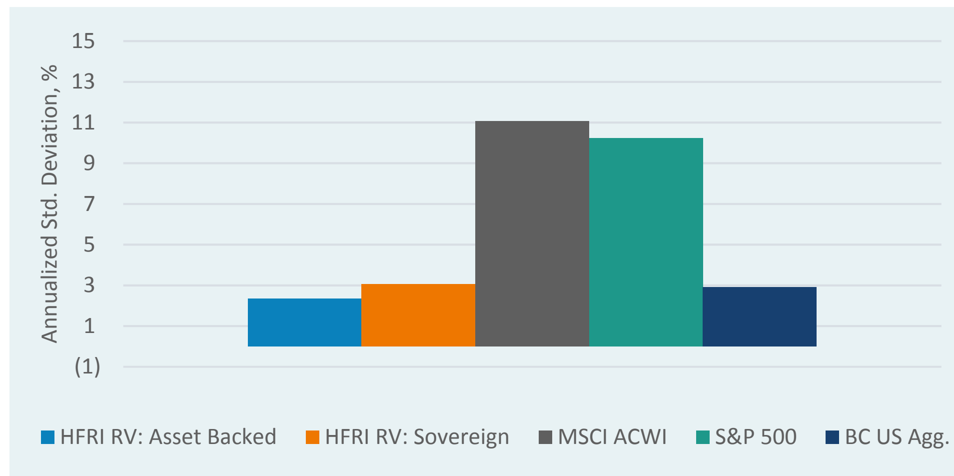
— Risk:

- Absolute volatility may appear low although there is a moderate amount of equity market sensitivity,
- Leverage can be high for funds focused on arbitrage opportunities.

PERFORMANCE – LAST 5 YEARS



RISK – LAST 5 YEARS



Source: Morningstar, HFRI, MPI. As of 2/28/2017

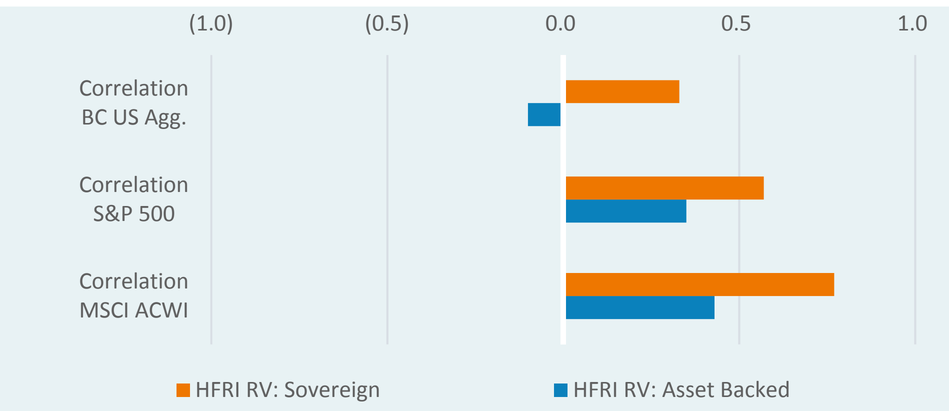
Relative value – structured & sovereign

— Portfolio:
- Trade long and short in global rates and asset-backed securities based on fundamental, technical or macro factors
- Some are more directional in nature while others may only focus on arbitrage opportunities

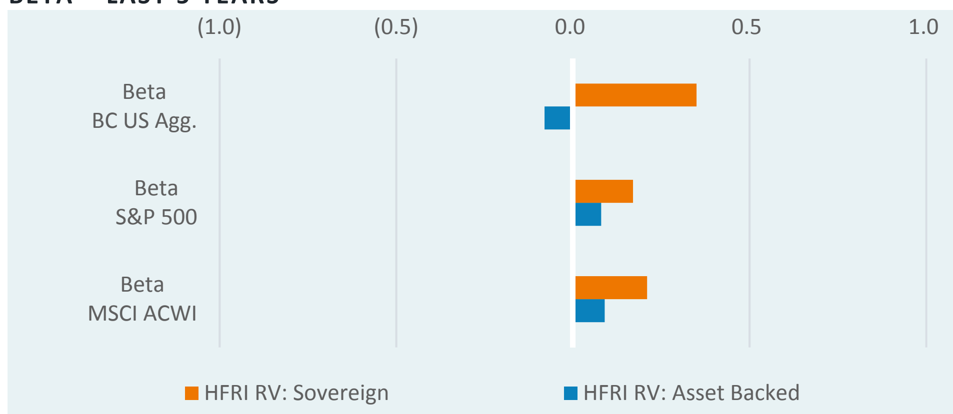
— Liquidity:
- Structured credit strategies are less liquid than equity or macro funds while rates traders will generally be more liquid

— Fees:
- 2&20 is generally standard given the complexity of the markets traded and breadth of securities used

CORRELATION – LAST 5 YEARS



BETA – LAST 5 YEARS



Source: Morningstar, HFRI, MPI. As of 2/28/2017

Quantitative – equity market neutral & systematic macro

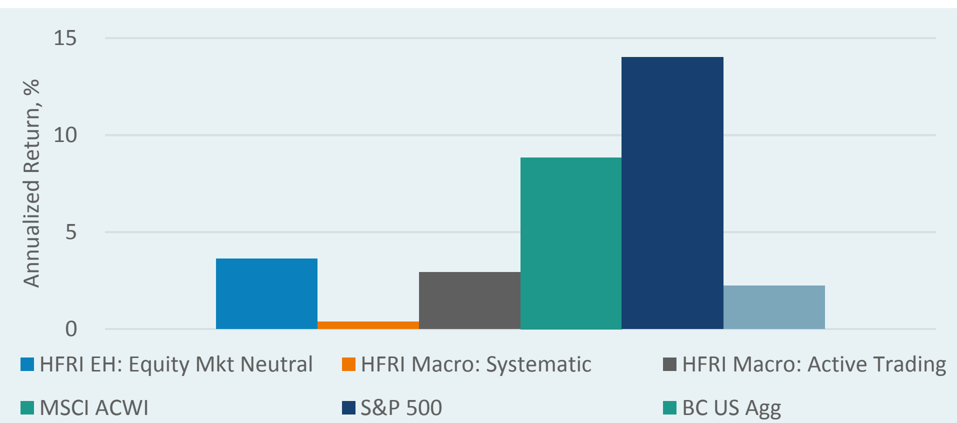
— Return Profile:

- These funds have historically relied on the persistence of trends, regardless of direction, within and across markets to achieve positive returns
- Strategies will differ based on time horizon, markets traded, and research, but returns generally come with markets where investors behave "normal"

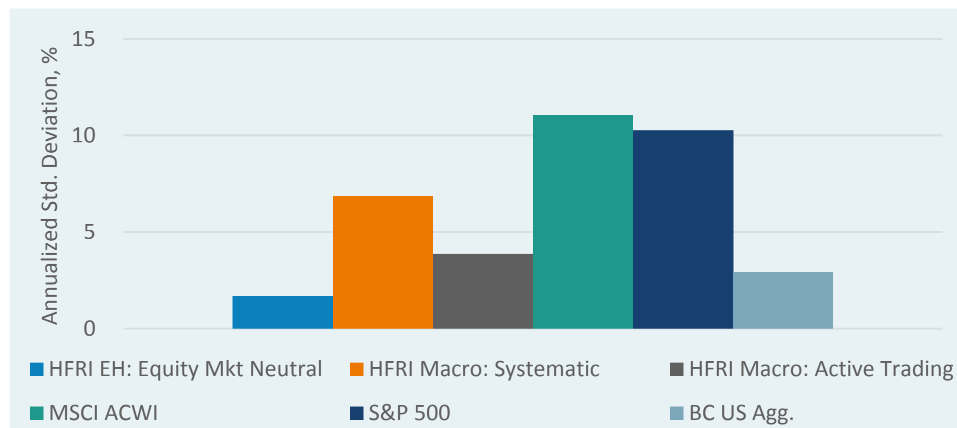
— Risk:

- Varying levels of volatility are targeted depending on the amount of leverage used
- Beta to equity markets is consistently low, but have been prone to drawdowns

PERFORMANCE – LAST 5 YEARS



RISK – LAST 5 YEARS



Source: Morningstar, HFRI, MPI. As of 2/28/2017

Quantitative – equity market neutral & systematic macro

— Portfolio:

- Typically have hundreds or thousands of long and short positions in equities, currencies, commodities, and fixed income. Portfolios have high turnover rates and may be net long or short at any given time

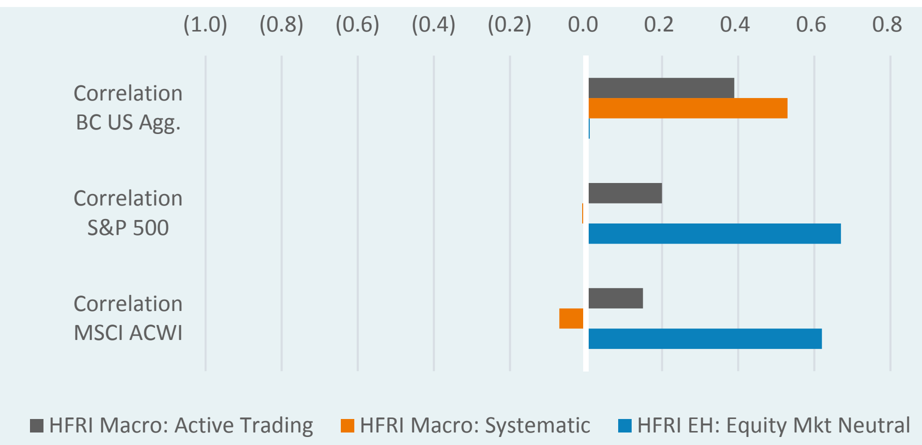
— Liquidity:

- The most liquid of all strategies, these funds transact predominantly in the deepest and most liquid security markets

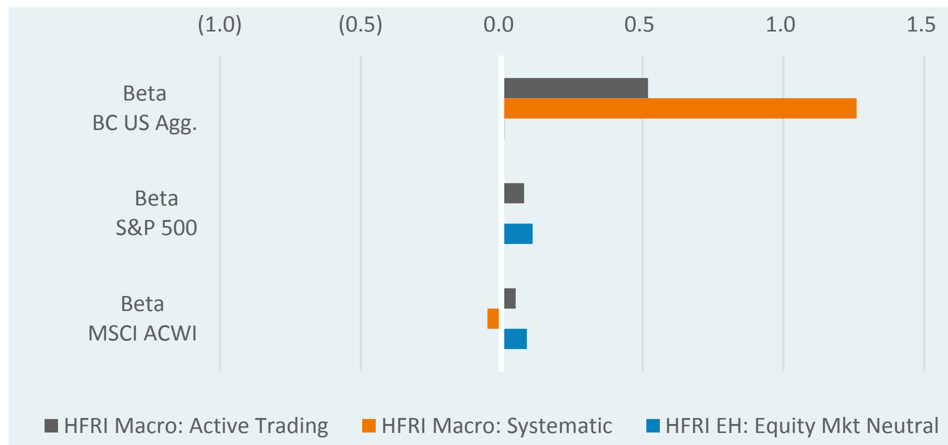
— Fees:

- CTAs are closer to 1&20; EMN funds are more unique and charge 2&20 or higher, depending on their research efforts

CORRELATION – LAST 5 YEARS



BETA – LAST 5 YEARS



Source: Morningstar, HFRI, MPI. As of 2/28/2017

Macro – discretionary

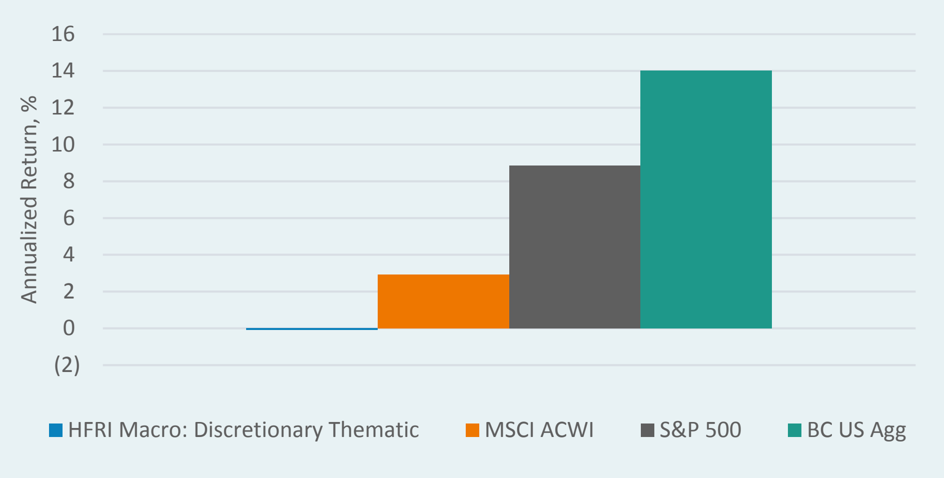
— Return profile:

- Traders develop themes based on their research and insights and place risk accordingly. Trades are typically asymmetrical and returns follow no distinct pattern or sensitivity
- These strategies have performed well historically in extreme environments

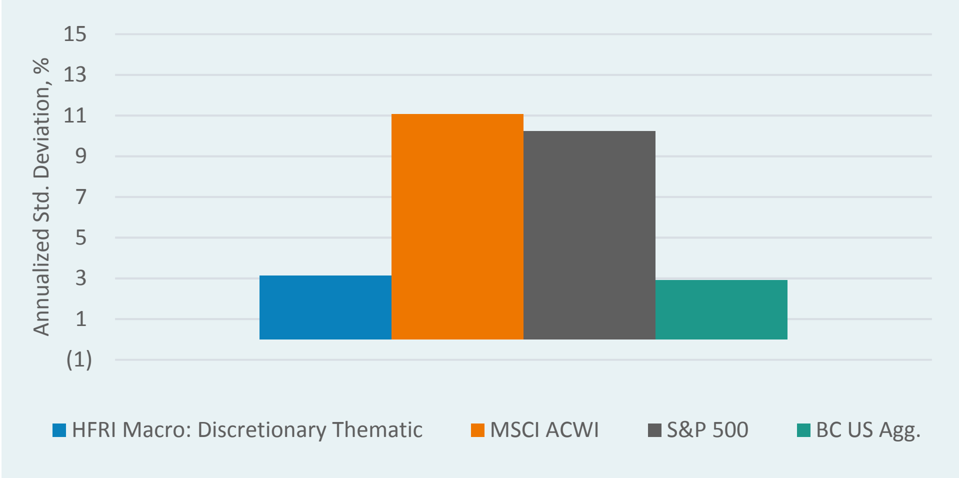
— Risk:

- Often measured in terms of VaR and will fluctuate greatly depending on the opportunity set of the market
- Given discretionary nature and heavy use of derivatives, proper risk controls and procedures are critical

PERFORMANCE – LAST 5 YEARS



RISK - LAST 5 YEARS



Source: Morningstar, HFRI, MPI. As of 2/28/2017

Macro – discretionary

— Portfolio:

- Managers trade interest rates, currencies, bonds, equities and volatility in a relative value or hedged construct
- Extensive use of options and other derivatives is common and the number/size of trades varies by fund

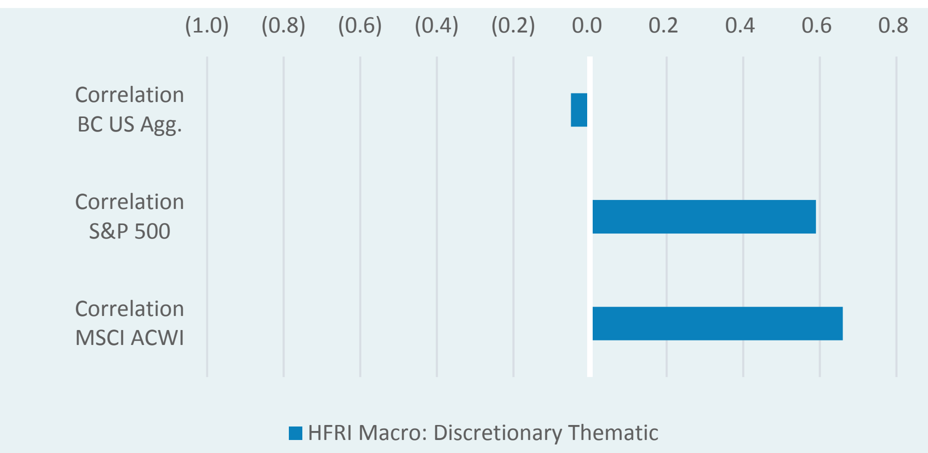
— Liquidity:

- Highly liquid strategy unless the manager is trading heavily in emerging markets or OTC derivatives

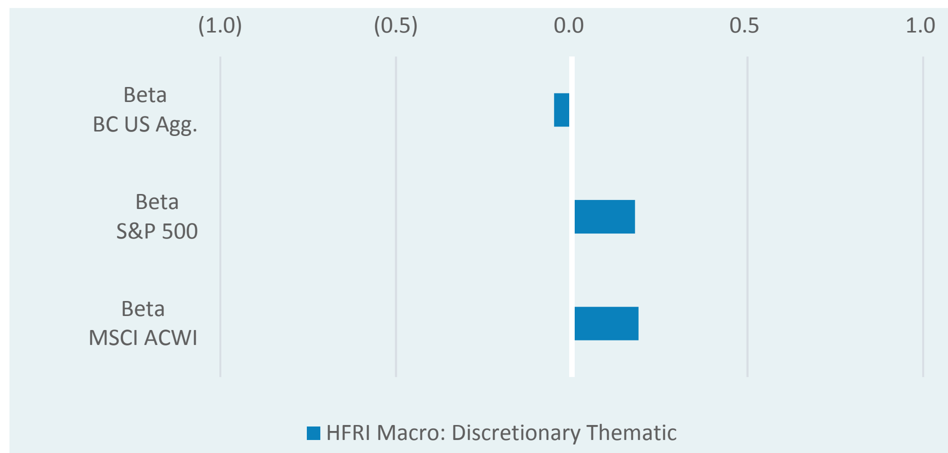
— Fees:

- Standard 2&20 model

CORRELATION – LAST 5 YEARS



BETA – LAST 5 YEARS



Source: Morningstar, HFRI, MPI. As of 2/28/2017

Other strategies

Long/short equity – fundamental

— Approach:

- Rooted in fundamental analysis but can incorporate top-down macro or thematic styles. Recent years have seen the growth of sector and industry specialists (energy, health care, etc.)

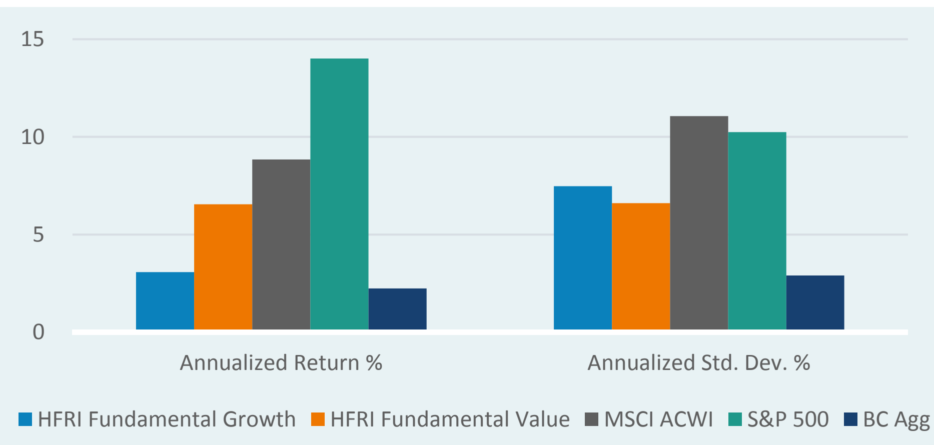
— Portfolio:

- More concentrated long positions than traditional equity strategies. Alpha shorts make up smaller part of portfolio

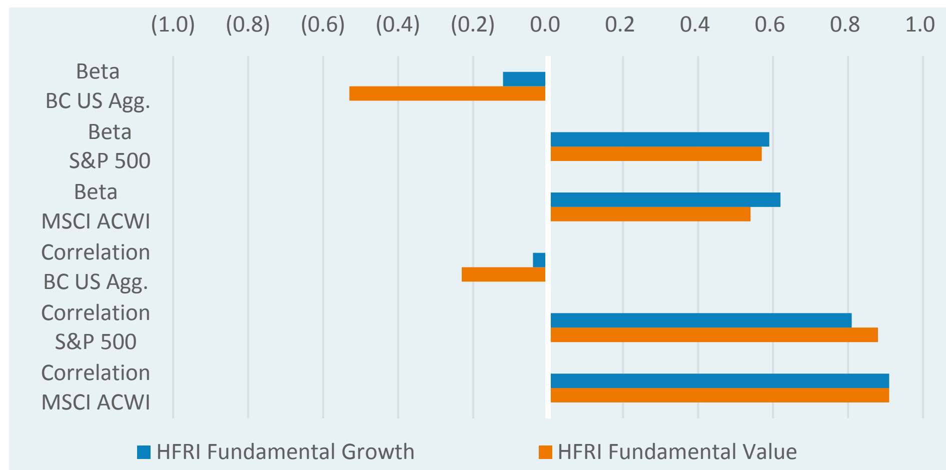
— Risk:

- Most funds are net long equities and have positive beta and high correlation to equity markets in both directions

PERFORMANCE AND RISK – LAST 5 YEARS



CORRELATION AND BETA – LAST 5 YEARS



Source: Morningstar, HFRI, MPI. As of 2/28/2017

Event driven – distressed & special situations

— Approach:

- Focus on stressed, distressed, bankruptcy and restructuring situations. Often process-driven with complex legal and financial situations.

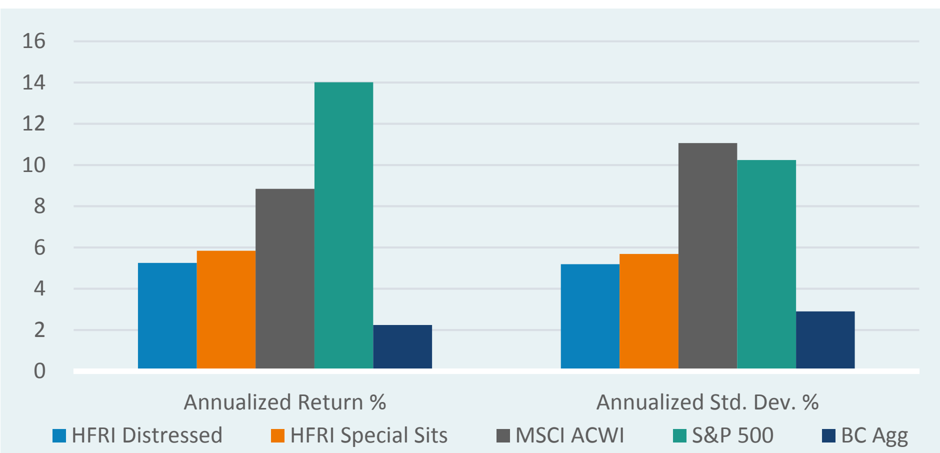
— Portfolio:

- Primarily long-biased credit with smaller allocations to equities and soft-catalyst events. May include significant allocations to merger arbitrage or credit arbitrage trades on an opportunistic basis.

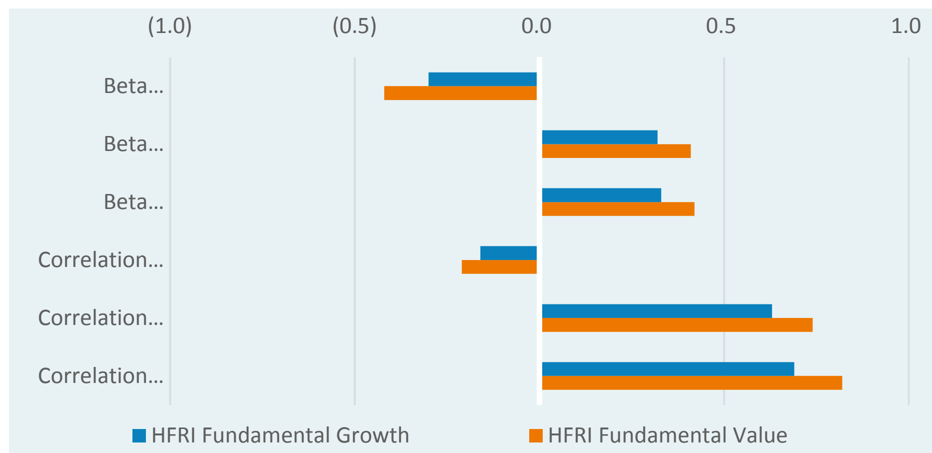
— Risk:

- Illiquidity is the primary concern but there may be significant market beta not easily observable due to the pricing frequency of securities held.

PERFORMANCE AND RISK – LAST 5 YEARS



CORRELATION AND BETA – LAST 5 YEARS



Relative value – corporate & convertibles

— Approach:

- Investments are predicated on fundamental analysis of the credit and capital structure and may be more long-alpha (long + hedge) or arbitrage.

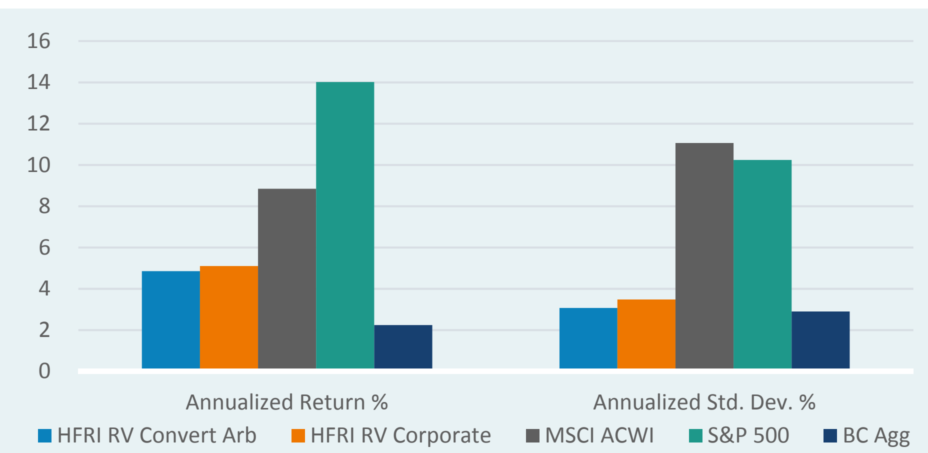
— Portfolio:

- Primarily long/short corporate credit with index hedging or traditional convertible arbitrage (long convertibles, short stocks).

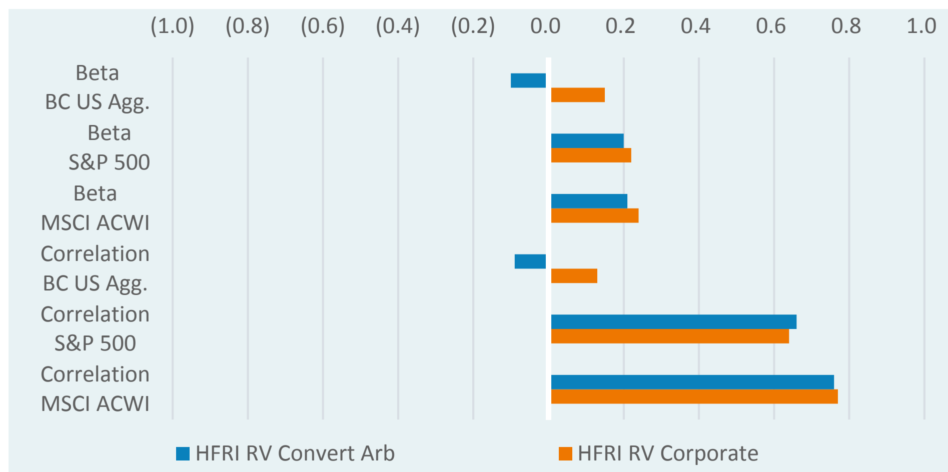
— Risk:

- Illiquidity may be a concern depending on the markets traded; Market beta and directionality considerations

PERFORMANCE AND RISK – LAST 5 YEARS



CORRELATION AND BETA – LAST 5 YEARS



Source: Morningstar, HFRI, MPI. As of 2/28/2017

Approaches to implementation

Decision making criteria

The Board will need to determine the appropriate governance process for implementing & overseeing the Plan's risk diversifying allocation

GOVERNANCE CONSIDERATIONS:

— Discretion for portfolio structure and manager selection

— Discretion for paperwork, funding & administrative treasury functions

— Ongoing oversight and maintenance

EVALUATION CRITERIA:

1. **Top-down expertise for designing portfolio strategy**
   - Macro perspective and industry knowledge
   - Initial portfolio construction and on-going tactical and strategic allocation shifts
2. **Bottom-up expertise for evaluating & selecting managers**
   - Industry connections and access is very important
   - Depth of skilled experts for understanding and assessing strategies' merits
   - Grasp and utilization of technology for assessing unique and opaque risks
3. **Independent expertise for evaluation of operational risks of managers**
   - Audit and "forensic" accounting expertise
   - Size and scale to influence managers to adopt best practices
4. **Administrative bandwidth for portfolio implementation and maintenance**
   - Document review and execution
   - Funding, rebalancing cash flows and other treasury functions
   - Valuation and audit related tasks

Commingled fund-of-funds structure

— Ease of implementation: High

- The most turn-key option: CCCERA can quickly gain exposure to a well diversified pool of risk diversifying strategies

— Manager due diligence & selection: Delegated to the fund-of-funds manager

— Cost: High

- May be least cost-effective
- Double-layer of fees: Management fee (50 – 100 bps) + performance fee (5 – 10% of profits) paid to fund-of-fund manager in addition to underlying manager fees (generally 2&20)

—Customization: Low

- Sub-strategies may not fully align with CCCERA's risk diversifying portfolio objectives
- Less control of strategic and tactical allocation decisions
- Co-investor risk

— Next step:

- RFP process would be required for CCCERA to identify fund-of-fund managers and strategies

Customized “fund-of-one” structure

— Ease of implementation: Moderate

- Would require additional Staff & Board time to determine strategic guidelines

— Manager due diligence & selection: Delegated to the fund-of-one manager

- Likely less diversified: Fewer underlying funds than a commingled fund-of-funds

— Cost: High

- May be more cost effective than a commingled fund-of-funds, but still less cost effective than other potential solutions
- Double-layer of fees

—Customization: High

- Sub-strategy allocation to be determined by CCCERA’s risk diversifying portfolio objectives
- Allows CCCERA more flexibility & control with structuring of guidelines and implementation
- Not impacted by liquidity of other investors

— Next step:

- RFP process would be required for CCCERA to identify fund-of-fund managers and proposed solutions

Specialty consultant

— Ease of implementation: Low

- Would require additional Staff & Board time to determine initial strategic guidelines
- Ongoing Board time required to monitor & modify (as-needed) manager line-up

— Manager due diligence & selection: Decision making authority retained by CCCERA Board

- Specialty consultant to make specific recommendations to the Board
- Likely less diversified: Fewer underlying funds than commingled fund-of-funds

— Cost: Most cost effective option

- Specialty consultants generally charge a flat fee
- Additional CCCERA legal expense to review fund documents

—Customization: High

- Sub-strategy allocation to be determined by CCCERA's risk diversifying portfolio objectives
- Allows CCCERA more flexibility & control with portfolio structuring

—Next step:

- RFP process would be required for CCCERA to identify specialty consultant

Summary of implementation approaches

		Commingled Fund of Funds		Fund of One		Specialty Consultant	
Responsible Party		CCCERA	Manager	CCCERA	Manager	CCCERA	Consultant
Portfolio Construction	Portfolio Due Diligence		✓		✓	✓	✓
	Investment Due Diligence		✓		✓	✓	✓
	Operational Due Diligence		✓		✓	✓	✓
	Fund Selection/Monitoring		✓		✓	✓	✓
	Administrative Functions		✓		✓	✓^	✓^
Costs *(plus underlying fund fees)*		Management fee + performance fee				Flat fee	
Advantages		• Turn-key; least amount of Board/Staff time required • Established track record • No CCCERA legal review of underlying HF documents required		• Customized solution • Increased flexibility • No CCCERA legal review of underlying HF documents required • Less on-going Board time relative to Specialty Consultant option		• Better fee economics • Customized solution • Option to outsource admin	
Disadvantages		• Highest fees • Lack of flexibility • Potential for over-diversification		• High fees • Less turn-key than commingled fund option • Additional Board time required to determine strategic guidelines		• Additional burden on Staff to work with HF Advisor • Additional Board time for manager selection, monitoring, and implementation • Additional CCCERA legal expense to review HF documents	

^Administrative Functions can be outsourced to HF Advisor for additional fee.

Appendix –
2016 Hedge Fund Environment

Verus

PERSPECTIVES THAT DRIVE ENTERPRISE SUCCESS

DECEMBER 2016

Hedge Fund Environment

Table of contents

Verus

VERUSINVESTMENTS.COM

SEATTLE 206-622-3700
LOS ANGELES 310-297-1777
SAN FRANCISCO 415-362-3484

Executive summary

Hedge funds remain a viable solution

HEDGE FUNDS PROVIDE ALTERNATIVE SOURCES OF RETURN WITH LESS BROAD MARKET RISK FACTOR SENSITIVITY

Beyond the drumbeat of negative hedge fund news, we see advantages with hedge funds offering less broad market risk factor sensitivity. While some managers adhere to a similar approach, many have abandoned low correlation and chased returns within equities, trading against equally skilled peers in an efficient market. No wonder investors are disappointed by meager returns that mimic the volatility of broad equity and bond markets.

HEDGE FUND STRATEGIES ARE INHERENTLY COMPLEX

Along with complexity comes increased costs related to regulatory compliance, risk management, operational infrastructure, and intense competition for skilled traders that elevates the compensation burden for the underlying manager. Managers charge a high fee relative to passive beta indexing and traditional long-only managers to offset these expenses; they also charge an incentive fee for performance since they ostensibly generate skill-based returns that are less correlated to the market. The manner by which these managers trade is often opaque or obfuscated to protect their edge or remain hidden from competitive peers. Each of these characteristics reduces the appeal of such strategies for many investors who largely ignore this alternative set of exposures altogether.

HEDGE FUND OF FUNDS OFFER EASY IMPLEMENTATION BUT FACE THEIR OWN HEADWINDS

Other investors desire the diversification benefits but for reasons of governance, lack of administrative support or ease of implementation choose a “manager of managers” approach via hedge funds-of-funds. This is an appropriate choice for many investors who do not have a sufficiently large enough allocation to achieve strategy diversification through direct investing. We detail some of the current headwinds facing the hedge fund-of-funds sector later in this report, and generally believe some of the larger managers have deep enough teams and broad enough coverage of the opportunity set to provide diversification, lower volatility, capital preservation and unique access to higher returning investment ideas. Unfortunately, many others are too banal in their strategy allocations or have too few assets to negotiate favorable economics with unique managers and thus achieve little more than replicating the broad hedge fund index, delivering similarly disappointing returns and higher than desired correlation to broad market risks.

Recent perspectives across hedge funds

LONG/SHORT EQUITY

— Significant market correlation early in the year was exacerbated by growth-to-value reversal and negative short alpha

— Crowding and long-biased exposure were actually beneficial for recovering returns despite volatility

— Pursue geographic diversity given the large number of managers and assets competing for opportunities in North America

EVENT DRIVEN

— Market sensitivity continues to obscure idiosyncratic returns; energy exposure explains credit returns

— Headline grabbing stumbles and high beta-sensitivity have contributed to significant capital withdrawal year-to-date

— This may present an opportunity to negotiate more favorable fee concessions on a go-forward basis

CTA AND GLOBAL MACRO

— Low risk-taking resulted in low returns but risk management has limited losses

— Trends have been few and not well-sustained

— The systematic sub-sector has garnered more attention from investors seeking strategies expected to exhibit lower correlation and less market directionality during equity and credit market drawdowns

RELATIVE VALUE

— Factor volatility negatively affected quantitative strategies but structured product fundamentals continue to improve despite an early year technical sell-off

— High yield debt remains relatively attractive in low yield environment despite a 40% spread tightening since late-February's deleveraging concerns

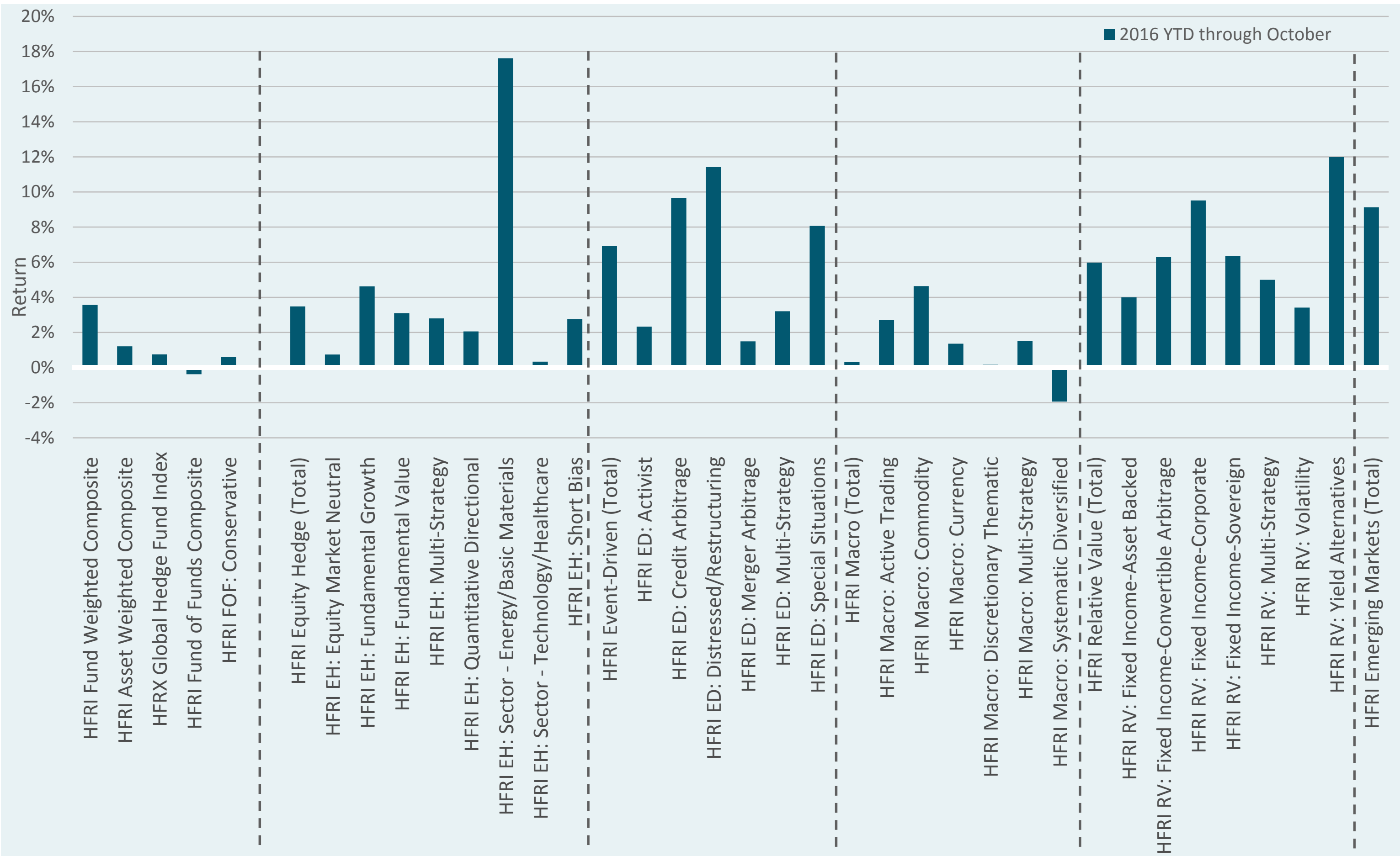
MULTI STRATEGY AND ALTERNATIVE BETA

— Headline risks take front page as insider trading charges lead to another large fund's demise and highlights the need for investors to focus on operational due diligence and the culture of compliance

— Concerns beginning to percolate about exacerbated volatility and/or crowding due to the growth of assets pursuing similar "naïve factor investing" strategies

Disaggregating 2016 performance

Disappointing absolute level of return for diversified portfolios of hedge funds



Investor return expectations not being met despite some outsized winners and few actual negative returns

Source: HFR. HFRX Global HF Index is asset weighted.

Hedge funds-of-funds

Industry facing first year of AUM decline

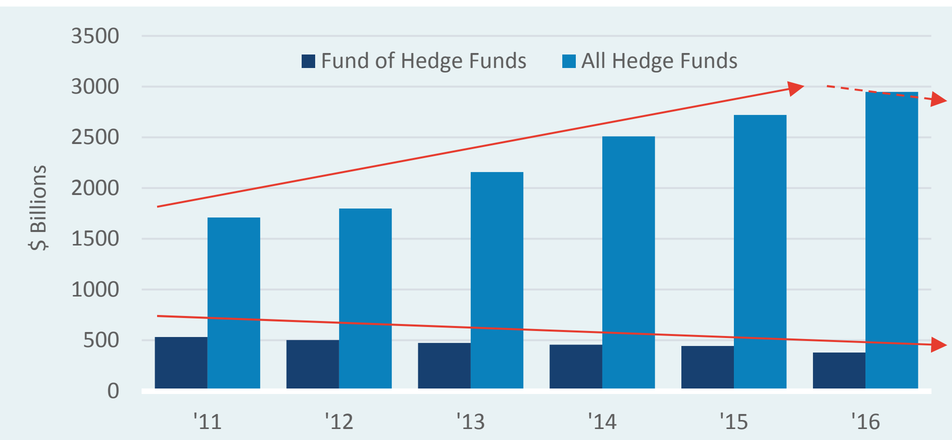
Disappointment with returns leads large investors to reduce allocations

— Hedge fund industry assets have grown by more than $1 trillion in the past five years while fund of hedge fund assets have fallen by more than $120 billion over the same time, down to $380 billion in 2016. It appears many investors are choosing to access these strategies directly.

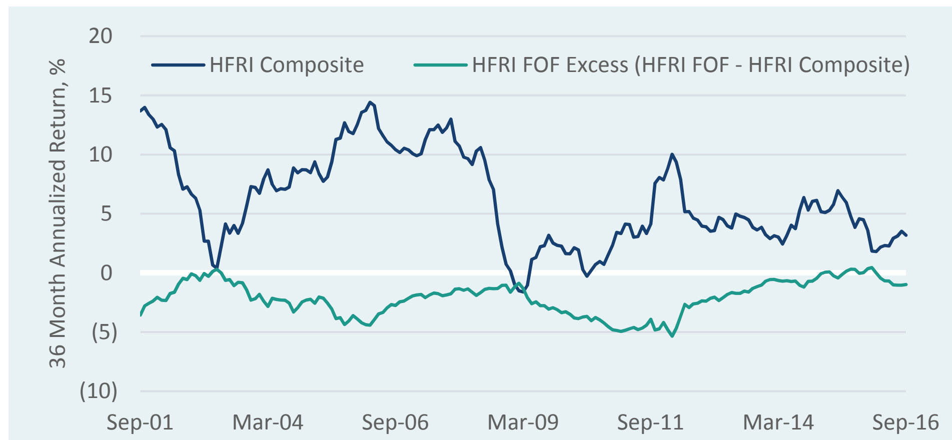
— Negative media portrayals of hedge fund strategies supported by continuing weak returns, higher market correlation and the perception of high fees. Recent focus on large pension investors reducing or completely eliminating hedge fund exposure has contributed to multiple quarters of net declines in assets under management for the "industry" year-to-date. Some investors have found that "alternative beta" products with superior liquidity, increased transparency, and lower fees are still able to generate reasonable return streams uncorrelated to traditional markets.

— The HFRI Fund-of-Fund index has consistently been unable to generate any excess return over the broader-market HFRI Composite; however, the actual performance experienced by direct hedge fund investors is also likely worse than what the "uninvestable" HFRI Composite suggests.

HEDGE FUND INDUSTRY ASSET GROWTH… AND PLATEAU OR DECLINE?



HFRI FOF EXCESS RETURNS VS. HFRI COMPOSITE



Source: BarclayHedge

Evolving to remain relevant

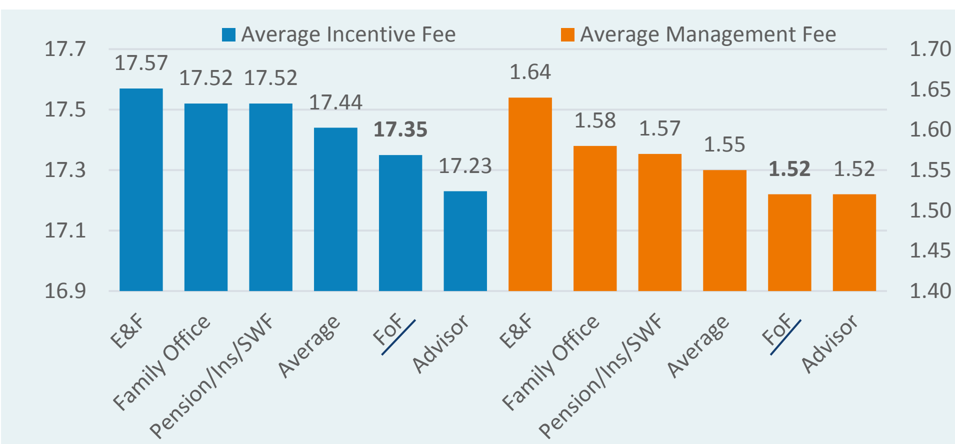
Improving margin, enhancing value-add, and getting close to the client

— Funds of funds are adapting to higher return and lower fee demands of investors in various ways, but generally are less liquid, more concentrated:

- Fees: Funds of funds use their size advantage and network relationships to obtain a higher proportion of incentive-based terms; this helps offset poor hedge fund performance and often buffers the aggregate fee burden toward “rack rate” achieved by smaller direct investors.
- Piece of the action: Many fund of funds avoid traditional commingled fund investments, opting instead for managed accounts, direct co-investment opportunities, launching internal hedge funds or PM platforms, seeding startup managers in exchange for economics or specializing in unique sectors by dedicating more resources to researching strategies outside traditional sub-categories and markets.
- Client-facing focus: Many of the larger funds-of-funds have deployed technology to lower implementation costs for large, fund-of-one investors by establishing less liquid sidecar investments in managers’ best ideas; they also secure longer-term fee revenue through hybrid structures that may involve drawdown features, multi-year incentive periods and claw-backs if future realizations are below expectation.

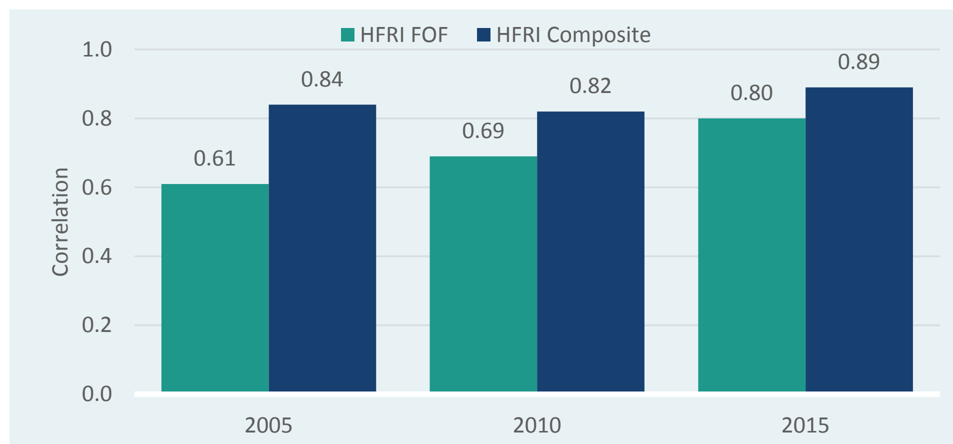
— Despite these improved terms, concern about higher correlation and inability to perform the desired role in portfolios remains a challenge.

FEES PAID BY INVESTOR TYPE



Source: Goldman Sachs

5-YEAR TRAILING CORRELATION TO S&P 500



Source: HFR, MPI, Verus. Returns as of 9/30/2016.

Hedge fund styles

Long/short equity

Growth-to-value reversal and negative short alpha

— Fundamental long/short equity strategies pursue views of intrinsic value or growth estimates that differ from consensus. More than 3,400 funds representing 27% of the index apply this most common strategy.

— These strategies are driven by dispersion of fundamentals, operating margins and general M&A activity in addition to volatility in the market.

— The first two months of the year left most equity strategies down significantly; those who maintained exposure were rewarded by a rapid rebound but those with significant short books were even more negatively impacted as the "most shorted" stocks positively outperformed; crowding was a surprise tailwind.

— Long-biased and more beta-directional strategies clawed back their initial losses while low net strategies continue to struggle.

— Short borrow rates have come down over the past 12-18 months as more funds use ETFs and futures baskets to hedge portfolios. We still prefer managers who focus on individual short alpha rather than broad beta hedging, but acknowledge the cost savings of the apparent evolution.

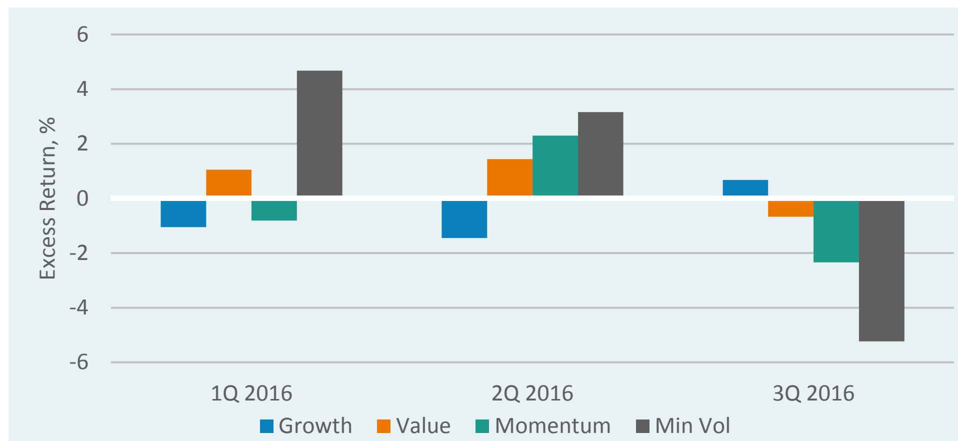
— Given the large number of managers and assets competing for opportunities in North America, clients should consider more geographic diversity.

LONG/SHORT EQUITY PERFORMANCE

Index	2014	2015	2016 YTD
HFRI Equity Hedge (Total)	1.8	(1.0)	4.2
HFRI EH: Fundamental Growth	(0.2)	(2.8)	4.8
HFRI EH: Fundamental Value	1.9	(1.4)	3.7
HFRI EH: Equity Market Neutral	3.1	4.3	0.9
HFRI EH: Short Bias	(3.9)	(1.6)	2.7
HFRI EH: Quantitative Directional	4.2	1.4	2.1
HFRI EH: Energy/Basic Materials	(6.5)	(13.7)	19.1
HFRI EH: Technology/Healthcare	9.4	5.6	3.0

Source: MPI, HFR, as of 9/30/15

FACTOR PERFORMANCE VS. MSCI USA INDEX



Source: MPI, MSCI, as of 9/30/16. MSCI USA factor indices minus MSCI USA Index.

Event driven

Market sensitivity continues to obscure idiosyncratic returns

— Event Driven strategies target equity or debt securities involved in mergers, acquisitions, corporate events, spinouts and debt refinancing as well as distressed, bankruptcy and capital restructuring. This category of funds represents 10% of the broad index and 900 funds.

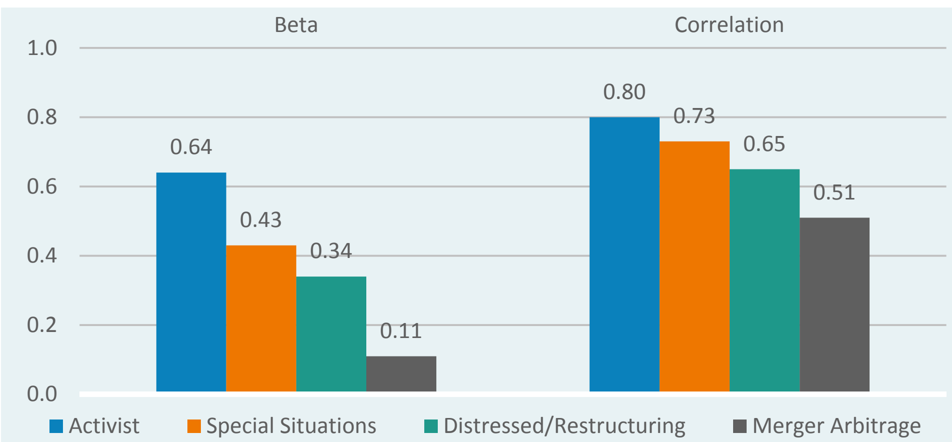
— These strategies are driven by M&A volume and deal spreads, debt maturities leading to defaults, credit availability, the level of activism and general corporate activity. Commodity price volatility is expected to contribute to an uptick in distress and defaults, although plenty of capital exists on sidelines.

— Merger deal closures, Lehman Brothers and Icelandic bank liquidations as well as Argentina's debt settlement contributed significantly this year.

— M&A activity has lightened up from past few years, but credit markets remain supportive, especially as central banks wade into investment grade credit markets; on the other hand, the healthcare sector has been negatively affected by regulatory challenges, especially related to inversions.

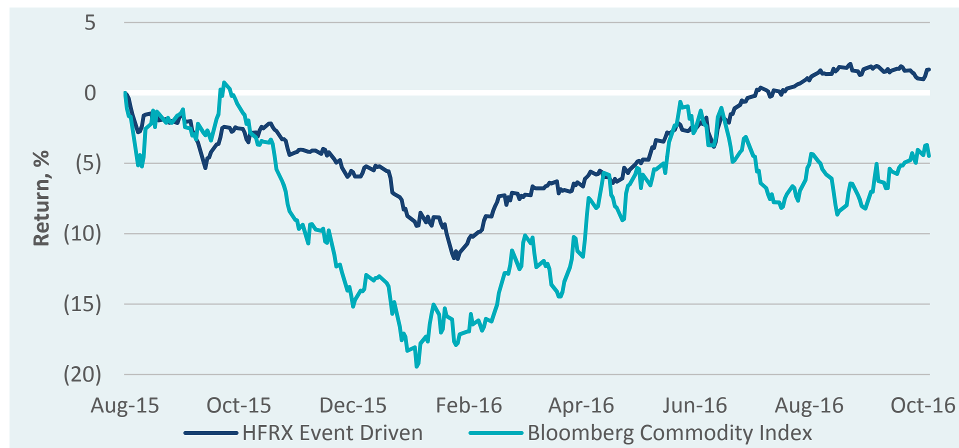
— Headline grabbing stumbles and high beta-sensitivity have contributed to this sector of strategies suffering the most capital withdrawal year-to-date. This in turn provides investors an opportunity to negotiate more favorable fee concessions on a go-forward basis with these managers.

SENSITIVITY TO S&P 500 OVER LAST THREE YEARS



Source: MPI, Verus, HFR

REBOUND IN COMMODITIES FUELED EVENT DRIVEN RECOVERY



Source: MPI, HFR. Daily returns from 8/17/15 through 10/20/16.

CTA and global macro

Low risk-taking resulting in low returns; few sustained trends to ride

— Systematic CTAs seek trends they can exploit across sovereign rates, equities and commodities, while discretionary macro managers attempt to position portfolios to benefit from anticipated market direction. Approximately 2,800 firms classify themselves as systematic or discretionary macro representing a third of all hedge fund assets.

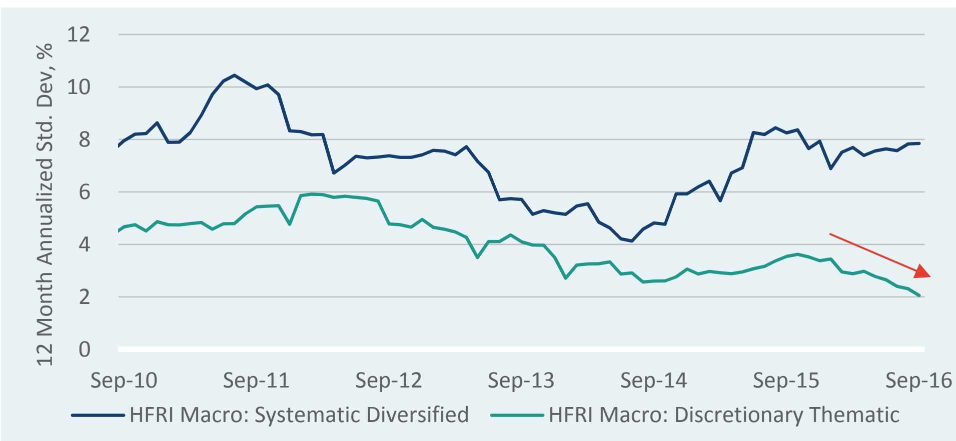
— These strategies are driven by central bank policies, currency volatility, and strong directional trends.

— Japanese yen strength has been a common refrain; in addition, continued accommodative policies from developed central banks are credited with supporting emerging markets' surprising strength despite significant geopolitical risks to the contrary; Chinese yuan continues to steadily weaken.

— Anecdotally, managers have been hesitant to invest with any conviction this year as exhibited by low VaR exposure across many of the discretionary macro managers we follow. This has also led to increased redemptions and fee concessions from otherwise "premium brand name" managers.

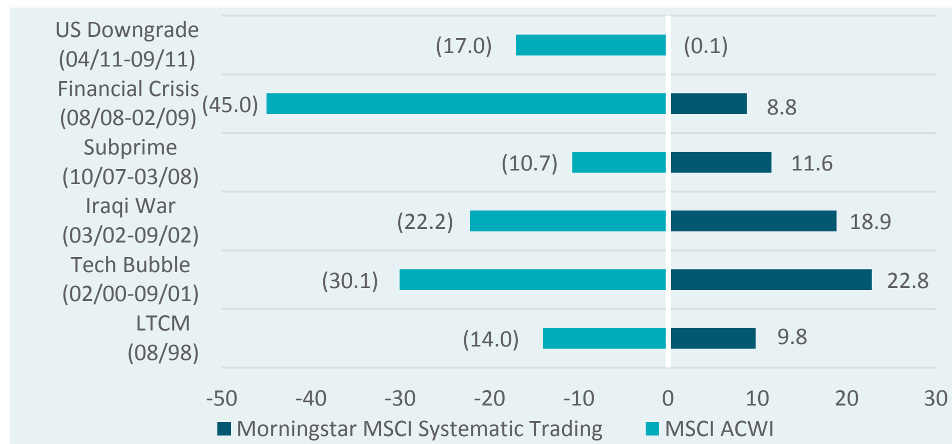
— The systematic sub-sector has garnered more recent attention from investors as they seek strategies expected to exhibit much lower correlation and less market directionality during equity and credit market drawdowns. We believe these managers will continue to serve that role in portfolios.

REDUCE RISK IN ENVIRONMENTS WITH FEW OPPORTUNITIES, NO TRENDS



Source: Bloomberg, as of 10/2/15

MANAGED FUTURES PERFORMANCE DURING CRISIS PERIODS



Source: MPI, Morningstar

Relative value

Factor volatility increases, structured fundamentals improve

— Relative value strategies span a broad spectrum of securities (rates, credit, structured) and often employ significant leverage to magnify small differences in pricing. These mostly quantitative strategies remain neutral to market volatility and direction. Approximately 1,500 funds represent 17% of hedge fund assets.

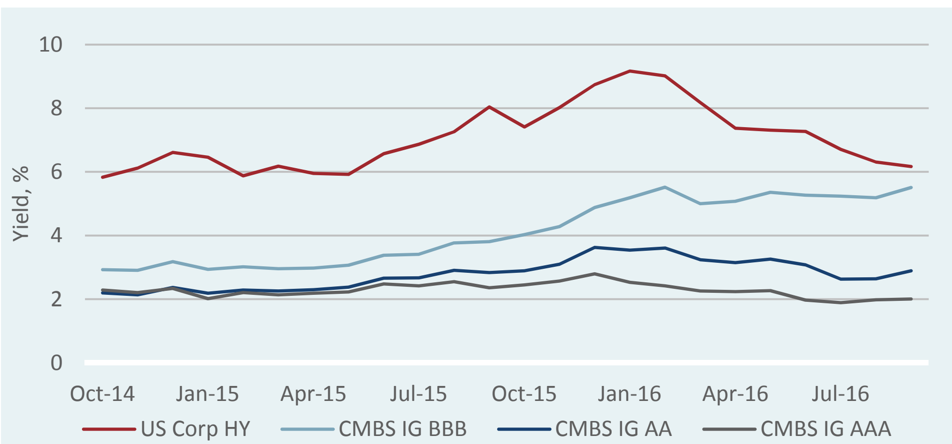
— These strategies are driven by frequency and size of sovereign issuance and corporate M&A activity, as well as credit tightness, pace of mortgage repayments and ability to margin trades.

— High yield remains relatively attractive in low yield environment despite a 40% spread tightening since late-February's deleveraging concerns.

— Structured MBS credit benefitted from settlement payouts and strong fundamentals; mezzanine CLO bonds were negatively impacted by credit price sensitivity, although upcoming call optionality suggests strong technical support in this area; high retail CMBS appear ripe for rising defaults.

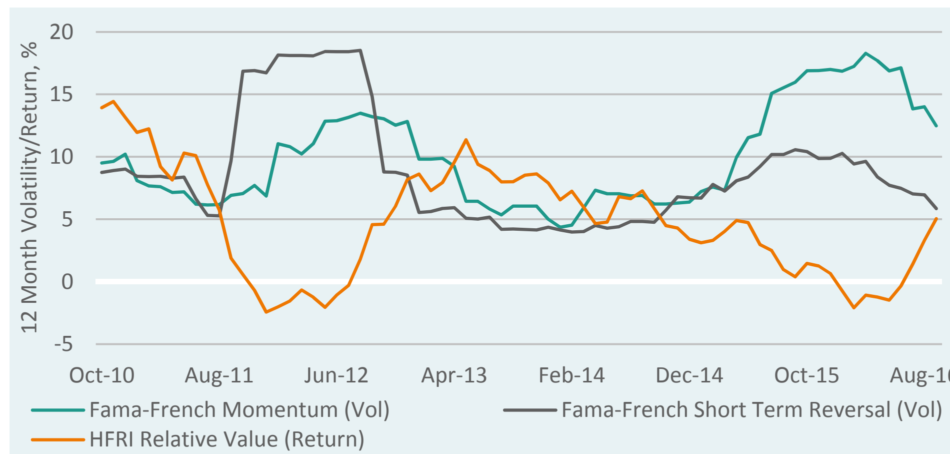
— The low volatility environment and low equity dispersion, further complicated by heightened factor volatility, has negatively affected statistical arbitrage and fundamental market neutral trading strategies that require stable relationships among signals and pairs.

CREDIT SPREADS RE-TIGHTENED DRAMATICALLY SINCE FEBRUARY



Source: Barclays Capital Indices, Bloomberg, as of 8/31/15

HFRI RELATIVE VALUE RETURNS VS. FACTOR VOLATILITY



Source: MPI, HFR

Multi-strategy and alternative beta

Headline risks take front page and fortune reversals in momentum

— Alternative or "exotic" beta strategies hinge on the existence of common factors that many hedged strategies employ to generate a substantial portion of their overall returns. Many of these factors can be obtained with relatively less expense than through "2 and 20" vehicles.

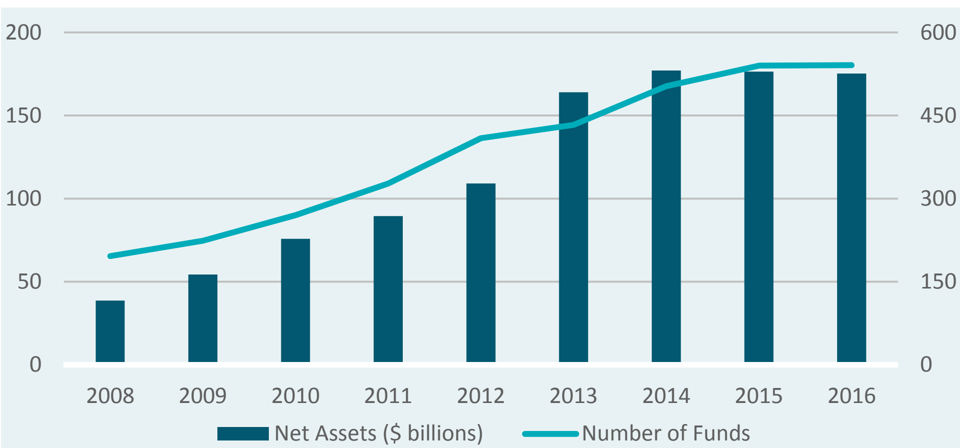
— Examples of "naïve" strategy or factor replication include merger arbitrage, delta hedged convertible bond trading, and cross-asset momentum.

— Style factors have demonstrated persistent ability to explain significant proportions of active hedge fund manager returns, providing support for active risk benchmarks and explicit fee reductions.

— Principal-Agent problems, covered aggressively by the media in recent months, persist in the competitive arena of multi-PM, multi-strategy firms so a focus on operational due diligence and the culture of compliance is an important step in the underwriting and evaluation process.

— Significant AUM growth among high quality risk premia strategies raises potential concerns about crowding which in turn can lead to increased volatility and rapid reversals and, at the same time, mute return potential; we continue to monitor performance and risk drivers in this space.

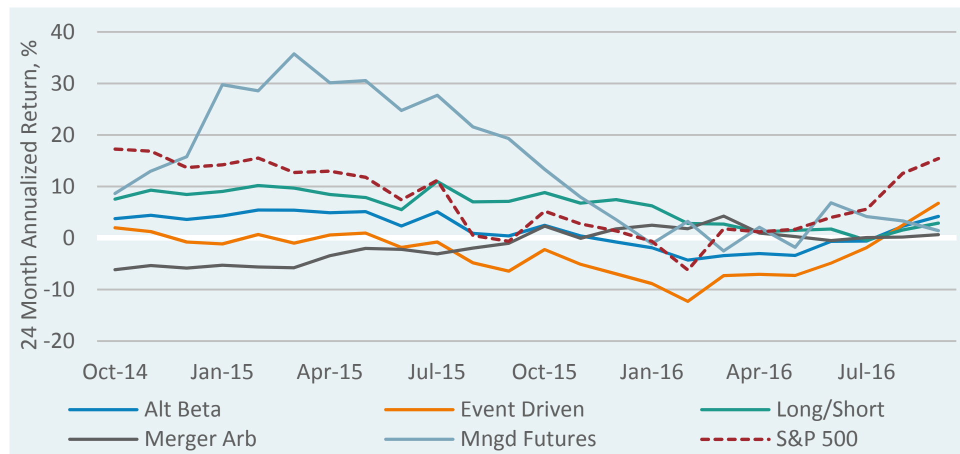
GROWTH OF "LIQUID ALT" AUM AND FUND COUNT SINCE 2008



Comprises all US Open End Funds (excluding FOF) included in the "Alternative" US Category group.

Source: Morningstar

ALT BETA INDEX PERFORMANCE – LAST TWO YEARS



Credit Suisse LAB (Liquid Alternative Beta) Indices

Source: Morningstar, MPI

Summary

Forward-looking views across styles

We recognize that the broad, categorical statements and role definitions below do not capture the diversity of managers' approaches. While no two managers within a given strategy are the same, we believe this framework is useful for setting investors' expectations for performance and portfolio diversification given the likely market environment impacting their exposures.

Strategy	Strategy Role in Portfolio	Current Opportunity Set	Intermediate Outlook
Multi-Strategy / Alternative Beta	Diversifier	— Strong ability to access multiple styles, diversify factor exposures, risk management and capital efficient infrastructure may allow access to less liquid opportunities. — Concern over rapid increase in AUM for liquid alternatives, varying product quality and skill.	Favorable
Event Driven	Return Enhancing	— M&A volume remains robust, illiquid credit volatility hints at coming distress which would benefit those with more process-driven or restructuring approach; prefer nimble operators. — Significant alignment with beta dampens enthusiasm for most managers' approaches.	Negative
Long/Short Equity	Lower Volatility Higher Sharpe	— Continued expectation of the victory of fundamentals over factor rotations; longer-biased strategies have posted better absolute returns at the risk of exposure to beta. — Ability to preserve capital during drawdowns and capture long-short spread are attractive.	Neutral
CTA / Macro	Countercyclical Diversifier	— Hints that unconventional monetary policy may be on the wane suggest an improving opportunity set lies on the horizon, but most managers have little conviction yet. — Anticipate longer-term bond and currency trends; emerging markets offer good volatility.	Favorable
Relative Value	Diversifier	— Tight spreads across all assets remains a headwind to relative value strategies trying to capture fundamental, sentiment, technical and flow-driven mispricing across securities. — Returns from convergence of mispriced fundamentals and limited exposure to broad equity, credit or rate factors remains one of the purest expressions of hedging despite low absolute returns and required levels of financing to implement these strategies.	Favorable

Notices & disclosures

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The material may include estimates, outlooks, projections and other "forward-looking statements." Such statements can be identified by the use of terminology such as "believes," "expects," "may," "will," "should," "anticipates," or the negative of any of the foregoing or comparable terminology, or by discussion of strategy, or assumptions such as economic conditions underlying other statements. No assurance can be given that future results described or implied by any forward-looking information will be achieved. Actual events may differ significantly from those presented. Investing entails risks, including possible loss of principal. Risk controls and models do not promise any level of performance or guarantee against loss of principal.

Contra Costa County Employees' Retirement Association
Liquidity Report – March 2017

March 2017 Performance

	Cash Flow	Coverage Ratio
Benefit Cash Flow Projected by Model	$37,500,000	
Liquidity Sub-Portfolio Cash Flow	$37,500,000	100%
Actual Benefits Paid	$35,388,634	106%
Next Month's Projected Benefit Payment	*$37,500,000*	

Monthly Manager Positioning - March 2017

	Beginning Market Value	Liquidity Program Cash Flow	Market Value Change/Other Activity	Ending Market Value
Sit	$432,895,801	-$750,000	-$483,818	$431,661,983
DFA	$378,249,261	-$12,250,000	+$386,548	$366,385,809
Insight	$777,818,586	-$24,500,000	+$647,536	$753,966,122
Liquidity Sub-Portfolio	**$1,588,963,648**	**-$37,500,000**	**+$550,266**	**$1,552,013,914**
Cash	$83,397,592	+$2,111,366	+$75,208,908	$160,717,866
Liquidity + Cash	**$1,672,361,240**	**-$35,388,634**	**+$4,981,906**	**$1,712,731,780**

Functional Roles

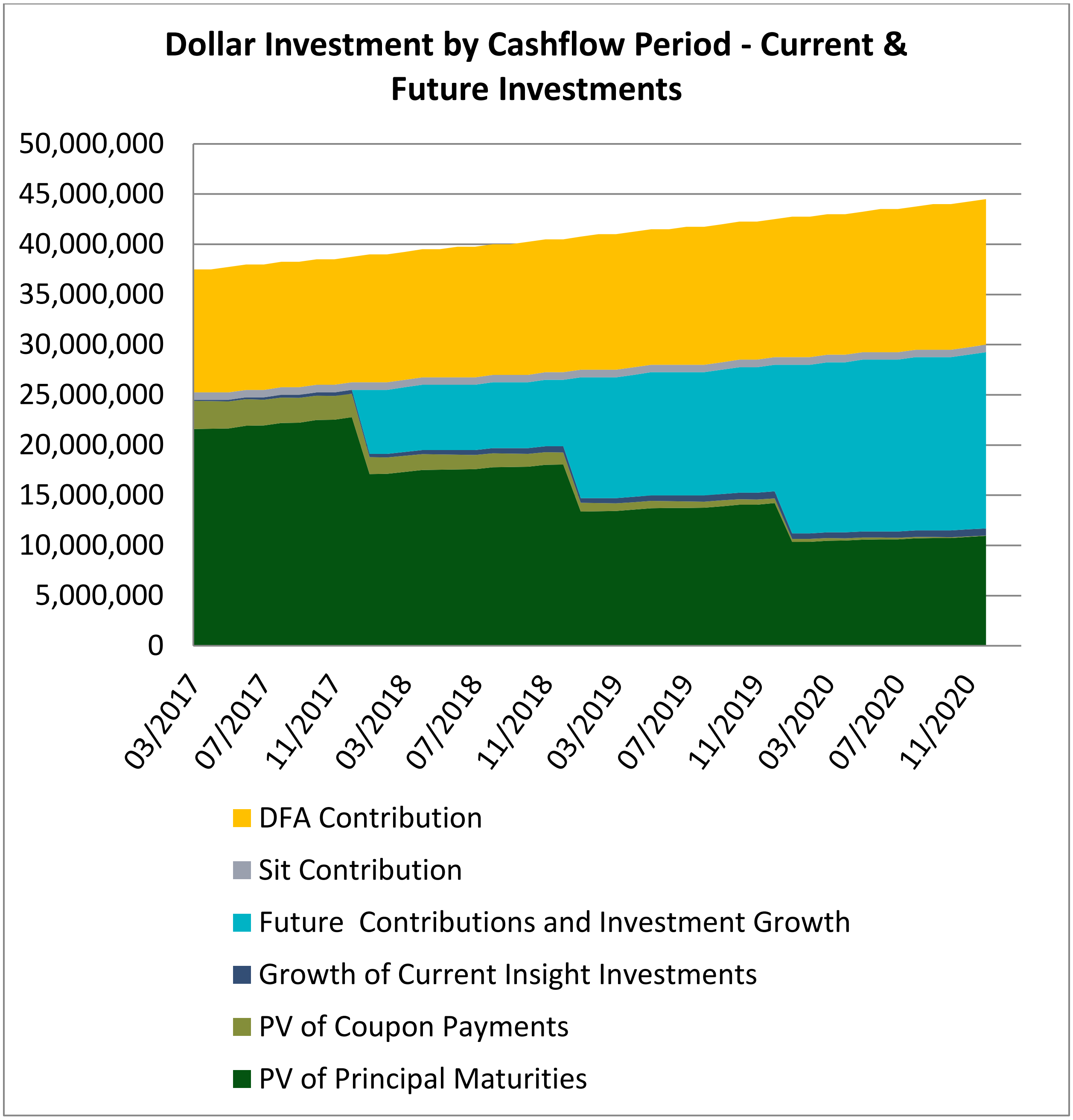
Manager	Portfolio Characteristics	Liquidity Contribution
Sit	High quality portfolio of small balance, government guaranteed mortgages with higher yields.	Pays out net income on monthly basis. We expect this income to rise somewhat in the upcoming year.
DFA	High quality, short duration portfolio of liquid, low volatility characteristics.	Pays out a pre-determined monthly amount. DFA sources liquidity from across their portfolio.
Insight	Buy and maintain (limited trading) portfolio of high quality, short duration, primarily corporates.	Completion portfolio makes a payment through net income and bond maturities that bridges the gap between other managers and projected payment.
Cash	STIF account at custodial bank.	Buffer in the event of any Liquidity shortfall/excess.

Notes

The third monthly cash flow from the liquidity program was completed on March 23, 2017 and covered well in excess of the actual benefit payments. The excess cash flow of approximately $2.1 mm (similar to prior months) is being held in the cash account. We continue to monitor the coverage ratio and may adjust our forecasting model if we find a systematic pattern of excess coverage.

Cash Flow Structure

The chart below shows the sources of cash flow for the next several years of CCCERA's projected benefit payments. This table will change slightly as the model is tweaked and as the portfolios receive new rounds of funding each July as part of the Annual Funding Plan.



MEMORANDUM

Date: April 26, 2017

To: CCCERA Board of Retirement

From: Gail Strohl, Chief Executive Officer

Subject: Consider and take possible action to authorize the CEO to extend the contract with Koff & Associates for a total compensation and classification study.

In 2015, the Board entered into a contract with Koff and Associates for a total compensation and classification study. The fee to provide this study was not to exceed $38,528. In 2016, this study was completed and implemented for all unrepresented classifications and one represented classification. In order to complete the study for all classifications, it is necessary to extend the original contract amount by $15,375.

Recommendation:

Consider and take possible action to authorize the CEO to extend the contract with Koff & Associates for a total compensation and classification study.

MEMORANDUM

Date: April 26, 2017

To: Members of the CCCERA Board of Retirement

From: John Phillips, CCCERA Board Chairperson

Subject: Appointment of Ad Hoc Advisory Committee to Review the CEO Compensation Package

---

In order to assist the Board in reviewing the CEO compensation package, I recommend establishing an ad hoc advisory committee. The CEO Compensation Committee will consist of three trustees, including a committee chairperson and vice-chairperson. The purpose of the ad hoc committee will be limited to reviewing the CEO compensation package and recommending appropriate changes to the full Board. The committee is expected to make a recommendation to the full Board no later than June 2017.

1355 Willow Way Suite 221 Concord CA 94520 925.521.3960 FAX: 925.521.3969 *www.cccera.org*

CCCERA Board Meetings 2017

January

Su	Mo	Tu	We	Th	Fr	Sa
1	H	3	4	5	6	7
8	9	10	B	12	13	14
15	H	17	18	19	20	21
22	23	24	B	26	27	28
29	30	31				

2 - New Year's Day Observed
16 - Martin Luther King Jr. Day

February

Su	Mo	Tu	We	Th	Fr	Sa
			1	2	3	4
5	6	7	B	9	10	11
12	13	14	15	16	17	18
19	H	21	B	23	24	25
26	27	28				

20 - Presidents' Day

March

Su	Mo	Tu	We	Th	Fr	Sa
			1	2	3	C
C	C	C	B	9	10	11
12	13	14	15	16	17	18
19	20	21	B	23	24	25
26	27	28	29	30	31	

April

Su	Mo	Tu	We	Th	Fr	Sa
						1
2	3	4	5	6	7	8
9	10	11	B	13	14	15
16	17	18	19	20	21	22
23	24	25	B	27	28	29
30						

May

Su	Mo	Tu	We	Th	Fr	Sa
	1	2	3	4	5	6
7	8	9	B	11	12	13
14	15	S	S	S	S	20
21	22	23	B	25	26	27
28	H	30	31			

29 - Memorial Day

June

Su	Mo	Tu	We	Th	Fr	Sa
				1	2	3
4	5	6	7	8	9	10
11	12	13	B	15	16	17
18	19	20	21	22	23	24
25	26	27	B	29	30	

July

Su	Mo	Tu	We	Th	Fr	Sa
						1
2	3	H	5	6	7	8
9	10	11	B	13	14	15
16	17	18	19	20	21	22
23	24	25	B	27	28	29
30	31					

4 - Independence Day

August

Su	Mo	Tu	We	Th	Fr	Sa
		1	2	3	4	5
6	7	8	B	10	11	12
13	14	15	16	17	18	19
20	21	22	B	24	25	26
27	28	29	30	31		

September

Su	Mo	Tu	We	Th	Fr	Sa
					1	2
3	H	5	6	7	8	9
10	11	12	B	14	15	16
17	18	19	20	21	22	23
24	25	26	B	28	29	30

4 - Labor Day

October

Su	Mo	Tu	We	Th	Fr	Sa
1	2	3	4	5	6	7
8	9	10	B	12	13	14
15	16	17	18	19	20	21
22	23	24	B	26	27	28
29	30	31				

November

Su	Mo	Tu	We	Th	Fr	Sa
			1	2	3	4
5	6	7	B	9	H	11
12	13	S	S	S	S	18
19	20	B	22	H	H	25
26	27	28	29	30		

10 - Veterans Day
23 and 24 - Thanksgiving

December

Su	Mo	Tu	We	Th	Fr	Sa
					1	2
3	4	5	6	7	8	9
10	11	12	B	14	15	16
17	18	19	20	21	22	23
24	H	26	27	28	29	30
31						

25 - Christmas Day Observed

B Board Meeting

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Eff. 4.26.17

California Association of Public Retirement Systems

CALAPRS

EDUCATION · COMMUNICATION · NETWORKING

Trustees' Roundtable

Friday, June 2, 2017

From 8:30am to 3:30pm

Marriott Burbank
2500 N Hollywood Way
Burbank, CA 91505
1-818-843-6000

Reserve your room >>
Cut-off Date: May 3, 2017

Get Directions >>
Closest Airport: BUR
Parking: $21/day

Your Trustees' Roundtable Chair, Yves Chery, LACERA, is hard at work putting together a great program for the upcoming Trustees' Roundtable on June 2, in Burbank, CA.

To submit suggested topics of discussion, please email Yves Chery at ychery2013@gmail.com.

The agenda will be emailed to you and posted on the CALAPRS website as soon as it is available. The program will begin at 8:30 a.m. and end by 3:30 p.m. Breakfast and lunch are provided.

Register Now

Reserve your hotel room by May 3

CALAPRS has secured a discounted room block at the Marriott Burbank at the rate of $198/night + tax. Make your reservation online or by calling 1-818-843-6000 and asking for the CALAPRS rate.

Certificate of Achievement in Public Plan Policy (CAPPP®) - Pension Part II

Thursday, June 15 - Friday, June 16, 2017
Hilton San Jose, San Jose, CA

PENSIONS

#IFCAPPP

HEALTH

THURSDAY, JUNE 15

8:00 am – 12:00 pm

CAPP201 Plan Design

Mark C. Olleman, EA, FSA, MAAA Instructor
Consulting Actuary and Principal
Milliman Inc.
Seattle, WA

• Adequacy funding and risks of retirement • An overview of basic retirement plan components • The features unique to public plans • The structure of alternative plan designs • A review of the legislative landscape • Case studies

1:00 pm – 5:00 pm

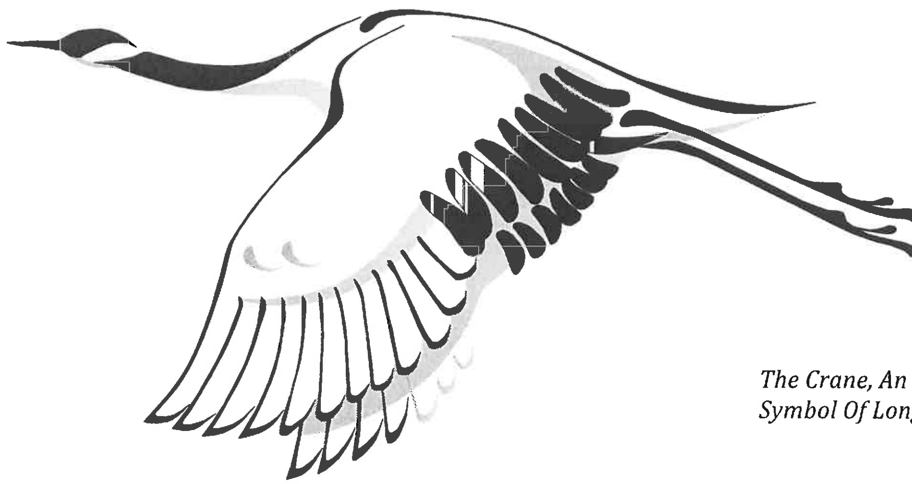
CAPP202 Investments

Wendell L. Perkins, CFA Instructor
Senior Managing Director and Senior Portfolio Manager
Manulife Asset Management
Chicago, IL

• Setting goals and objectives for developing an investment policy • Asset allocation strategies • An explanation of asset classes • Selecting and monitoring investment performance • Components of an investment report

PRINCIPLES OF PENSION MANAGEMENT

A COURSE FOR TRUSTEES



The Crane, An Age-Old Symbol Of Long Life

Sponsored By

CALAPRS

EDUCATION · COMMUNICATION · NETWORKING

California Association of Public Retirement Systems

to be held at the

Pepperdine University

Villa Graziadio Executive Center

August 28-31, 2017

PRINCIPLES OF PENSION MANAGEMENT

A Course For Trustees

A COURSE FOR TRUSTEES

CALAPRS' MISSION

"CALAPRS sponsors educational forums for sharing information and exchanging ideas among Trustees and staff to enhance their ability to administer public pension benefits and manage investments consistent with their fiduciary duty."

ABOUT THE COURSE

Public Pension Fund Trustees bear a heavy fiduciary burden. On a cumulative basis, California's Constitution holds our members' **350** Trustees accountable for the stewardship of more than **$450** Billion in retirement fund assets. **40** California public pension systems belong to CALAPRS. Over the past ten years, Trustees of our member retirement systems have participated in this unique training program presented exclusively for California public retirement system board members. This training focuses on the practical aspects of our Trustees' duties.

Now in its second year at the Pepperdine University Executive Center, adjacent to Pepperdine's graduate schools, CALAPRS continues to offer the same high-caliber coursework and faculty it has offered for the past twenty years on the Stanford University campus.

WHO SHOULD ATTEND?

The course is for Trustees. Attendance is recommended within the first year after assuming office. Experienced Trustees will use the program as a comprehensive refresher course.

For more experienced Trustees, the Advanced Principles of Pension Management course at UCLA is suggested. This course is a pre-requisite for admission to the UCLA course.

WHY ATTEND?

- To gain insight into public pension policy issues
- To discuss alternative solutions to common problems
- To understand the complexities involved in administering public pension plans
- To appreciate the differences and similarities among California public pension plans
- To network with other Trustees and pension professionals
- To increase familiarity with pension terminology and concepts
- To receive the ethics training required for new Trustees

FACULTY

The Course will be taught by public pension practitioners, including Trustees, Consultants, Actuaries, Investment Managers, Attorneys & Administrators.

THE CURRICULUM COMMITTEE

Principles of Pension Management is managed by CALAPRS' Curriculum Committee led by the course Dean:
David Kehler, Retirement Administrator, Tulare County Employees' Retirement Association.

LOGISTICS

California Association of Public Retirement Systems:
Kerry Parker, Administrator
Alison Corley, Administrator
Chezka Solon, Meeting Manager

PRINCIPLES OF PENSION MANAGEMENT

A Course For Trustees

THE CURRICULUM

Each participant must attend the full 3 days of intensive training. Sessions combine team teaching, case studies and mock board problem solving. All course materials are based on actual California public pension fund law, policies, practices and problems.

The *Wednesday Evening Case Study* will provide practical experience in a disability hearing. The *Thursday Evening Session* will consist of a 90-minute **TEAM CASE STUDY** to resolve significant Board of Retirement issues.

MONDAY – AUGUST 28

6:00 PM	*Reception & Dinner*
7:30 PM	**Pensions & Trustees - What, Who, How, Why?**

TUESDAY – AUGUST 29

8:00 AM	**What's the Big Deal About Being A Fiduciary?**
	AB1234 Ethics Training for Public Fund Trustees
	What Benefits Do We Provide and What is the Board's Role?
	What are the Key Issues in Disability Retirement?
	How Do Trustees Resolve Disability Issues?
5:30 PM	*Reception & Dinner*
6:30 PM	**Case Study: Disability Hearing**

WEDNESDAY – AUGUST 30

8:00 AM	**How Should We Manage Our Pension Liabilities?**
	Investment Policy Basics
	How Should We Manage Our Investment Program?
5:45 PM	*Networking Dinner*
6:30PM	**Case Study: Who Are Our Stakeholders and What Are Our Roles?**

THURSDAY – AUGUST 31

8:00 AM	**How Should a Board Function?**
	Course Summary
11:30 AM	*Certificate Luncheon* and **Final Course Evaluation**

CERTIFICATE OF COMPLETION

Participants who successfully complete the course will receive a Certificate of Completion as well as a Certificate for completion of the AB1234 Ethics in Public Service. Trustees must attend all sessions to receive a completion certificate, at the discretion of the course faculty, and attendees who do not complete the course may return the following year to make up missed sessions at no additional charge.

LOCATION & LODGING

The program and lodging will be located at Villa Graziadio Executive Center, Pepperdine University, 24255 Pacific Coast Highway, Malibu, CA 90263. Lodging will be provided on campus for the nights of August 28, 29, and 30 and will be arranged by CALAPRS as part of the course for all participants. Meals will also be provided beginning with dinner on August 28 and ending with lunch on August 31.

ENROLLMENT

Minimum 20, Maximum 34 Trustees.

APPLICATION & TUITION

All applications must be received no later than **JUNE 9, 2017**. Unsigned applications will be returned to the sender for signature. Accepted applicants will be notified via email between **JUNE 12-13, 2017**. Tuition of $2,500 (includes lodging, meals and materials) must be paid no later than **JULY 15, 2017.**

CALAPRS

EDUCATION · COMMUNICATION · NETWORKING

CALIFORNIA ASSOCIATION OF PUBLIC RETIREMENT SYSTEMS'

PRINCIPLES OF PENSION MANAGEMENT

A Course For Trustees

APPLICATION FOR ENROLLMENT 2017

APPLICATIONS WITH BOTH REQUIRED SIGNATURES MUST BE RECEIVED BY JUNE 9, 2017.

Applicants must be trustees of a California public employee pension system. Attendance is recommended within the first year after assuming office. Experienced trustees will use the program as a comprehensive refresher course. Each system may enroll one Trustee as a "Delegate" and designate one additional Trustee as "1st Alternate" with the remainder as "2nd Alternate". Delegates will be admitted first. If vacancies remain, 1st Alternates will be admitted in the order received, followed by 2nd Alternates. Accepted applicants will be notified June 12-13, 2017.

Applicant Information

Trustee's Name (*for certificate/name badge*):____________________

Retirement System:____________________

Trustee Type: ☐ Elected ☐ Appointed ☐ Ex-Officio Date Became a Trustee:__________ Date Term Expires:__________

Trustee's Mailing Address:____________________

Trustee's Phone:____________________ Trustees' Email:____________________

Administrative Contact (*name, email*):____________________

Emergency Contact (*name, phone*):____________________

Dietary Restrictions (*if any*):____________________

BIOGRAPHY: Email Trustee's biography (≤150 words) to register@calaprs.org for printing in the attendee binder.

COURSE MATERIALS (select preference): ☐ Printed materials in a binder OR ☐ **Go Green** Digital materials (PDF and mobile compatible links to be sent out in advance)

Applicant Agreement

If admitted, I agree to attend the program in full and acknowledge that missing one or more sessions may result in forfeiture of my Certificate of Completion, as determined by the Faculty.

Trustee Signature (*required*)____________________ Date:__________

Administrator Approval

Applicant Designation: ☐ Delegate ☐ 1st Alternate ☐ 2nd Alternate

Administrator Name:____________________ Email:____________________

Administrator Signature (*required*):____________________

Tuition Payment

Tuition of $2,500 must be paid in full by July 15, 2017 and includes all meals, materials, and lodging. Payable by check only (no credit cards) to "CALAPRS". This application form serves as an invoice. No additional invoice will be sent. Cancellation refunds may be provided to the extent that costs are not incurred by CALAPRS.

On campus lodging is mandatory for all participants. CALAPRS will make the reservations and payment for the nights of August 28, 29, and 30 at the Villa Graziadio Executive Center on the Pepperdine campus.

RETURN COMPLETED APPLICATION BY JUNE 9, 2017

Mail, email or fax form and payment to
CALAPRS
575 Market Street, Suite 2125
San Francisco, CA 94105
Phone: 415-764-4860 Fax: 415-764-4915
register@calaprs.org www.calaprs.org

If, due to a disability, you have any special needs, call 415-764-4860 to let us know. We will do our best to accommodate them.