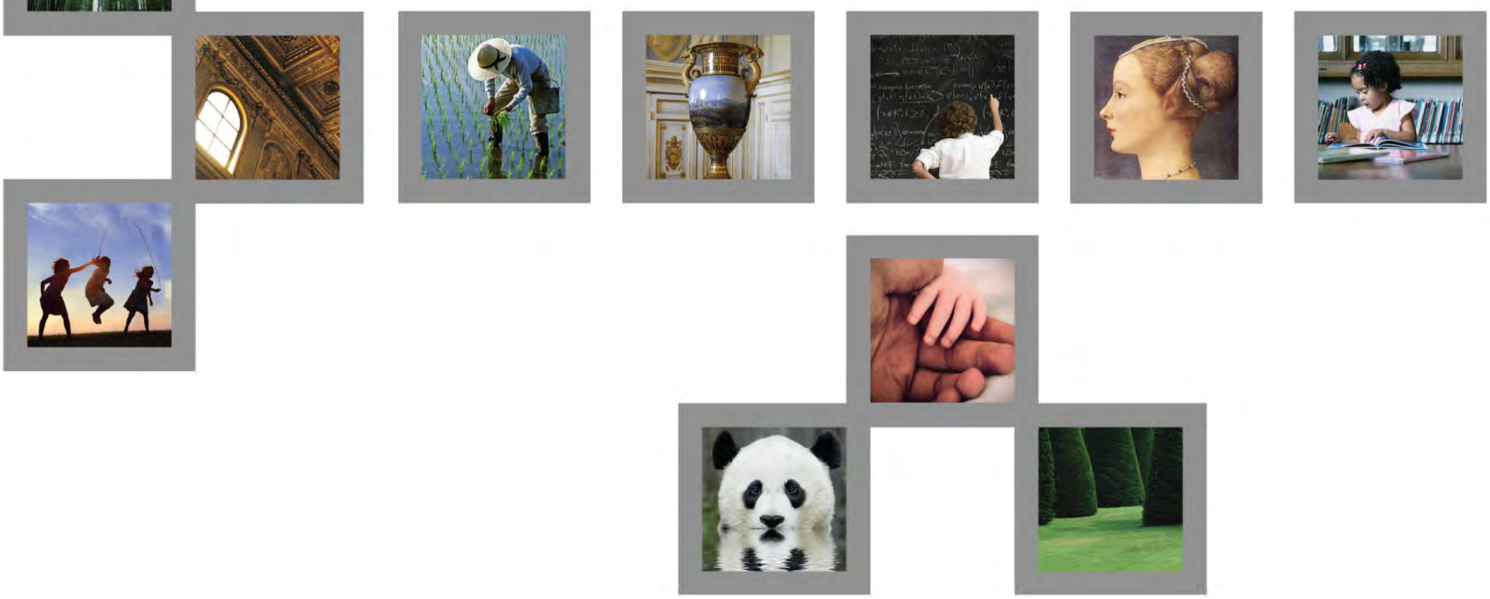
March 2014

CalPERS Private Equity Emerging Manager Program Review



CAMBRIDGE ASSOCIATES LLC

March 2014

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Executive Summary

CalPERS engaged Cambridge Associates ("Cambridge") as part of the system's review of its Private Equity Emerging Manager Program in order to help CalPERS identify lessons learned and adopt any additional best practices for evaluating investment managers and potential commitments of new capital to emerging managers. The project scope encompassed a detailed review of 10 emerging managers from both the CalPERS Private Equity Portfolio and the Cambridge Associates' network. In addition, Cambridge Associates also reviewed three fund-of-funds managers, two of which have managed dedicated EM mandates and the third of which has substantial experience investing in emerging managers within broader mandates. These case studies were reviewed and discussed by a panel consisting of CalPERS investment professionals, Cambridge, Pension Consulting Alliance (PCA), and nine external market participants. The panel met over the course of three day-long sessions between December 2013 and February 2014.

The review supported the broad conclusion that there is no standard formula that alone can explain the success or failure of a majority of emerging managers. The panel agreed that emerging managers must be held to and evaluated on the same standards as established managers. With that said, there are distinct challenges of investing in emerging managers that lead to additional, unique elements to consider in their evaluation. Recognizing that the sample in this study was by no means statistically significant and relied upon some degree of subjectivity, the study suggested a number of factors that are particularly important when reviewing emerging managers. These included:

- **Attractive investment thesis –** Emerging managers benefitted from pursuing strategies that were of scale and repeatable – in addition to being relevant for the team in place – with attractive addressable markets that provided sustainable and growing opportunities. In the study, strategy differentiation (e.g., investing in a "white space") or having deep sector expertise proved favorable for managers, as did possession of an edge in sourcing capabilities and a relevant network.
- **Prior relevant investing experience –** Relevant prior experience in an investment capacity, ideally as principal investors and in the same or related strategy, verifiable with a track record, was critical. Additionally, prior *fund management* experience was important, as it gave investors experience with cash flow management, portfolio construction and exit timing.
- **Team dynamics –** Previous experience working together was advantageous as it removed some of the unknowns of a new team coming together. Though there were examples of success among firms led by equal partners or by one strong founder, the panel observed negative ramifications for groups with single dominant partners who were unchallenged and able to make unilateral investment decisions. Many of the successful firms also demonstrated intense cultural focus on introspection and strove for continual improvement at all levels of the organization.
- **Clearly articulated strategy that is adhered to –** Managers with clear identities, recognized and understood by all members of the investment team, were generally more successful. These groups were able to adhere to their strategies, which were clearly defined at the onset of each fund. However, refinement and evolution of a group's strategy over time (i.e., from fund to fund) also

were essential for adjusting to changing markets over the longer term. Moreover, the more successful groups had clear decision-making structures and processes in place that served to ensure the application of the strategy in actual practice.

- **Alignment of interests/governance/transparency –** Firm ownership and fund carry split shared in a reasonable way that properly motivated and retained the team were important. This included a General Partner's (GP) financial commitment to the fund at or above industry standard level. The panel also expected that a GP needed to be a transparent partner with unquestionable integrity.

The panel also discussed a number of factors related to the implementation and strategy of the CalPERS portfolio. Specifically, the panel agreed that, given the CalPERS Private Equity Program's i) current objective of reducing its number of overall manager relationships, ii) stated target allocation of less than 1% to venture capital[1] as well as iii) the greater risk characteristics of that asset class, CalPERS generally should not invest in emerging venture capital managers. While CalPERS may continue to make direct investments in emerging managers when the size and scale are appropriate, the panel also agreed that emerging manager funds of funds could be an attractive way for CalPERS to gain exposure to emerging managers due to their greater flexibility to make commitments to smaller funds and their dedicated resources to focus on identifying the most promising new managers. Additional detail on the scope and findings of the study can be found on the following pages.

Introduction

As noted, the project scope encompassed a detailed review of 10 emerging managers in addition to 3 fund-of-funds managers with significant experience investing in emerging managers, as well as quantitative analysis using the data in Cambridge's proprietary private equity database. These findings were discussed during three separate panel sessions.

Background: While there have been some success stories, CalPERS' emerging manager portfolio has generally underperformed relative to expectations. The broader strategy of the overall CalPERS Private Equity portfolio has current goals of reducing the number of manager relationships, thereby making larger commitments to fewer funds, and lowering the portfolio's exposure to venture capital[1]. Within that context, this review represented an attempt to bring a panel of experienced investors together to better evaluate emerging managers going forward.

Objective: Identify common characteristics that contribute to or detract from the success of an emerging manager.

- **Emerging Manager Definition:** CalPERS' definition for an emerging manager is a manager raising its first- or second-time institutional fund. An institutional fund is further defined as one "which is being raised by a proven team with a demonstrable track record [i.e., prior relevant investing experience as a principal] to which at least three institutional investors[2] have made a commitment."

Manager Selection: Selection of the direct managers included in the study was made collaboratively by Cambridge and the CalPERS Private Equity Team. Of the fund-of-funds managers, one is in the CalPERS Private Equity Portfolio. The other two are from Cambridge Associates' network and are not in the CalPERS portfolio.

Panel Discussions: Cambridge presented findings to a panel of CalPERS' senior staff, consultants, and industry experts selected by the CalPERS Investment Office. The external market participant group was comprised of a diverse group of individuals, with varying backgrounds by ethnicity and range of experience, including public officials, investors in both public and private markets, investors from both the LP and GP sides, and founders of their own investment management businesses. See Appendix for panel member biographies. Reviews were presented to the panel in a workshop environment over the course of three separate day-long sessions from December 2013 through February 2014, allowing participants to discuss and challenge findings, express viewpoints based on their own experiences, and ultimately seek consensus on best practices.

[1] CalPERS' stated private equity targets are: 60% buyouts, 15% growth/expansion capital, 10% opportunistic, 15% credit-related, and <1% venture capital.
[2] Three institutional investors including CalPERS.

The panel discussed the general issues and challenges of investing in private equity funds, whether with emerging managers or with more established firms. The panelists noted that it can be challenging even for very sophisticated institutions to invest successfully in private equity. Institutions that have allocated extensive resources to managing their private equity programs still face substantial challenges because of the wide dispersion in manager returns, the difficulties associated with effective manager selection, and the long time horizons necessary before performance data on an individual manager or a particular strategy is sufficiently mature to be meaningful.

Panelists noted that the private equity industry has become increasingly competitive over the past two decades, such that many firms and strategies that may have been successful in the 1990s or 2000s are less likely to succeed in the current environment. The group noted that this competitive environment can make it even more challenging for emerging managers to raise capital and invest effectively. Only a small portion of emerging managers who seek to raise private equity funds are likely to become successful, institutional-quality managers able to generate top-quartile returns and raise subsequent funds. With that said, the quality of emerging managers has improved as the institutional private equity industry has matured and evolved over the past few decades. Today, there are more emerging managers being formed by experienced investors. More spin out groups are likely to emerge due to generational transfer issues in the industry.

There was broad consensus that a successful private equity program, whether focused on emerging managers or more established managers, must rely upon judgment calls – informed by a consistently applied independent and accountable investment decision-making framework – made by experienced and skilled professionals after a thorough review of both quantitative and qualitative information. The review of the 10 direct managers, interviews with the fund-of-funds managers, analysis from the Cambridge private investments performance database, and the input from the panelists all supported the broad conclusion that there is no single formula – let alone a particular quantitative metric – that can explain the success or failure of a majority of emerging managers. The panel nevertheless was able to highlight a number of observations and trends that together should increase the likelihood of a Limited Partner's success in investing with emerging managers.

Challenges of Investing in Emerging Managers

Compared to Limited Partners focused solely on more established managers, LPs investing in emerging managers can face greater challenges in selecting funds:

- Less information available to prospective LPs, especially related to track record and history of investing as a team.
- Increased potential for manager selection errors based on misunderstanding a team's true strengths and weaknesses. "Are you buying what you think you are buying?"
- Imperfect information can go both ways, as less data points and validation may lead not only to an LP committing to what are bad opportunities, but also to rejecting what would be good investments.

- Higher potential of lower returns, as emerging managers have exhibited wider dispersion of returns than more established managers according to Cambridge Associates data of private equity funds tracked since 1986.

As such, investing with emerging managers requires a higher degree of subjectivity and judgment when compared with evaluating more established groups. It can be challenging to determine if the performance results of an emerging manager stem from the team, the strategy, or the market environment. Consequently, reference checking, the experience level of the Limited Partners' professionals conducting due diligence, and relationships developed with team members of emerging manager firms (e.g., following them when they were at other firms) become even more important.

Unique Challenges Emerging Managers Face

There are certain factors that pose unique challenges for emerging managers themselves, which are based on the inherent characteristics of the managers, their funds, and their strategies:

- Greater uncertainty of team stability, incentives, and processes as newer teams learn how to work together and execute their strategy, manage a portfolio, face unexpected developments, and build their organization.
- Strategies may be less proven, and there can be pressures to deploy capital quickly and/or show results earlier in their fund lives.
- Organizational risks related to economic viability of the business, especially if there is an early setback that calls into question the emerging manager's ability to raise another fund and/or to generate carried interest from the current fund.
- Difficulty raising capital can distract from investing and managing the fund.

The challenges faced by emerging managers lead to additional, unique elements to consider in an evaluation of their funds.

Goals for Investing in Emerging Managers

Given their unique challenges, why does CalPERS invest in emerging managers? The panel discussed the rationale for CalPERS to invest in emerging managers and strongly agreed that emerging managers should be held to the same standard as established managers. The following are goals identified by the panel for CalPERS to invest with emerging managers:

- **Access the full universe of investment opportunities** Pursuing emerging managers provides CalPERS the flexibility to consider the comprehensive landscape of investment opportunities available, better positioning CalPERS to select investments that have a higher probability of meeting its Private Equity program's objectives. The broader Cambridge data also demonstrated that a significant portion of the best performers in each vintage year are funds invested by emerging managers. Moreover, some emerging managers will target new market segments, geographies, or other strategies that are not provided by more established groups and would represent additive exposures for the CalPERS portfolio.

- **Develop relationships with the next generation of core investment managers** CalPERS seeks to identify the next generation of private equity investment manager talent that will drive continued growth, at scale and in accordance with CalPERS' overall portfolio targets and strategy. CalPERS' aspiration is to "graduate" emerging managers once these managers have proven themselves, striving to find core investment managers where CalPERS can put meaningful capital to work that would be impactful on the performance of the total portfolio. In some instances, access for new LPs can become difficult by the time a successful manager would be considered "established." Therefore, pursuing and building relationships with high caliber emerging managers early on can be an effective way to gain access to the next generation of strong-performing funds.
- **Generate appropriate risk-adjusted returns** CalPERS looks to its Private Equity program to enhance equity returns through a value-added approach to investment management of a diverse set of portfolio companies and to capture the illiquidity premium. As it does with more established managers, CalPERS aims to generate appropriate risk-adjusted returns from its investments in emerging managers by identifying emerging managers with strong potential for success. Investors in emerging managers also generally have more leverage to negotiate better or preferential terms, which can help increase an LP's returns.

Lessons Learned

The panel was skeptical that there was any particular "secret sauce" that explained the success or failure of the majority of emerging managers. The Cambridge review and discussions with the panel did highlight, however, a number of "ingredients" that together could be helpful in explaining some of the successes and failures of the managers in the study, as well as the other emerging managers that were discussed with the fund-of-funds managers.

The panel is also aware that any such study that relies upon a detailed analysis of a sample of only 10 managers is vulnerable to potential selection and sampling biases, and is certainly by no means "statistically significant". This study attempted to look for commonalities and patterns in key criteria across the 10 direct managers, and supplemented its findings via i) discussions with the fund-of-funds managers that are also investing directly with emerging managers, ii) a detailed quantitative analysis of the Cambridge private equity database, and iii) the extensive past experiences of the panelists. Highlighted below are a number of the "lessons learned" from the review.

Organizational

Of the 10 direct managers Cambridge reviewed, each had a unique story for how the founding team came together to start the firm. The successful firms usually had founding partners who had previously worked together. Furthermore, the founders at the more successful firms brought prior investing experience (with few exceptions), although they may have lacked experience managing a fund. The lack of previous fund management experience often had a negative impact on performance, even for managers that were otherwise successful. For example, many less successful managers delayed exit timing of their underlying portfolio company investments beyond when it was opportune to sell, which hurt returns. Many first-time managers felt pressure to deploy capital in the early days of the fund in order "to prove themselves" to their LP base, even though they might not have been finding the right deals or able to close them at sufficiently attractive prices. Even one of the more successful firms did not reserve enough capital for follow-on investments and had to substantially write down one of its last investments as a result. Prior investing experience was a stronger predictor of subsequent success as an emerging manager when the experience was directly relevant to the new strategy and verifiable with a track record.

Successful founding teams in the sample were often balanced across more than one founder. Team members at the more successful firms possessed complementary skill sets that instilled a strong culture grounded on mutual respect. While having one strong, dominant founder was not necessarily an indicator of potential issues, the panel did observe on multiple occasions the negative ramifications of having a strong leader left unchecked and unchallenged by the rest of his team. In the more successful organizations, senior professionals were encouraged to challenge (and source) investment ideas, and were properly motivated through broadening distribution of firm and fund economics over time. This culture was oftentimes characterized by transparency, a general receptivity to evolve, and a desire to improve.

Most of the less successful managers struggled to retain their team members (including some firms that had substantial early turnover of key professionals that served as a warning sign of further problems to come) and to attract additional team talent. These difficulties were often attributed to an unwillingness to share responsibility and ownership among senior partners. Alternatively, successful firms were thoughtful about expanding team size and operations and were conservative in adding offices in order to keep the team working together within a common culture despite growth in assets under management. Lastly, the leadership for successful firms was thoughtful about the sustainability of the organization by conducting succession planning over time.

Strategy

Success among managers was defined by the firms' ability to source and execute investments within their stated strategy. The more successful managers were able to clearly articulate their strategy *and* identify the types of deals they were looking for. These managers either had an edge in sourcing to find attractive deals (e.g., deep industry networks in their target sectors; established sourcing platform and engine from prior relationships or through partnerships with existing mature firms) or were investing in an under-exploited area with enough "depth of opportunity" to be able to scale and repeat their strategy.

All successful managers demonstrated a stronger and deeper sense of strategy differentiation (through some combination of sourcing, operating in a less competitive "white space," structuring complex transactions, and sector expertise) in an attractive market segment. Less successful managers were often limited by a mandate that was too narrow (e.g., overly restrictive geographic or sector constraints) leading to problems in generating sufficient compelling deal flow beyond the key partners' immediate prior expertise, or they lacked focus in their strategy. There were also instances in which managers with a narrow expertise attempted to expand their strategy into broader areas and were unsuccessful in doing so.

Additionally, the ability to adhere to stated strategies was dependent on the consistency and clarity of the investment and decision-making process. This structured investment process was often supplemented by discipline in pricing, underwriting, and exiting deals. Successful managers had the discipline to stay out of the market when entry valuations became relatively frothy and/or took advantage of exit markets in those times. The panel agreed that early-stage venture capital in particular was an unattractive emerging manager strategy for CalPERS given the greater relative risk of that asset class and the overall direction of CalPERS' Private Equity program.

Historical Performance

Prior investing experience was a stronger predictor of subsequent success as an emerging manager when the experience was directly relevant to the new strategy and verifiable with a track record. However, there were instances where partners with strong and attributed deal-by-deal track records could not build a team or investment process around the strategy to repeat it successfully. Alternately, a few managers without previous track records were able to mitigate their lack of experience with a unique and compelling strategy angle supported by a committed and "hungry" team.

Furthermore, the panel reviewed the available investment track record at the time of each subsequent fundraising period and found little commonality among the group. With the exception of funds that generated exceptional absolute performance early on, the case studies in conjunction with ongoing Cambridge research on the persistence of quartile performance suggest that incomplete, partially realized, or unrealized returns are not reliable indicators for where a fund will ultimately rank at the end of its life cycle. Some of the less successful managers had above-median interim performance when raising their second fund, but then saw the final performance of their initial fund decline into the third or fourth quartile, to be followed by poor performance of their subsequent fund(s).

A few managers benefited from financial sponsorship or endorsement from their prior employers or third parties, though gaining independence from captive partnerships with more established firms was ultimately necessary for the evolution of the emerging firms analyzed.

Alignment of Interests

The panel reviewed the alignment of GP and LP interests through broad distribution of economics to the team beyond the founders and the GP commitment to each fund alongside LPs. There was not a clear pattern within the group of managers in the study. Carry distribution was generally still concentrated among the founding partners, though the distribution broadened over time depending on the addition of key investment professionals. A more telling component of compensation and carry distribution came from the continued intent to share economics ("team members feeling like owners"), speaking to the collaborative culture of the firm. The firm culture at successful firms was ethical, exhibited strong values, and supported equitable team economics.

There was not a strong direct relationship among the 10 selected managers between the size of the GP commitment (in percentage terms) and the success of the firm's first or second funds. In fact, there were examples in the study of funds with above-average GP commitments which performed both well and poorly. The results from the direct manager reviews were supplemented with a broader analysis of first- and second-time funds using Cambridge data, which showed a significant tilt toward stronger performance by emerging manager funds with GP commitments of 3% or greater, and a tilt toward underperformance by emerging manager funds with GP commitments of less than or equal to 1%.

Other factors considered and additional points discussed by the panel:

- The ease of the first fundraise was inconsistent among both successful and less successful managers, depending on the fundraising environment, availability of sponsorship from previous employers, and existing wealth of the founding team.
- The attractiveness of the strategy in the current and near-term market environment should be considered. Does the market environment provide tailwinds (e.g., valuations, competition of other capital) for the investment strategy at Fund I?
- Understanding the risk and volatility of the strategy or asset class is crucial in determining whether performance is attractive on a risk-adjusted basis. Some of the fund-of-funds and panel members discussed avoiding first-time funds due to outsized organizational risk. The panel discussed whether there were significant differences in the level of risk inherent to a first-time fund relative to a second-time fund, with some panelists asserting that first-time funds should be done only on an exceptionable basis due to a less compelling risk-reward profile. Though not directly observed in this study of select managers, the broader Cambridge data does not suggest an obvious improved risk/return profile for second-time funds. First-time and second-time U.S. private equity funds raised from 1999 to 2008, for example, had very similar median IRRs (11.1% and 11.0%, respectively) to each other and to more established funds (third-time and above, 11.0%). The median Total Value to Paid-In ratio[3] for first- and second-time U.S. private equity funds of these vintages was 1.5 times, the same as for fourth-, fifth-, and sixth-time funds.
  - The panel discussed the possibility that an element of survivorship bias in the broader Cambridge data could be resulting in an overstatement of performance especially for first-time funds. If one were to believe that poorly-performing funds could be somewhat more likely to be missing from the database than better-performing funds, then the reported median returns may be higher than the "true" median returns of the full universe of funds.
- Fund-of-funds consider making staged and contingent commitments in select cases. Certain fund-of-funds also co-invest with emerging managers or invest in an emerging manager via a secondary investment to gain comfort and get to know emerging managers better prior to making a primary commitment. These types of investment structures can serve to reduce the risk of investing in an emerging manager, and could potentially be considered by CalPERS.

[3] Defined as Total Value (net asset value plus distributions) divided by Paid-In capital, all net to LPs.

- The panel also discussed CalPERS' current limitation of being no more than 25% of the capital commitments of a fund, but did not reach consensus as to whether that proportion was too high or low.

Best Practices

Manager Review Criteria
When reviewing emerging managers, all of the criteria used for evaluating more established private equity managers still apply. The panel strongly supported the requirement that emerging managers meet the same performance standards as established funds, given CalPERS' responsibility to generate strong risk-adjusted returns for the system's beneficiaries. The panel discussed CalPERS' current proprietary due diligence Manager Assessment Tool ("MAT") framework and agreed that it is a good tool, which uses categories of evaluation largely similar to those used by Cambridge (and other sophisticated institutional investors). The panel felt that CalPERS' MAT methodology provides a fair and consistent process through which to evaluate the full manager landscape. There are clearly more limitations in using some portions of the MAT for the initial screening of first-time funds, which may lack any meaningful historical performance information. However, the MAT criteria are forward-looking and assess each manager's current offering, rather than focusing exclusively on historical, backward-looking information. With respect to emerging managers, the MAT allows for some limited implicit flexibility in the weighting and interpretation of certain criteria, as well as consideration of factors unique to or of special emphasis for emerging managers such as those that identified in this study.

Below are highlighted a number of factors that the study suggested are particularly important for emerging managers. These factors should be overlaid on top of an LP's general investment evaluation criteria. In reviewing the factors, it is important to reiterate that the usual criteria for private investment evaluation of all managers—emerging and more established—still hold. In addition, some factors are more important than others when evaluating particular managers, and the factors that matter most will vary by situation. Some factors are correlated, and there is interplay between the factors.

Most Critical Factors to Consider

- Attractive investment thesis
  - Is the manager pursuing a strategy that is of scale and repeatable? Does the target investment strategy and addressable market provide attractive opportunities that are sustainable and growing?
  - Does the manager have a differentiated focus (i.e., investing in a less competitive or unfilled "white space") OR deep sector expertise (e.g., industry, geography, asset class) with a unique and sustainable approach?
- Prior relevant investing experience
  - Founders' relevant prior experience in an investment capacity, ideally as principal investors and in the same or related strategy, is critical.

  - Prior *fund management* experience also is very important, as it gives investors experience with cash flow management, portfolio construction and exit timing, all of which can significantly impact returns.
  - Strong relevant track record and fit with CalPERS return objectives, portfolio size, sub-strategy targets, current investment portfolio, and resource constraints.
- Team dynamics
  - Has the team worked together previously?
  - Is the team led by equal partners or does one strong founder dominate? Either structure can work, and strong leadership is vital, but firms with one dominant leader need a culture that encourages and provides incentives for the team to challenge ideas and disagree ("obligation to dissent"). *Watch out for a single dominant partner who is unchallenged and can make unilateral decisions over the objections of his/her partners, including such major choices as deploying capital or deciding whether to sell an investment.*
  - Intense cultural focus on introspection and continual improvement at all levels of the organization is crucial in facing a dynamic competitive and market environment.
  - Decision making structure and economic incentive model that contribute to organizational stability and a strong investment process.
- Edge in sourcing
  - Does the manager possess an edge in sourcing capabilities and a relevant network? Will they be able to generate proprietary or exceptional deal flow?
- Clearly articulated strategy
  - Firm's identity is clear; able to clearly articulate and recognize what would constitute a "Firm Name"-type deal, and repeat.
  - Do all members of the team have buy-in? Would the most junior investment professional respond the same way as the most senior when asked to describe the strategy?
  - Is there a *clear decision-making* structure and process that aligns with the manager's strategy?
- Strategy adherence in early funds
  - Strategy adherence (did the manager invest the fund according to the strategy, or has there been a large proportion of "off-strategy" deals?) is not possible to determine (given no data) when evaluating a Fund I investment but becomes clearer thereafter. While refinement and evolution of a strategy are necessary from fund to fund as the firm adjusts to its changing market, a manager (and its LPs) also needs to know its focus at the start of each fund.
- Alignment of interests/governance/transparency
  - Firm ownership and fund carry split: is it shared in a reasonable way that properly motivates the team, or does one person control the vast majority of economics, ownership, and decision-making?

- GP's financial commitment to the fund ("skin in the game") should be at or above industry standard level, but also "personally meaningful" to the key individuals on the investment team. Is the GP commitment funded via cash or fee offsets?
- Does the GP have the mentality and systems in place to provide transparency to LPs? Does the GP have a commitment from the beginning to be a good partner with its investors?

Other Factors to Consider

- Ensure "critical mass"
  - LPs can consider making commitments contingent upon reaching a minimum fund capitalization level that allows the manager to execute their strategy sufficiently, and adequately sustains the team in terms of operating budget.
- Ability to attract and retain additional talent around key founders is key to the long-term success of the organization, but can be harder to assess than in more established firms with longer histories.
- Early professional turnover (either at senior or mid/junior levels) can signify deeper problems. Some turnover may be fine, though, as not all hires will work out.
- Sponsorship/endorsement/commitment from previous employer(s) or knowledgeable LPs can sometimes help validate the founders' previous track records and skill, especially in cases where official attribution is unclear or unavailable for investments made prior to Fund I.
- Historical performance evaluation
  - Attributed prior track record in related investment sectors/sizes/geographies preferred for Fund I evaluation.
  - For Fund IIs, look for: examples of ability to sell companies, low loss ratios, high proportion of "winners", and thoughtful portfolio construction from Fund I. Assess whether one large investment drives performance, or whether there is broader evidence of skill and repeatability of strategy.
- Among the managers reviewed, increases in subsequent fund size did not exhibit any pattern as a positive or negative indicator. This may be due to the sample size or may only be valid for fund size increases beyond a certain threshold. The panel still believes that unconstrained fund size growth is a negative.
- "Hungry" team. Understand the rationale for the founders wanting to start a new firm.
- Funds sponsored by larger, more established organizations may result in reduced alignment of interests of an investment team with LPs.
- There was general consensus among the panelists to maintain the delegated authority to make investments with emerging managers with the professional investment staff and that the investment staff should always base their decisions solely on the investment merits of the underlying opportunities and their portfolio fit within CalPERS overall Private Equity program.

How can a Limited Partner be Supportive?

- Be conscious of the pressure an emerging manager can face to "put capital to work"; engage in pacing dialogue, and communicate willingness to be patient (especially, for example, if target market's purchase prices are high).
- Ease of fundraise to allow team to focus on investments:
  - Anchor commitment for fundraising validation (with possibility for preferred terms).
  - Facilitate introductions to other LPs.
- Coaching/mentoring and Limited Partner Advisory Council ("LPAC") involvement generally were not cited by GPs as adding meaningful value, though supportive LP behavior is beneficial. The panel concurred that supportive and value-added behaviors of a participant in an LPAC involved staying out of investment decisions, but providing input on fund size, firm strategy, alignment terms, etc.

Process

Cambridge held on-site interviews with a representative sample of 10 direct managers and 3 fund-of-funds managers to provide detailed case studies and key insights to the CalPERS team and working group panel. The selection of managers to review was done collaboratively with the CalPERS private equity team, and included analyses of CalPERS' private equity portfolio and Cambridge's manager database. Cambridge also spoke informally with a handful of additional fund-of-funds managers to gain additional insights.

General selection criteria for direct managers in the sample included: i) CalPERS' had allocated capital to the manager either directly or through a fund-of-funds; ii) the manager had a track record of raising and investing at least two institutional funds; and iii) the manager was willing to participate and share necessary confidential information. All of Cambridge's interviews were held confidentially to encourage candor and frankness among the participants. Cambridge interviewed senior members of the investment firms and found most managers to be reflective and open about their experiences. In the direct manager reviews, Cambridge analyzed the managers both qualitatively and quantitatively during various stages of development, from inception, through their early and emerging days and to their subsequent evolution to the present day. For the fund-of-funds managers, Cambridge and CalPERS together selected one manager that invests capital on behalf of CalPERS and two that do not, both of which were sourced from Cambridge's manager network. Cambridge also spoke with several other fund-of-funds managers over the phone. All of the fund-of-funds managers had extensive experience investing in emerging managers and provided qualified perspectives on risks and benefits.

Cambridge supplemented the reviews of the 13 managers with additional quantitative analyses on the broader group of emerging and more established managers using the Cambridge Associates private investments performance database, which includes investment returns data on over 5,400 funds.

Cambridge began its work in October 2013. The panel met for three sessions, each lasting for most of the business day, which occurred in December 2013, January 2014, and February 2014. The panel was chaired by Laurie Weir and had nine external market participants. The external market participant group was comprised of a diverse group of individuals, with varying backgrounds by ethnicity and range of experience, including public officials, investors in both public and private markets, investors from both the LP and GP sides, and founders of their own investment management businesses.

The panel consisted of the participants below:

CalPERS Participants
Real Desrochers
Laurie Weir
Christine Gogan
Scott Jacobsen
Sarah Corr

External Market Participants (biographies can be found in the appendix)
Matt Barger, Manager, MRB Capital
Maria Contreras-Sweet, Chairwoman, ProAmerica Bank
Holly Holtz, Managing Director, Shinrun Advisors
John McLaren, Senior Advisor, Monument Group
Hilda Ochoa-Brillembourg, CEO & CIO, Strategic Investment Group
Paul Rice, Senior Advisor, Mesirow Financial
Howard Sanders, Managing Director, Auldbrass Partners
Roger Sit, CEO, President, & Global CIO, Sit Investment Associates
Ambassador Linda Tsao Yang, Chair, Asian Corporate Governance Association, and former U.S. Executive Director to the Board of the Asian Development Bank, Manila

Cambridge Associates
Anita Ng
Eric Johnson
Jennifer Urdan
Kael Kristof
Wesley Swackhamer
Ting Ting Liu

Pension Consulting Alliance (PCA)
Mike Moy
Allan Emkin

Appendix

CalPERS PRIVATE EQUITY EMERGING MANAGER PROGRAM REVIEW EXTERNAL MARKET PANELISTS

Matt Barger MRB Capital Manager	Mr. Barger is a Managing Member at MRB Capital and Senior Advisor at Hellman & Friedman. He formerly served in a number of roles in the Firm including Managing General Partner and Chairman of the Investment Committee. Mr. Barger's primary area of focus has been asset management. Mr. Barger serves on the Board of Directors of Hall Capital Partners LLC and Artisan Partners Asset Management. He was formerly a Director of numerous companies, including Mondrian Investment Partners, Brinson Partners, Oechsle International, L.P. and Thomas Weisel Partners. Mr. Barger graduated from Yale University Magna Cum Laude with Distinction in the Major in 1979, and the Stanford Graduate School of Business in 1983, where he was an Arjay Miller Scholar. Mr. Barger currently serves on the Advisory Council of the Woods Institute for the Environment at Stanford University, as a member of the Board of Trustees of the California Academy of the Sciences, as a Director of the San Francisco Free Clinic and USA Cycling, Inc., as well as Secretary and Treasurer of the Board of the USA Cycling Development Foundation. He is a past member of the California Public Employees Post Employment Benefits Commission and the Economic and Allocation Advisory Commission advising the California Air Resources Board on implementation of AB 32.

Maria Contreras-Sweet ProAmerica Bank Chairwoman	Ms. Contreras-Sweet is Founding Chairwoman of ProAmérica Bank, OTCQB: PMRA, a Los Angeles-based, full-service community bank for entrepreneurs, nonprofits and professional services firms. Prior Ms. Contreras-Sweet was the first Latina to serve on a Governor's cabinet as the Secretary of Business, Transportation and Housing Agency for the State of California. As Secretary, she managed 14 state departments, approximately 42,000 employees, and a $14 billion budget. In Caltrans alone she oversaw 600 infrastructure projects including the San Francisco Oakland Bay Bridge. Known as a strong housing advocate, she helped increase housing as well as stimulate jobs in California's economy. She also oversaw the California Highway Patrol, the Department of Corporations and led in the creation of the new Department of Managed Health Care. Prior to her position as Secretary, Ms. Contreras-Sweet served as one of the founding directors of The California Endowment and is the founding President of HOPE, Hispanas Organized for Political Equality. Contreras-Sweet currently serves as a member of the Board of the Southern California Public Radio, the USC Price School of Public Policy, and the Los Angeles Area Chamber of Commerce. Mount St. Mary's College conferred upon her an Honorary Doctorate in the Humane Letters. She is listed in Latino Leaders magazine as one of the 100 most influential Latinos in America.
Holly Holtz Shinrun Advisors Managing Director	Holly Holtz is Managing Director at Shinrun Advisors, an alternative investments advisory business. A former Senior Director at TIAA-CREF, Ms. Holtz co-founded that institution's first dedicated practice in alternatives in 1997, helped develop the processes and infrastructure for investing in private equity, and personally executed a large portion of the team's fund commitments and direct equity and mezzanine transactions. From 1997-2012, she participated in over $10 billion in commitments to more than 250 funds across multiple categories. She sat on 22 LP Advisory Committees and participated as an observer on 13 portfolio company boards. Prior to her role in private equity, Ms. Holtz was a Director on TIAA's workouts and restructuring team (1992-97), managing approximately $700 million in distressed and defaulted securities. She identified potential defaults, developed and valued recovery strategies, managed the bankruptcy process and negotiated complex, multi-party restructurings. Previously, Ms. Holtz provided bank financing for leveraged buyouts at The Irving Trust Company (now Bank of New York) and Marine Midland Bank (now HSBC). In 2012, Ms. Holtz established Shinrun Advisors to provide advisory services to LPs and GPs on co-investing, fund selection, portfolio management, business development, GP-LP reporting and communications, portfolio company financing and general research. Ms. Holtz holds an MBA from Columbia Business School, an MA from the University of California, Berkeley and a BA from the University of Michigan.

John McLaren Monument Group Senior Advisor	Mr. McLaren is a Senior Advisor at Monument Group. While Mr. McLaren was active in the day-to-day management of Monument Group, they raised over $70 billion for various alternative investment groups. Until co-founding Monument Group, Mr. McLaren was Managing Director, Alternative Assets, at the Virginia Retirement System. Mr. McLaren reviewed, recommended and oversaw the System's commitment to more than $2 billion of private investments, including venture capital, leveraged buyouts, distressed investments, mezzanine and growth equities, managed futures and real estate. As a well-known investor in alternative assets, Mr. McLaren was an active participant on fund advisory committees. Prior to his role at the Virginia Retirement System, Mr. McLaren held various executive positions, including Executive Vice President, Chief Operating Officer and Chief Financial Officer in the thrift industry. He has a B.B.A. from James Madison University.
Hilda Ochoa – Brillembourg Strategic Investment Group Founder, CEO, and CIO	Hilda Ochoa-Brillembourg, CFA, is founder, CEO, and CIO of Strategic Investment Group. She is Chair of Strategic's Board of Managers and a member of the Executive Committee. Ms. Ochoa-Brillembourg is a Fulbright fellow and recipient of the Fulbright lifetime achievement award. She completed her doctoral studies (except dissertation) in business administration in finance at Harvard Business School; she holds an MPA from the Harvard Kennedy School of Government and a BS in Economics from Universidad Andres Bello, Caracas. From 1976 to 1987, Ms. Ochoa-Brillembourg served as chief investment officer for the Pension Investment Division of the World Bank, and continued as a manager of the World Bank Pension assets until 1996. She also served as asset and liability advisor to the World Bank, the Venezuelan government, Grupo Electricidad de Caracas, and others. A native of Venezuela, Ms. Ochoa has served as an independent consultant in the field of economics and finance, a lecturer at the Universidad Catolica Andres Bello and IESA in Venezuela and as treasurer of the C.A. Luz Electrica de Venezuela in Caracas. She is on the board of directors at General Mills, McGraw Hill Financial, Cementos Pacasmayo and the Atlantic Council of the United States. She is a lifetime member of the Council on Foreign Relations, a long-term member of the World Economic Forum and advisory committee member of the Global Arts Leadership Initiative and. She is the founding chairman of the Youth Orchestra of the Americas; on the advisory committee at the Harvard David Rockefeller Center for Latin American Studies; vice chairman of Harvard Kennedy School Dean's Alumni Leadership Council. Ms. Ochoa-Brillembourg was previously a director of Emerging Markets Management, L.L.C. 1987-2011, the Harvard Management Company 1991-2010 and was a trustee and chairman of the investment committee for Vassar College 1988-1998. She was also a director at the World Bank/International Monetary Fund Credit Union 1986-2008 and US Airways Group 1999-2003. She was on the investment committee of Rockefeller Family Fund 1982-2008 and The Eugene & Agnes Meyer Foundation 1994-2001 and served as a Washington National Opera trustee 1992-2010 (executive committee member 2002-2009). She was a

	trustee and executive committee member of The National Symphony Orchestra 1999-2007, vice chairman of the Group of Fifty (G-50) at the Carnegie Endowment for International Peace 2000-2011, Research Foundation of CFA Institute 2009-2011 and a member of the board of directors of the Fulbright Association 2007-2011. She was an ad hoc member of the United Nations Secretary General's Join Staff Pension Fund Investment Committee 2011-2012. Ms. Ochoa-Brillembourg has published articles in the Financial Analyst Journal and Pensions & Investments. She has been featured in Fortune, Bloomberg Latin America, Investment News and the AIMR Exchange, as well as Smart Money, Money magazine, Hispanic Business magazine, PODER magazine, where she was described as one of the 50 most successful women in the U.S. She has appeared on CNN Español, CNN Financial News, MSNBC, and Wall Street Week. She is a member of the CFA Institute and the CFA Society of Washington, D.C. Ms. Ochoa-Brillembourg has completed the Series 65 and 3 securities examinations.
Paul Rice Mesirow Financial Private Equity Formerly – Senior Advisor	Mr. Paul E. Rice is a former Senior Advisor and Senior Managing Director, Private Equity at Mesirow Financial Private Equity. While at Mesirow he focused on private equity and direct investments and was responsible for building their first highly profitable fund-of-funds program. He was a member of the Board of Directors and Executive Committee at the firm. Mr. Rice has over 25 years of experience in the private equity marketplace. Previously, he managed the Alternative Investments Division for the State of Michigan Retirement System (SMRS). While at (SMRS) Mr. Rice managed the commitment of over $6 billion to private equity funds and direct investments. Prior to (SMRS) he built and managed business development/finance programs for the Michigan Department of Commerce. Mr. Rice has served on numerous private equity Advisory Boards and Executive Advisory Boards for domestic and international private equity funds. He also served on the Boards of Directors for several private and public companies. He is a former member of the National Venture Capital Association, Illinois Venture Capital Association, Executive Club of Chicago, University of Michigan's Technology Advisory Group and Office for Private Equity Finance. Mr. Rice has been a frequent speaker/lecturer at private equity industry events and conferences and has co-authored a chapter on private equity investing for the Handbook of Alternative Investments. Today Mr. Rice is retired and plays a little golf, reads, and entertains his wife, children and grandchildren.
Howard Sanders Auld Brass Partners Managing Director	Howard Sanders is a Managing Director of Auldbrass Partners. Prior to founding Auldbrass Partners, Howard was responsible for managing Citi Holding's' proprietary investments in private equity directs and funds. Before joining this effort, Howard was responsible for the Private Investments of Citi Holdings' $11bn Pension Plan. This portfolio included liquid and illiquid investments. During Howard's tenure, Citi' Holdings' performance was consistently ranked as a top five (frequently ranked #1) pension fund. Prior to joining the Citi Pension Group in 2005, Howard worked with Citigroup Alternative Investments as Head of Strategy, Planning and

	Analysis. Before joining Citigroup, he was a Vice President in M&A Advisory for BT Wolfensohn, the mergers and acquisitions group of Deutsche Bank. Howard is currently an Adjunct Professor at the Columbia School of Business where he teaches the second year elective "Private Equity: The Asset Class." He also serves on the Board of Directors for The New York City Partnership Foundation and the Robert Toigo Foundation. Howard holds an MBA from Harvard University and a BS from the Wharton School of Business at the University of Pennsylvania.
Roger J. Sit Sit Investment Associates Chief Executive Officer and Global Chief Investment Officer	Roger Sit is Chief Executive Officer and Global Chief Investment Officer of Sit Investment Associates, a full product global asset manager offering management expertise in domestic equities, international equities and fixed income instruments. The firm's equity philosophy emphasizes growth investments and fixed income philosophy focuses on high income with safety of principal. Sit Investment clients include public and private pension plans, foundations, endowments, insurance companies and high-net-worth individuals. Roger joined the organization in January 1998 and worked closely with firm's founder Gene Sit for over ten years. Prior to joining the firm, Roger was a Vice President and Senior Equity Research Analyst at Goldman Sachs & Co. in New York for seven years. Additionally, he was a Captain in the U.S. Air Force, serving six years active duty with financial management responsibilities at Headquarters Space Division. Roger graduated with Military Distinction from the U.S. Air Force Academy in 1984. He earned a M.S. in Systems Management from the University of Southern California in 1987 and an M.B.A. with honors from the Harvard Graduate School of Business in 1991. Roger serves on the boards of Convergent Capital, the Minneapolis Institute of Arts, the University of Minnesota Outreach, Research and Education (UMore) Development LLC, and the Blake School.

Ambassador Linda Tsao Yang Chair, Asian Corporate Governance Association	Ambassador Yang has chaired the Asian Corporate Governance Association (ACGA) based in Hong Kong since 2001. A member-supported organization, it is chartered under the laws of Hong Kong. ACGA is dedicated to improving corporate governance practices in eleven Asian markets. It engages in original research, education programs, and advocacy. ACGA members include multilateral financial institutions, global pension funds and asset managers, leading law and public accounting firms, academic institutions, banks, and corporations. ACGA members who are institutional investors manage US$12.0 trillion in assets. From 1993 to 1999, she was the U.S. Ambassador and Executive Director to the Board of Directors of The Asian Development Bank in Manila. Ambassador Yang was the first woman Executive Director appointed by the United States Government to the board of a multilateral financial institution and the first Executive Director appointed by President Clinton and confirmed by the U.S. Senate. At her retirement in December 1999, Ambassador Yang was presented the Distinguished Service Award by then U.S. Secretary of the Treasury Lawrence H. Summers. The award citation stated that, "… Among her many achievements are the successful negotiation of the general capital increase of the Bank and the replenishment of the Asian Development Fund, which together set out a major reorientation of the policy framework of Bank operations. Ambassador Yang has also been one of the main forces behind the strengthening of the Bank's private sector operations and she has led the effort to put in place a Bank-wide approach to private sector development. Ambassador Yang played a key role in defining the Bank's participation in the international response to the Asian economic crisis, including pushing for early and expanded attention to social impacts and social development. She has provided strong fiduciary and operational oversight of Bank operations and has worked to make the Bank more transparent and accountable." In his letter accepting Ambassador Yang's retirement, President Clinton wrote," You have provided exemplary and highly effective representation for the United States at the Asian Development Bank…. I am particularly grateful for your work to reform the Bank's operational policies in order to encourage private investment, which will help to reduce poverty. Your actions have upheld American values and improved our ties with Asia. On behalf of all those who have had the privilege of working with you, I thank you for a job well done. Hillary and I send our best wishes for every success and happiness." Ambassador Yang was an independent non-executive director on the board of the Bank of China (Hong Kong) from late 2003 to mid-2010. She was appointed the founding chair of Strategy and Budget Committee of the board. In that capacity, she worked with her colleagues on the board, senior management, and professional staff to prepare the first 5-year growth and development plan for the bank for years 2006 through 2010. The second 5-year plan covering years 2011 through 2015 won approval by the board when she retired from the board In mid-2010. Appointed by Governor Jerry Brown in early 1980, she was the first

woman and the first minority to serve as California's Savings and Loan Commissioner. She was responsible for the regulation and supervision of all state-chartered savings institutions from April 1980 to January 1983 during a period of national recession and great turmoil in California's financial sector. Earlier, Governor Brown appointed her to the Board of Administration of the California Public Employees' Retirement System (CalPERS) where she served as Vice President and Vice-Chairman of its Investment Committee

Ambassador Yang was an invited panelist on international economy at the Economic Summit hosted by then President-Elect Bill Clinton in December 1992 in Little Rock, Arkansas. She was interviewed by CNN on its Global View program on the Asian economic crisis in late 1990s and by CCTV on its Up Close program.

She is a board member of the Center on Asia Pacific Policy, RAND Corporation, in Santa Monica, California, and Trustee Emerita of The Asia Foundation in San Francisco where she chairs the Chang-Lin Tien Fellowship Committee .She is a Life Member and a former director of the Pacific Pension Institute whose members are among the largest public pensions in the world. In 2007, the institute honored Ambassador Yang with its Leadership Award .She is a recipient of the Silk Road Award from the California-Asia Business Council. In 2008, Hong Kong Institute of Directors honored her with its Director of the Year Award (Hang Seng Index - Independent Non-Executive Director).

Ambassador Yang is a member of The Bretton Woods Committee in Washington D.C., The Council on Foreign Relations in New York, a member and former director of The Committee of 100, a national Chinese American organization, and The Trusteeship for the Betterment of Women in Los Angeles. A graduate of St. John’s University in Shanghai and Columbia Business School in New York, she was married to the late Professor An Tzu Yang of the University of California in Davis, California. She is the mother of two sons.