

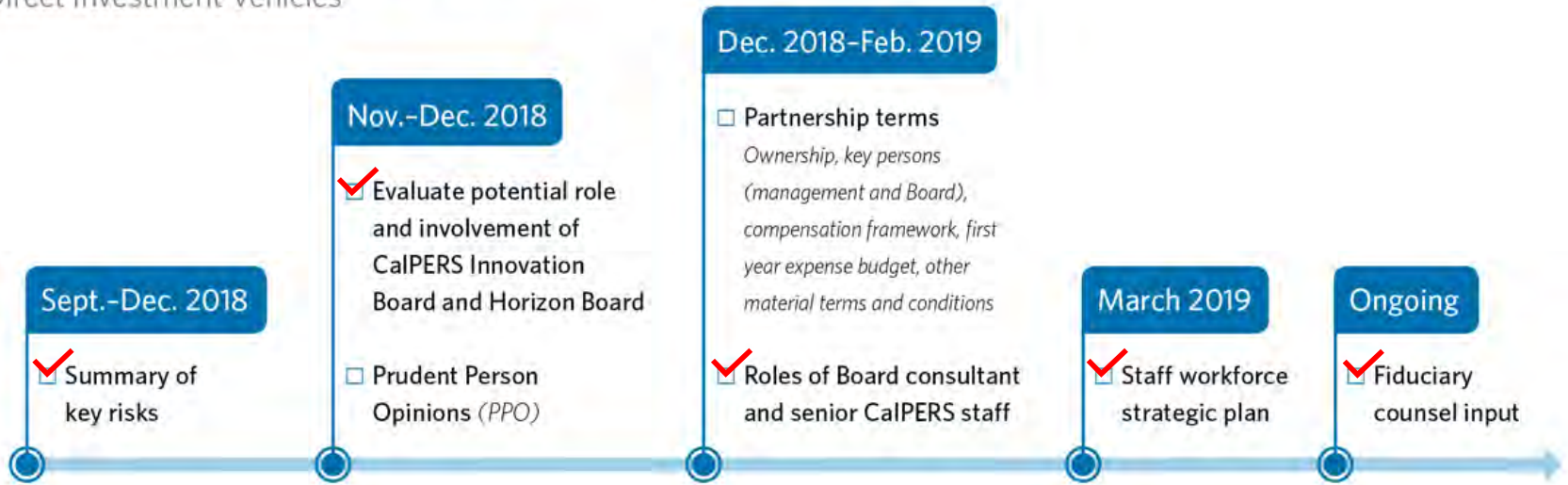
Private Equity Business Model

Investment Office
December 17, 2018

Investment Committee Timeline

Investment Committee Checklist

Direct Investment Vehicles



Challenge for Private Equity

- To achieve the required rate of return for the Total Fund, CalPERS would like to prudently increase the allocation to Private Equity (PE) over time
- To avoid PE “index like” returns, CalPERS needs to have a concentrated portfolio managed by aligned and talented partners

Private Equity Business Model Review

1. Emerging Manager Summary (Pillar 1)
2. Partnership Model Attributes (Pillar 2)
3. Horizon and Innovation Structural Comparisons (Pillars 3 and 4)
4. Advisory Board Roles(Pillars 3 and 4)
5. Advantage of Long Hold (Pillars 3 and 4)
6. Key Risks and Mitigation (Pillars 3 and 4)
7. Private Equity/Public Equity Portfolio Completion and Risk Aggregation
8. Next Steps

Pillar One: Emerging Managers

- The goal of the program is to identify and cultivate the next generation of investment managers
- Implemented in a Fund of Funds model

From	To
\$200 million mandate	\$500 million mandate
1 st and 2 nd time funds	1 st , 2 nd and 3 rd time funds
No co-investments allowed	Co-investments allowed

Pillar Two: Traditional Partnership Model

Opportunity:

To develop more collaborative advisory strategic relationship(s) to extend CalPERS' reach which would;

- Create a global presence
- Augment relationships with middle market and international general partners
- Enhance resources and skills for co-investments, co-sponsorships and secondary market capabilities
- Improve access to data and technology to advance investment decision-making process

Pillars Three and Four: Advisory Board Roles

Both Horizon and Innovation would be advised by separate, independent advisory boards to;

- Advise on CalPERS values, beliefs and principles
- Advise on succession planning
- Advise on an appropriate operating budget to manage the business
- Provide perspective and counsel for prospective sourcing

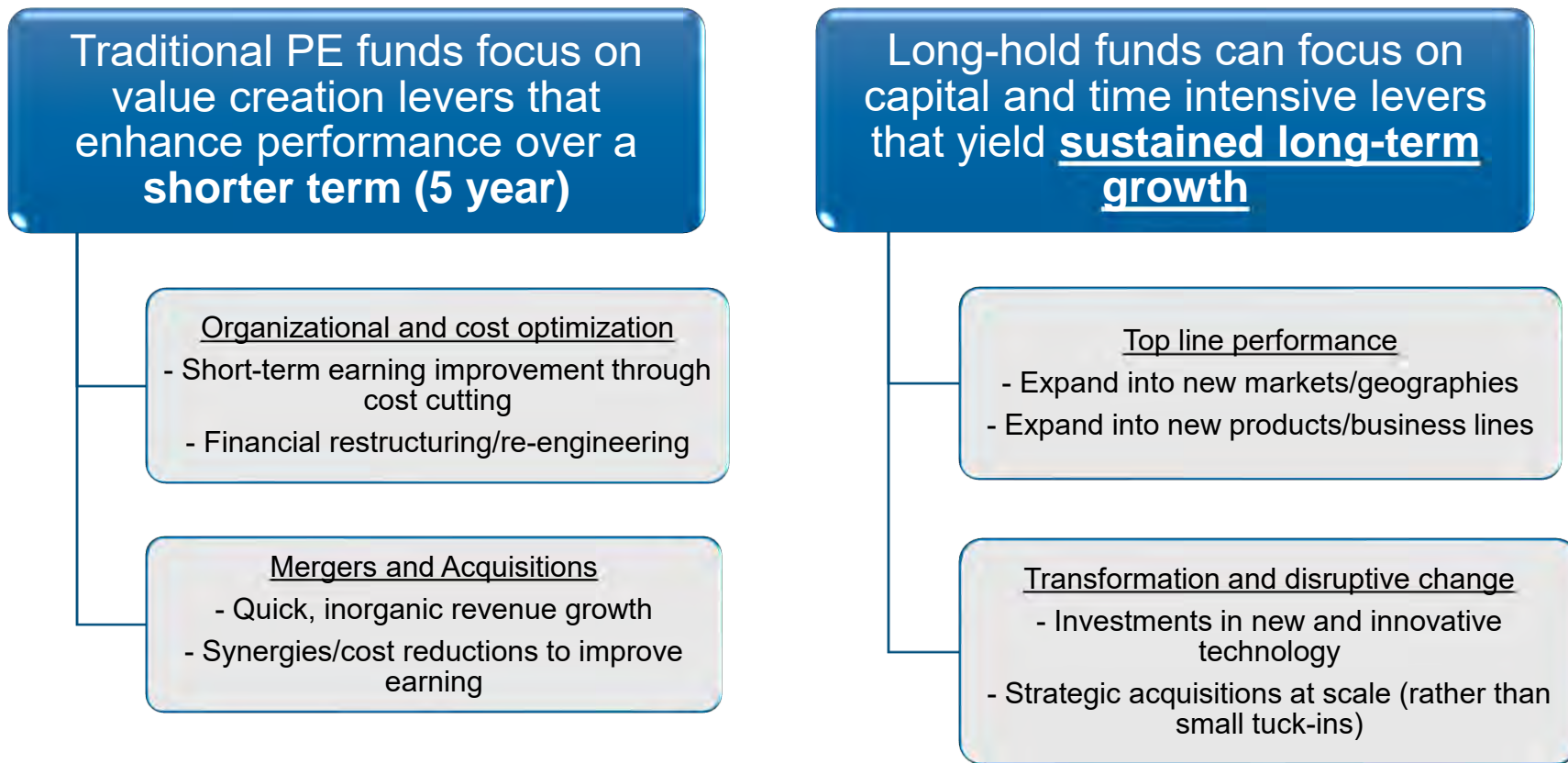
Private Equity Business Model

Pillars Three and Four: Structural Comparisons

Feature	Commingled PE Funds	Horizon/Innovation	CalPERS Real Assets Model
Governance	Rights are very limited and typically require vote of > 66% of the Limited Partners	Rights include: <ul style="list-style-type: none"> • Removal of manager • Leverage parameters • Guidelines incorporating CalPERS values, beliefs and sustainability principles 	Rights include: <ul style="list-style-type: none"> • Removal of manager • Leverage parameters • Sale or transfer of assets
Fee Structure	Management fees based on: Capital committed (typically 1.25-1.75%) Incentive fees: (typically 15-20% of profits over a hurdle)	Management fees based on: Budget-based operating expenses Incentive fees: (reduced at scale and better aligned)	Management fees based on: Gross asset value that decreases as portfolio grows Incentive fees: Based on cash yield, income growth and relative outperformance – and capped
Strategy	Very broad at GP discretion	Well defined by CalPERS with parameters related to geography, industry, size of investment and leverage	Well defined by property sector, geography and risk
Advisory Board	Limited use. Publicly traded GPs have a corporate board	Provides advice to the GP on CalPERS mandate relative to beliefs, values and principles – advice on succession planning for the GP, advice on the annual operating budget reasonableness and other counsel	N/A

Pillars Three and Four: Advantage of Long Hold

In long-hold private equity strategies, funds have more value creation levers



Pillars Three and Four: Key Risks and Mitigation

	Potential risks to CalPERS	Mitigation Strategies
Concentration Risk	<ul style="list-style-type: none"> • Horizon – company exposure to fewer companies at larger levels • Innovation – later stage venture capital with smaller specific company investments with potential for higher returns and volatility 	<ul style="list-style-type: none"> • Assess and manage risk in context of the Total Fund
Reliance on key partners	<ul style="list-style-type: none"> • Success dependent on top-tier Partners who can successfully source and execute the specific CalPERS strategies 	<ul style="list-style-type: none"> • Careful selection and diligence of Partners is essential • Ability to act on timely basis and achieving economic and philosophical alignment
Investment timelines vs. Partner commitments	<ul style="list-style-type: none"> • Initial commitment to Horizon and Innovation partners will have a fixed term that is likely shorter than the time to realize returns on their investments and fully construct their team 	<ul style="list-style-type: none"> • Create a structural commitment to the strategy • Align incentives with Partners to focus on long term performance and holds
Return dilution	<ul style="list-style-type: none"> • Longer hold periods may dilute the high annual returns seen in short-hold private equity, especially in the early years – weigh importance of maximizing returns with other objectives (e.g. Increasing scale, decreasing friction) 	<ul style="list-style-type: none"> • Consider potential dilution in benchmark setting • Utilize longer-term metrics to supplement performance metrics

Private Equity/Public Equity Portfolio Completion and Risk Aggregation

With the creation of the “Growth Segment” during the 2017 ALM process, CalPERS has initiated processes that will aggregate all equity exposures when reviewing diversification across geographies and sectors.

The Total Growth Segment (\$179 billion public equity and \$28 billion private equity as of September 30, 2018), will be used for measurement.

The liquid public equity portion will be used as a completion portfolio to rebalance over and under weights in the private equity portfolio, resulting from more concentrated positions.

Next Steps

- Action by the Investment Committee (IC) is required to execute Pillars Three and Four
- The action would be for the IC to decide whether it would grant/provide delegated authority to staff to allow for multi-year commitments of capital to the Horizon and Innovation investment entities above the current delegation limitations set in Policy
- In advance of such Action Item, the IC will receive:
 - A report assessing the overarching respective strategies by an outside consultant
 - PPOs from a third party fiduciary
 - Board Consultant opinion
 - Details related to the terms, including governance and fees