



CalPERS Horizon & Innovation Strategy Assessment

Supplemental material

DECEMBER 17, 2018

Contents

*Supplemental facts and data supporting
the CalPERS PE Strategy Assessment
Summary document dated December 17,
2018*

- I. Supporting material on the PE opportunity
- II. Supporting material on the CalPERS model
- III. Supporting material on Horizon and
Innovation
- IV. Supporting material on success criteria

Basis of our perspective

	Count	Sample companies	Sample roles
Industry and expert interviews	Canadian pension funds	11	
	Sovereign wealth funds	15	
	US pension funds	5	
	BCG internal experts	~10	Principal Investor & Private Equity (PIPE) Global Partner Lead, PIPE Expert Principal, PIPE Sr Advisor
	Total	~41	
Secondary research	<ul style="list-style-type: none"> Press scrapes Pitchbook Prequin Cepers LinkedIn 	<ul style="list-style-type: none"> Heidrick and Struggles compensation reports Sovereign Investment Lab Intralinks PEHub 	<ul style="list-style-type: none"> Fund and deal investments Investment policy statements PE and VC performance reports Pension fund annual reports SWF annual reports
CalPERS data			

Supporting material on the Private Equity (PE) opportunity

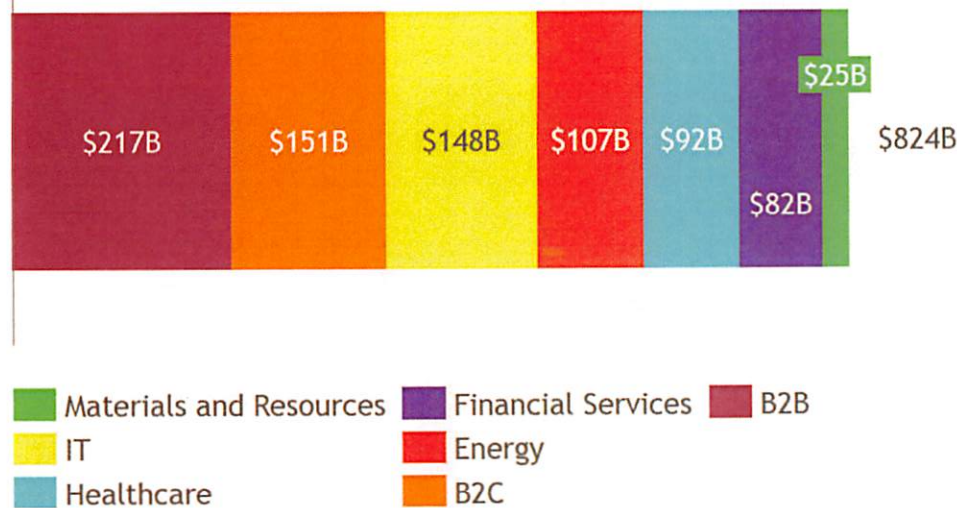
Private Equity is CalPERS' best performing asset class in both 1- and 5-year performance

Asset class	Allocation	% Total allocation ¹	1 Yr return ²	5 Yr return ²
Public Equity	\$179.2B	49.8%		
Private Equity	\$27.6B	7.7%		
Income	\$88.2B	24.5%	(1.4%)	3.6%
Real Assets	\$39.3B	10.9%	6.2%	9.3%
Inflation	\$15.2B	4.2%	5.3%	(1.0%)
Liquidity	\$6.7B	1.9%	1.9%	1.0%
Total Fund	\$360.1B	100%	7.0%	7.4%

1. Total will not add up to 100% due to Trust Level (Multi Asset Class, Completion Overlay, Risk Mitigation, Absolute Return Strategies, Plan Level Transition and other Total fund level portfolios) 2. 1-year and 5-year returns as of September 30, 2018.
Source: CalPERS November 2018 Board documents; BCG analysis

PE market continues to grow, with over \$800B invested in 2017

Capital invested in Private Equity in 2017 (\$B)



1. PE invested capital CAGR 2013-2017
Source: Pitchbook; BCG analysis



35k

PE deals in 2017

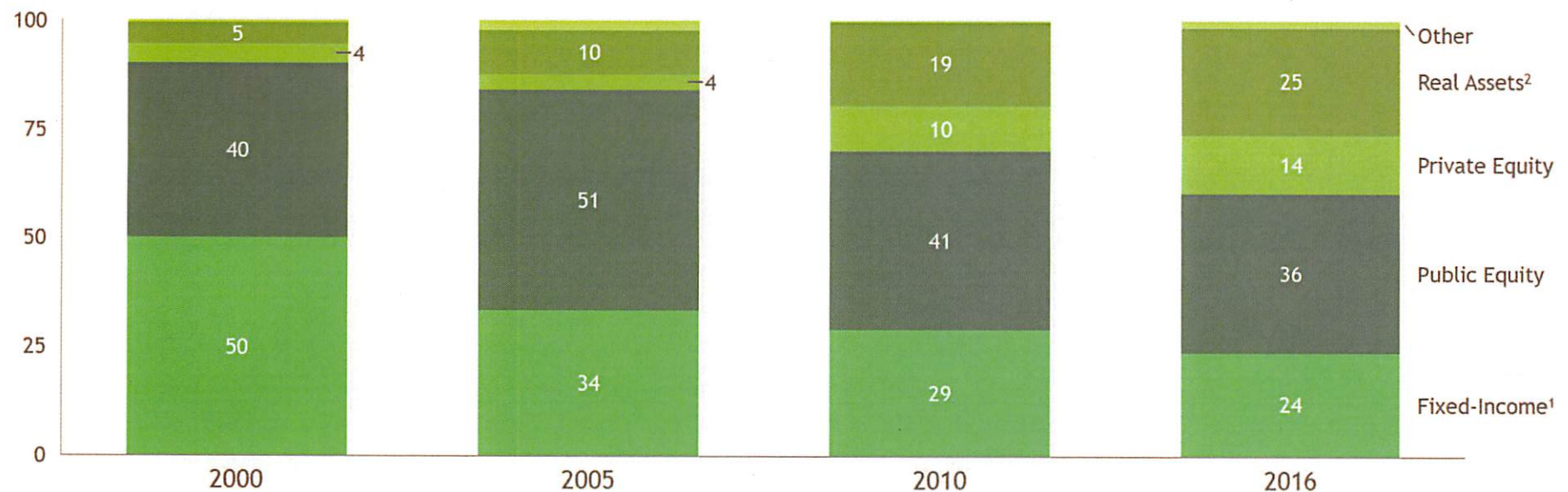
14%

annual growth from
2013-2017¹



Pension funds, state investment funds and corporate investors are increasingly focusing on PE investments to increase portfolio returns

Share of Total AuM for surveyed investors (%)



1. Fixed-Income includes Government Debt, Money Market Securities and other Debt 2. Real Assets includes Real Estate, Infrastructure and Inflation-linked bonds

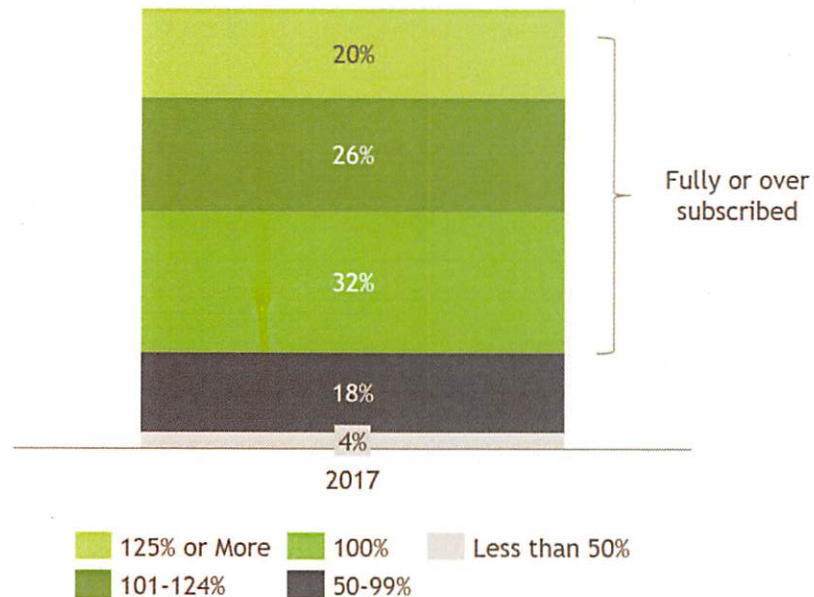
3. Annualized returns for the last 5 years available

Source: Annual reports from 2000 to 2017 from 11 Sovereign Wealth Funds and Pension Funds; Interviews with experts from 20 Sovereign Wealth Funds and Pension Funds, March 2018; BCG analysis



Due to popularity of Private Equity, capital is becoming more challenging to place, with majority of funds fully or oversubscribed

PE funds closed by % of target fund size achieved



78%

of funds fully subscribed in 2017

46%

of funds oversubscribed in 2017

Note: Oversubscribed refers to PE funds that have raised more than their target amount of capital, which makes deploying all of the capital into attractive investments more difficult
Source: Preqin; BCG analysis



Adopting alternative methods¹ outside of traditional fund investing has helped pension funds approach target Private Equity allocation in asset mix

CPPIB

Consistent % PE growth with continued focus on alternative investment methods; PE target adjusted up to 22% for FY 2018

OMERS

100% focus on alternative investment methods, consistently tracking towards target PE and overall increased exposure to private investments

BCIMC

Moving towards three year plan objective of 30% of PE allocation to alternative investment methods

	2017 target PE allocation	2013 actual PE allocation	2017 actual PE allocation	
CPPIB	21%	18%	20%	↑
OMERS ²		14%	12%	↓
BCIMC		5%	7%	↑
CalPERS	8%	12%	8%	↓

1. Includes direct investment, co-investment and dedicated fund structures

2. Although allocation decreased from 2013 to 2017, OMERS has maintained a consistent 12-14% allocation for several years, in line with or above its target

Note: Alternative investment methods allow for increased control over capital deployment, making it more likely that funds are able to achieve target PE allocation

Source: Preqin, annual reports, BCG analysis



Increased focus on ESG factors and impact on returns

90%

of institutional
investors

say they want companies to
report **economic, social, and
environmental activities**

20%

of total AUM in
the US

represent investing based
in part on **ESG¹ considerations**

12%

higher margins

for top performers in ESG,
relative to their peers²

Alignment with ESG principles creates potential for higher returns

1. Environmental, social, and governance 2. BCG - Total Societal Impact: A New Lens for Strategy, 2017
Source: State Street—The Investing Enlightenment (2017); BCG - Total Societal Impact Study; BCG interviews and analysis

II. Supporting material on the CalPERS model



Explanation of key components of this model



Dedicated partnership

One-to-one relationship between General Partner and Limited Partner



Investment guidance from asset owner

Investment parameters are defined by the Limited Partner, with ways to verify adherence



Long hold strategy

Investment holding period extends beyond the typical Private Equity or Venture Capital investment, to access long-term value creation strategies



Operational involvement

General Partner actively manages portfolio companies as a means of value creation (degree of involvement can vary)



Focus on sustainable investments

Achieving long-term, sustainable returns is a key investment objective



Key components are proven through other models

Key components	Analogs from internal and external models	Examples
Dedicated partnership	<ul style="list-style-type: none"> • Pension funds, including CalPERS, have dedicated relationships with large Private Equity fund managers through Separately Managed Accounts (SMAs) • Real Assets programs, including CalPERS, establish dedicated partnerships with operating partners that invest exclusively on their behalf 	
Investment guidance from asset owner	<ul style="list-style-type: none"> • Real Assets programs at large pension funds, including CalPERS, set parameters to guide independent partners' investment decisions • Asset owners structure investment parameters with SMA fund managers or internal direct private equity teams 	
Long hold strategy	<ul style="list-style-type: none"> • Some Corporate investors utilize long-hold and evergreen investment strategies to benefit from consistent returns year over year • Large Private Equity firms have increasingly turned to raising long-hold specific funds¹ to reduce costs, and access additional deal flow 	
Operational involvement	<ul style="list-style-type: none"> • Corporate investors and large Private Equity firms actively manage portfolio companies to increase returns through industry or functional expertise, a focus on value creation, and synergies across the portfolio through a platform strategy 	
Focus on sustainable investments	<ul style="list-style-type: none"> • CalPERS' Real Assets program builds sustainable investment analysis into the diligence process to highlight ESG risks and opportunities across the portfolio 	

1. Large Private Equity firms raising long-hold specific funds have target hold timelines between 10-15 years before exiting rather than employing a true "evergreen" strategy without an eye towards exiting investments at a certain time, the funds often have lower fees and lower target IRRs



Horizon and Innovation overview



Dedicated relationships with general partners who will initially invest exclusively on CalPERS' behalf



Horizon is a Private Equity (PE) fund focused on long-hold investments in **established private companies**



Innovation is a late-stage Venture Capital (VC) fund focused on longer-hold investments in **viable younger companies**



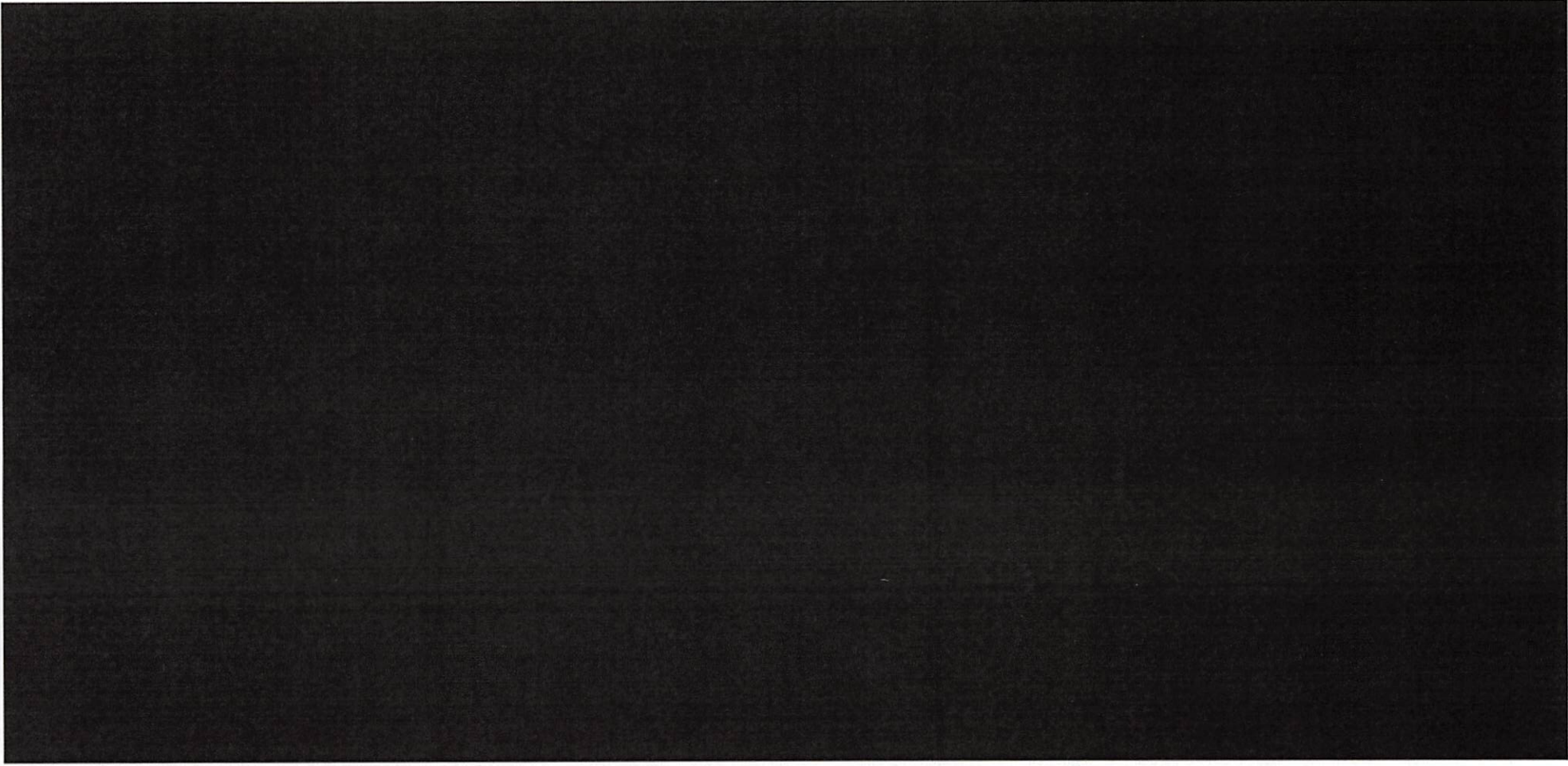
Horizon and Innovation may deploy **up to \$10B** each over the next **10 years**



Objective: Gain access to investment opportunities with high return potential

Horizon and Innovation have potential to increase overall portfolio returns

Sustainable approach is central to CalPERS' investment strategy



Potential Horizon and Innovation partners developing strategies that incorporate CalPERS focus on sustainable investments



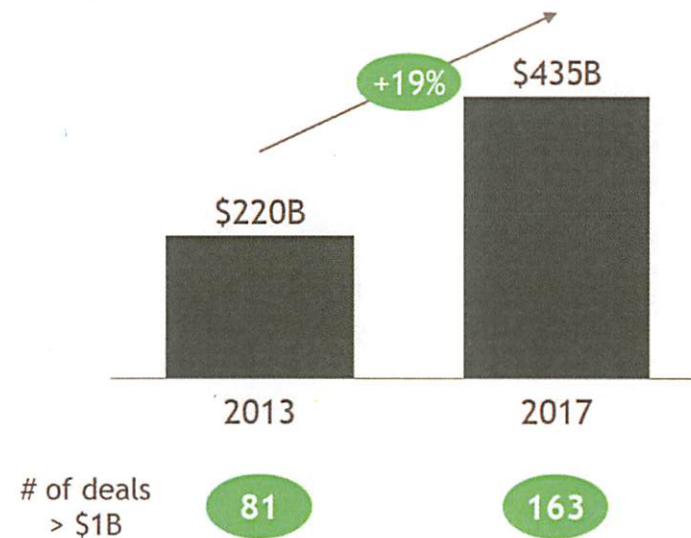
III. Supplemental material on Horizon and Innovation



Horizon approach and relevant trends

Alignment with market trends

Increased activity for large PE deals
(greater than \$1B)¹



1. Pitchbook - All Global Private Equity deals (only includes deals with reported deal size).
Sources: Pitchbook, CalPERS, BCG analysis



Long-hold private equity investment strategy embraced by funds of all types

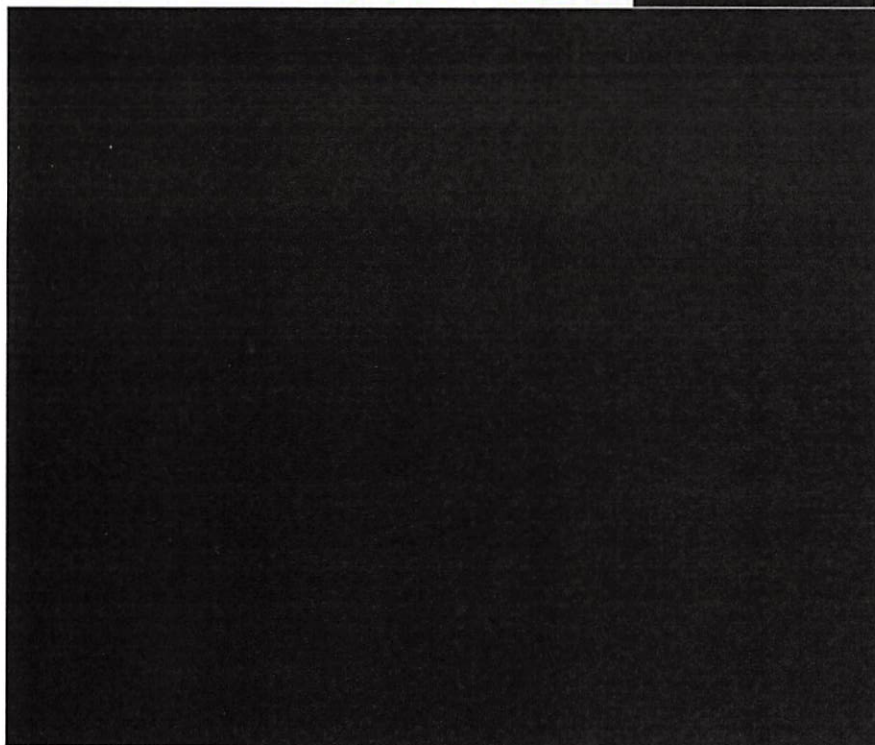
	Sovereign Wealth Fund	Premium conglomerate	Traditional PE
Example			
Approach	<ul style="list-style-type: none"> Limited involvement in portfolio companies outside of board representation Long-hold with focus on returns over liquidity 	<ul style="list-style-type: none"> Long investment horizon High level of operational involvement, diligence excellence, and platform strategies all drive value 	<ul style="list-style-type: none"> More active involvement including the ability to utilize value levers not feasible for shorter hold investments Longer hold periods up to ~15 years, but not evergreen
Prevalence	Established approach over the past few decades		Newer strategy adopted over the past ~4 years

All observed long-hold strategies involved targeting fewer, large investments than shorter-hold PE funds



In long-hold private equity strategy, funds can utilize longer term value creation levers

Traditional PE funds often focus on



Long-hold funds can focus on capital and time intensive levers that yield sustained long-term growth

Top line performance



- Expand into markets/geographies
- Expand into new products/business lines





Transformation and disruptive change

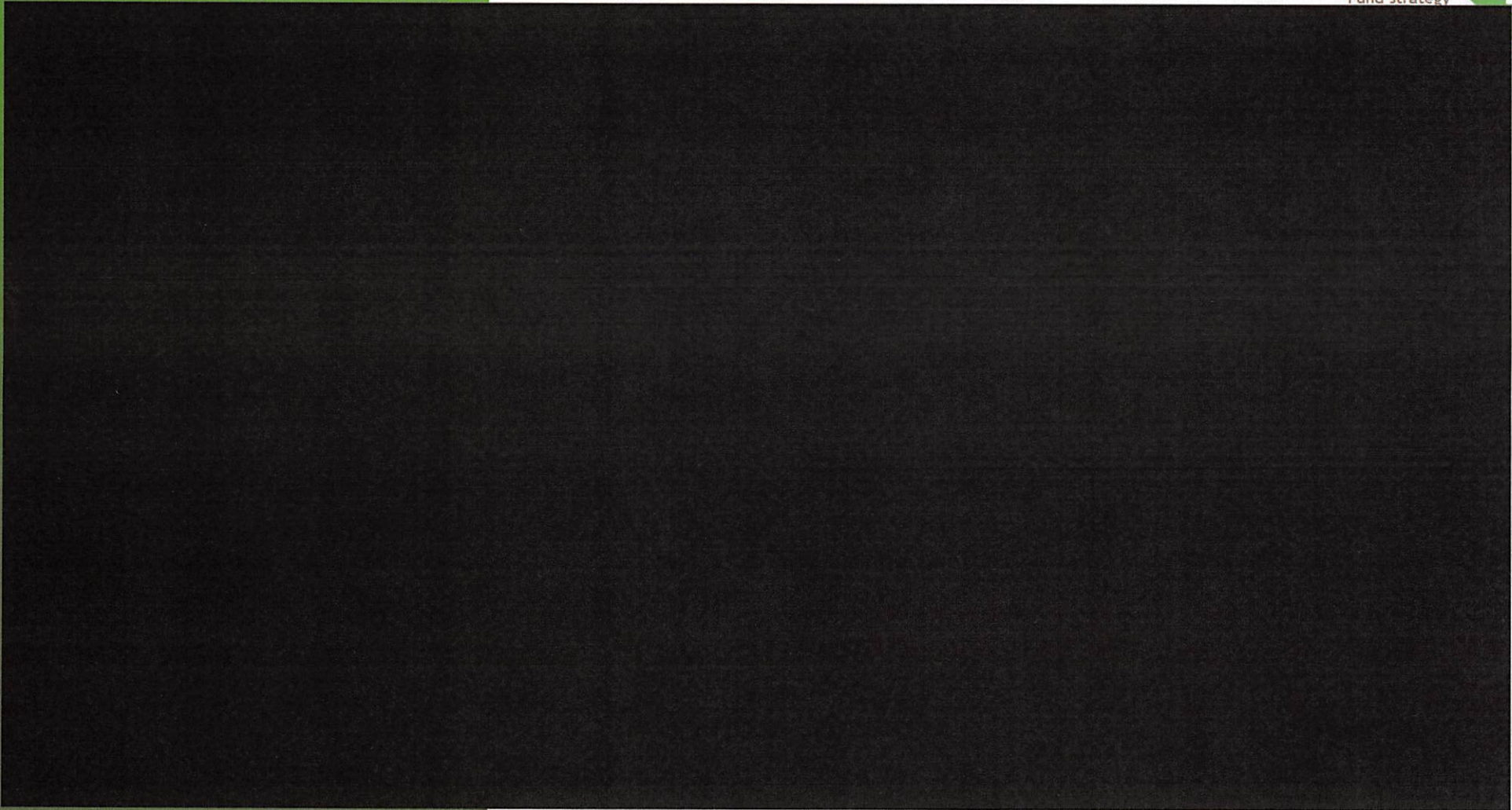


- Investments in new and innovative technology
- Strategic acquisitions at scale (rather than small tuck-ins)



All long-hold private equity funds must consider monetization to some degree; liquidity and capital requirements will inform ideal strategy

				
	Regular dividends	Special dividends	Partial sale	Full exit
Description	Portfolio companies pay shareholders dividends at regular intervals. As a control owner, can ensure large dividends (determined by company performance)	Portfolio companies can pay out cash surpluses at irregular times based on balance sheet health and performance	Control owner can sell a minority stake of their equity holdings via IPO or secondary offering	Control owner can sell off its stake in the company via IPO or a private sale
Rationale	Regular dividends provide consistent cash flow and smooth out the infrequent and “lumpy” returns inherent in a long-hold strategy	Special dividends allow asset owners to see higher returns when portfolio company is performing well without needing to sell their ownership stake	Allows asset owners to raise considerable cash without selling off the asset completely	Asset no longer fits investment thesis or sale due to macroeconomic headwinds

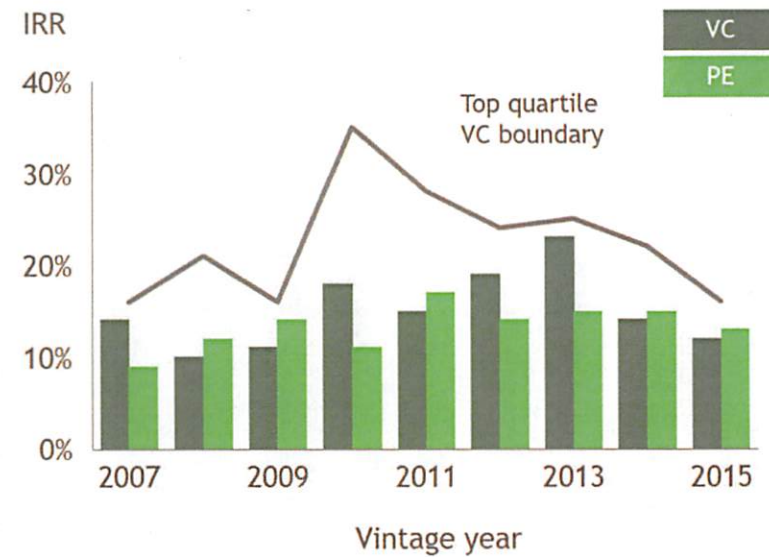




Innovation approach and relevant trends

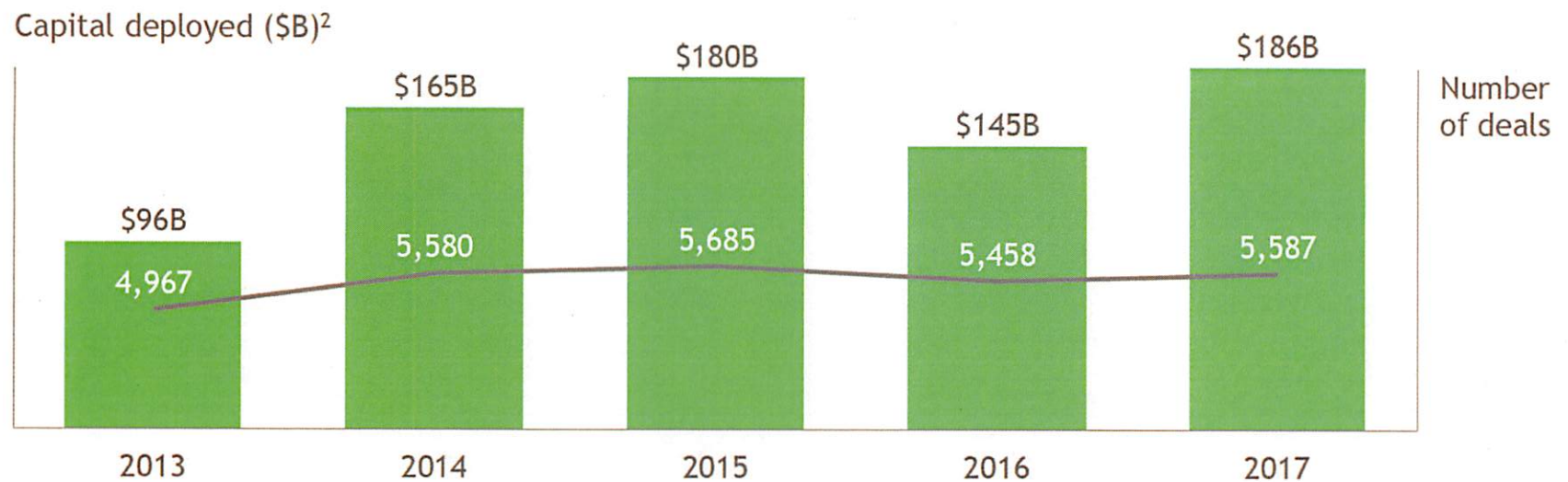
Alignment with market trends

VC returns have historically performed in line with PE with high upside for top quartile¹





Significant deal activity in late-stage VC¹ : ~\$185B invested in 2017



1. Late stage VC refers to new companies in the later stages of fundraising; typically more developed, established companies that have been in business for a few years 2. In late-stage VC and Growth
Source: Pitchbook, BCG analysis



“

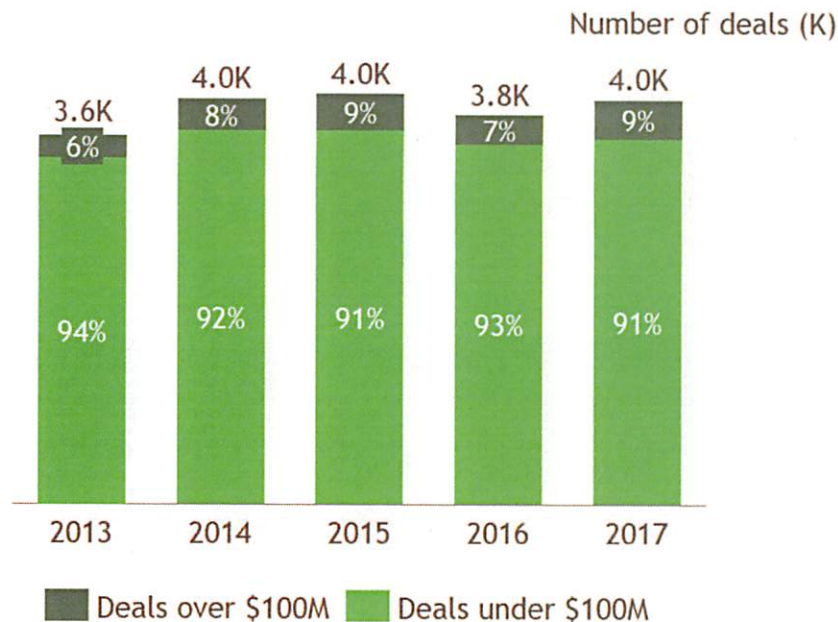
Venture capital returns are **more volatile** than private equity, but the top firms **persistently make the best returns**, which appear less and less the case with private equity

- Wall Street Journal



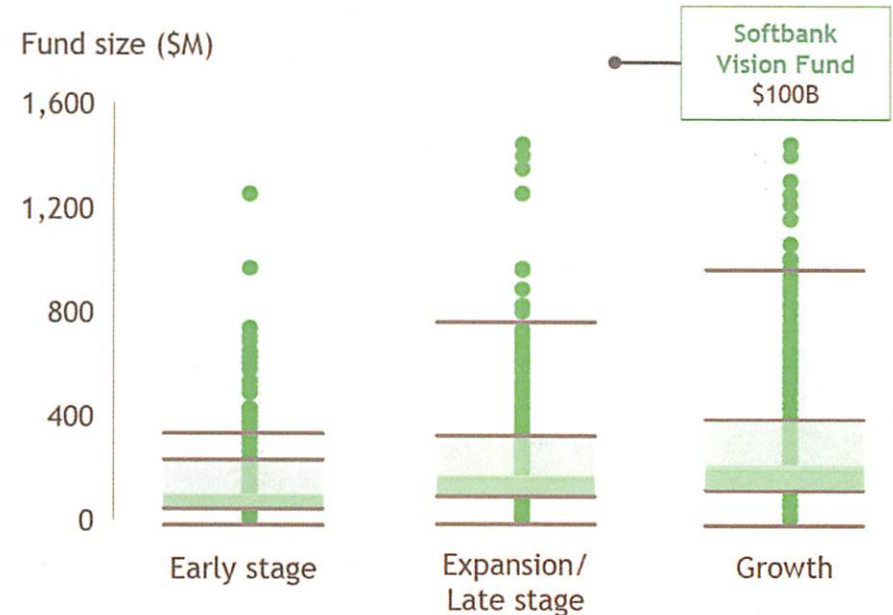
Innovation: Fewer opportunities for large-scale VC investments, with 91% of VC deals under \$100M in 2017

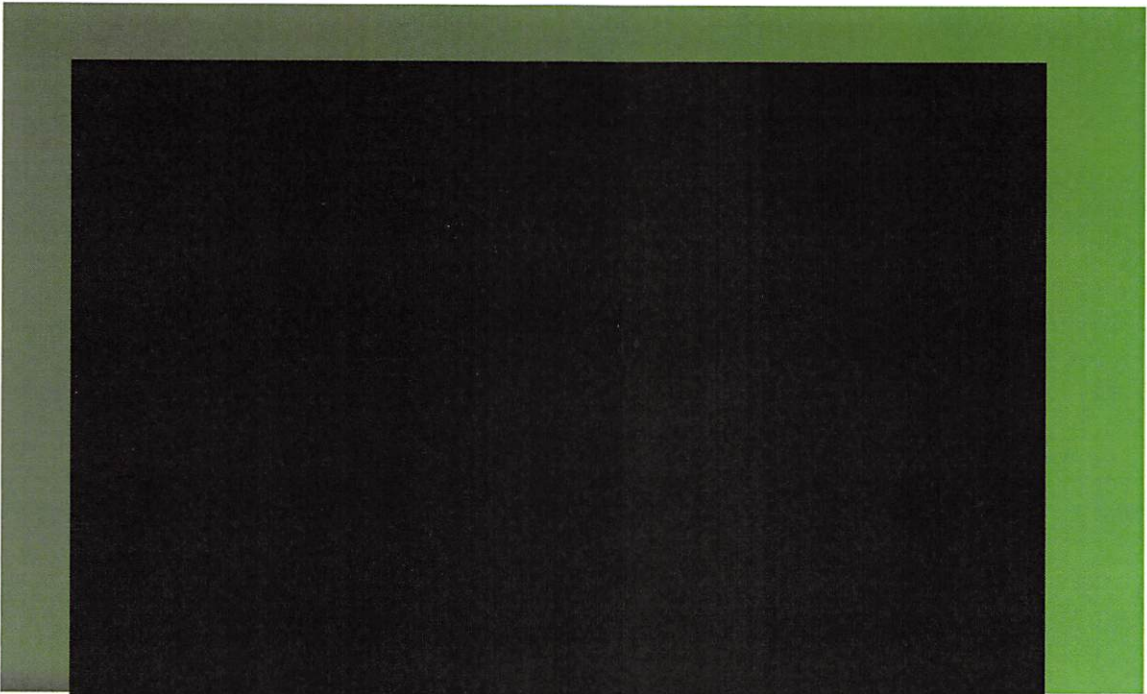
Fewer opportunities for large-scale (\$100M+) VC investment



Source: Pitchbook, BCG analysis

Most VC funds are between \$50M and \$400M, SoftBank Vision fund the exception





Closed Session Agenda Item 4a - Attachment 3, Page 28 of 44
Fund strategy

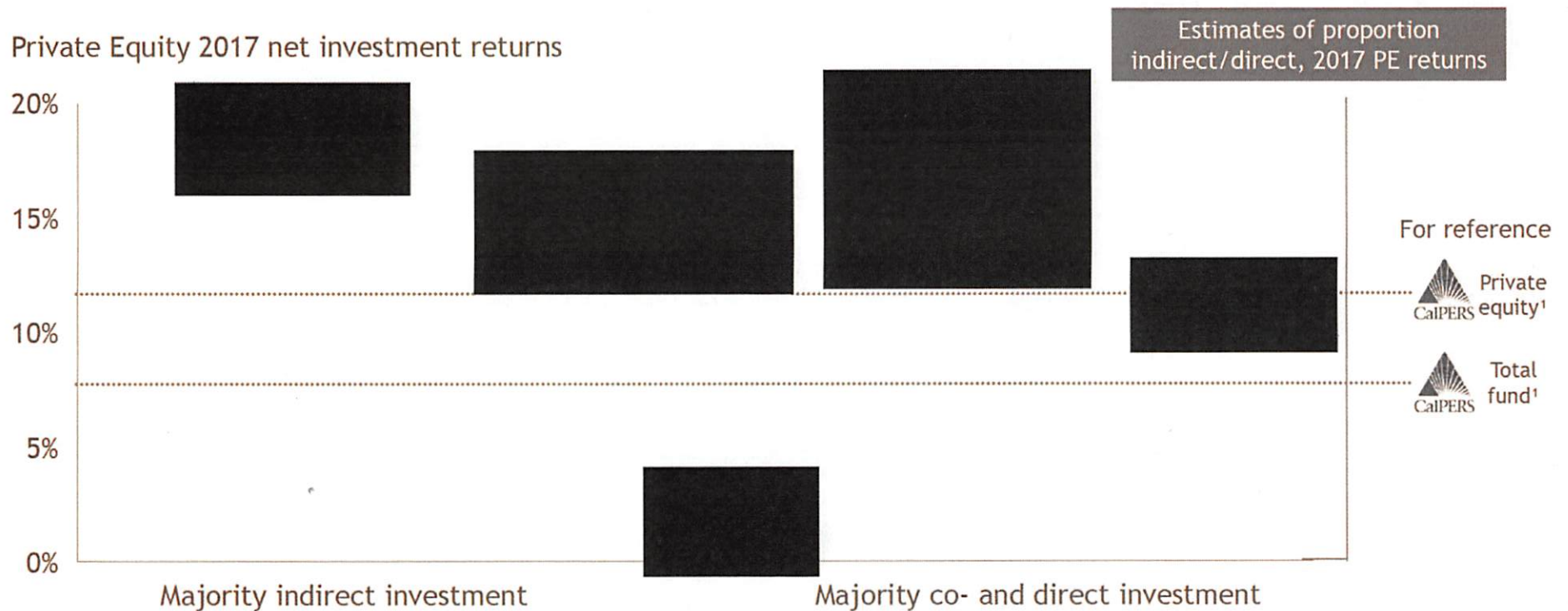


IV. Supplemental material on success criteria



High variability in pension fund returns shows importance of strategy and execution

Private Equity 2017 net investment returns

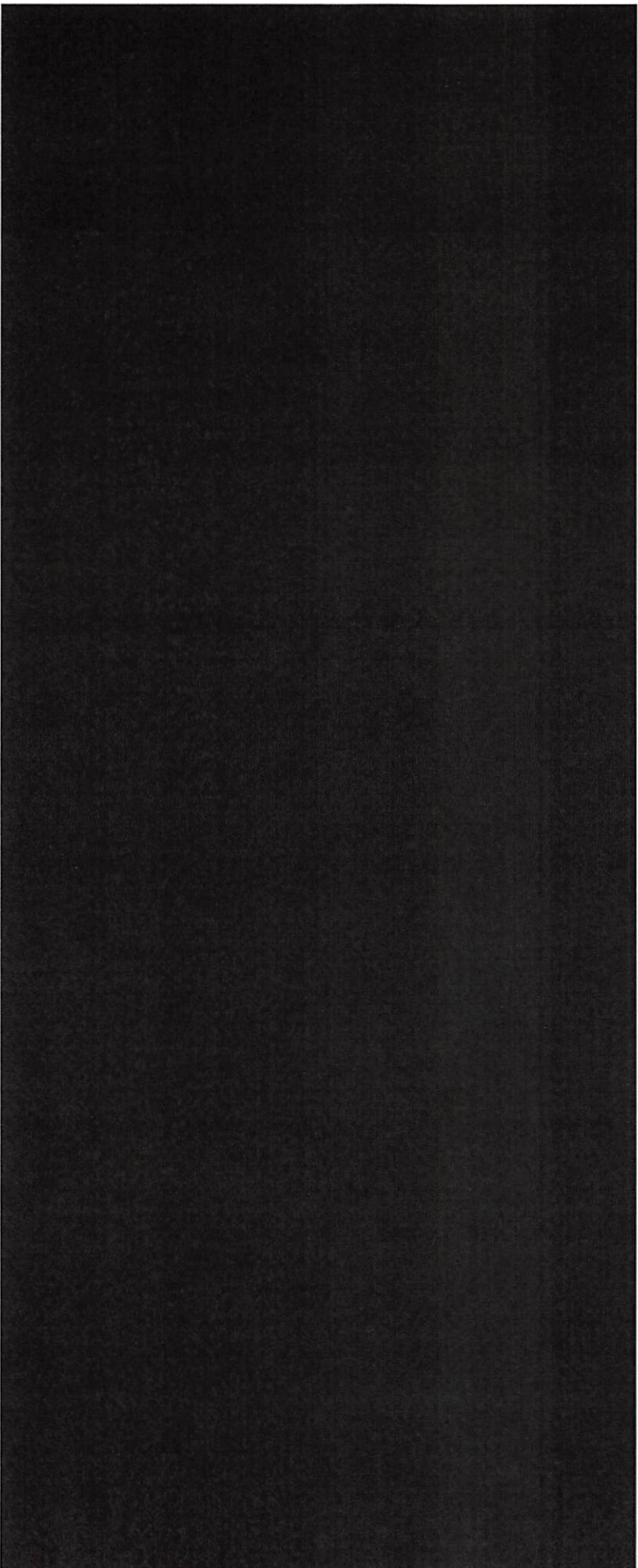


1. CalPERS 5-yr returns as of September 2018

Note: AIMco 0.0% 2017 private equity return due to declining returns from older funds, significant growth in new fund commitments/management fees, and lack of meaningful write-ups of direct investments; 5 year return was 12.5%
Source: Annual reports, CalPERS November Board documents, BCG analysis



CalPERS' existing governance model is evolving to meet the specific dynamics of Horizon and Innovation
Detailed design is currently being developed



1. Management fee plus carried interest; Source: Expert interviews; Desk research

Attracting top talent is a critical success factor for successful PE investments ...

- “ Maybe **the biggest factor** in the success of our direct program was the conscious decision to **fundamentally change our talent strategy**. That meant bringing on direct investment managers—and paying for quality people. [REDACTED]
- “ **Talent is foundational** to the direct program; in addition to executing deals, **the right people at the fund manager level did two things**: 1) they attracted junior talent and 2) they brought pipelines with them—which was very important for deal flow, especially early on.” [REDACTED]
- “ Compensation is **a big issue**; **we were never able to overcome public perception issues**. As a result, we don’t have the talent necessary for a direct program. [REDACTED]



... and requires concerted talent strategy



Talent is the single biggest success factor—and top talent at the fund leadership level is particularly critical



Compensation must be competitive and include performance incentives



Pension funds can lean on competitive advantages over mega PE funds

- Opportunity for career advancement
- Stable capital source
- Mission driven



Talent should strategically sourced and developed, with targeted recruiting from

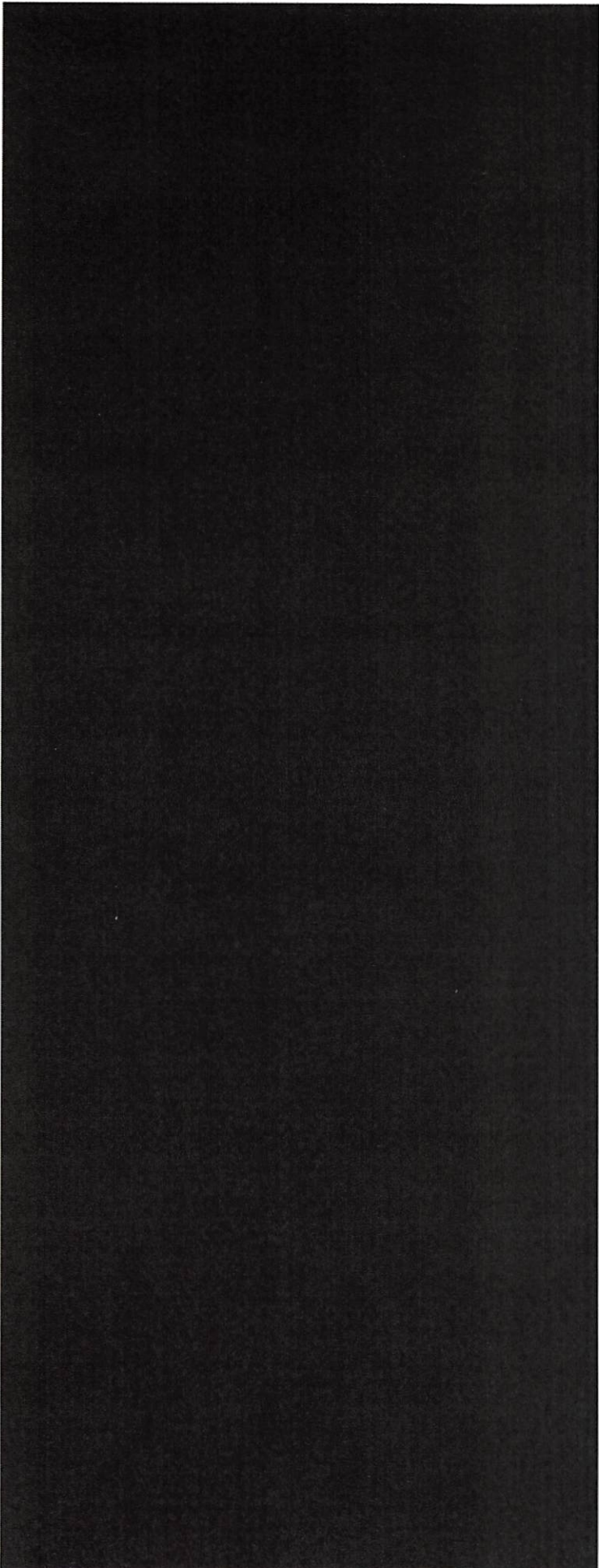
- Top business schools
- Investment banks
- Private equity GPs



Partners' proposed talent strategy aims to attract and retain top tier talent

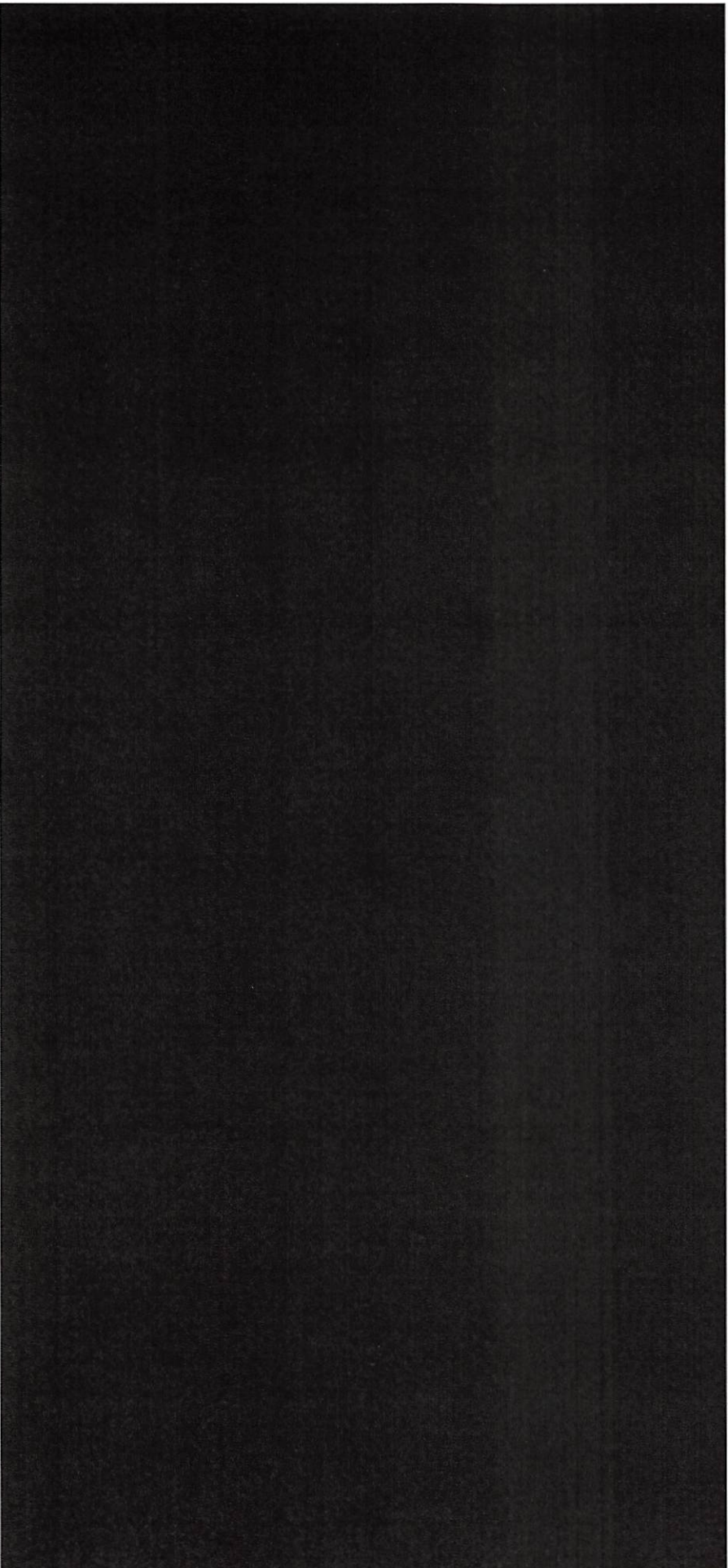
Horizon

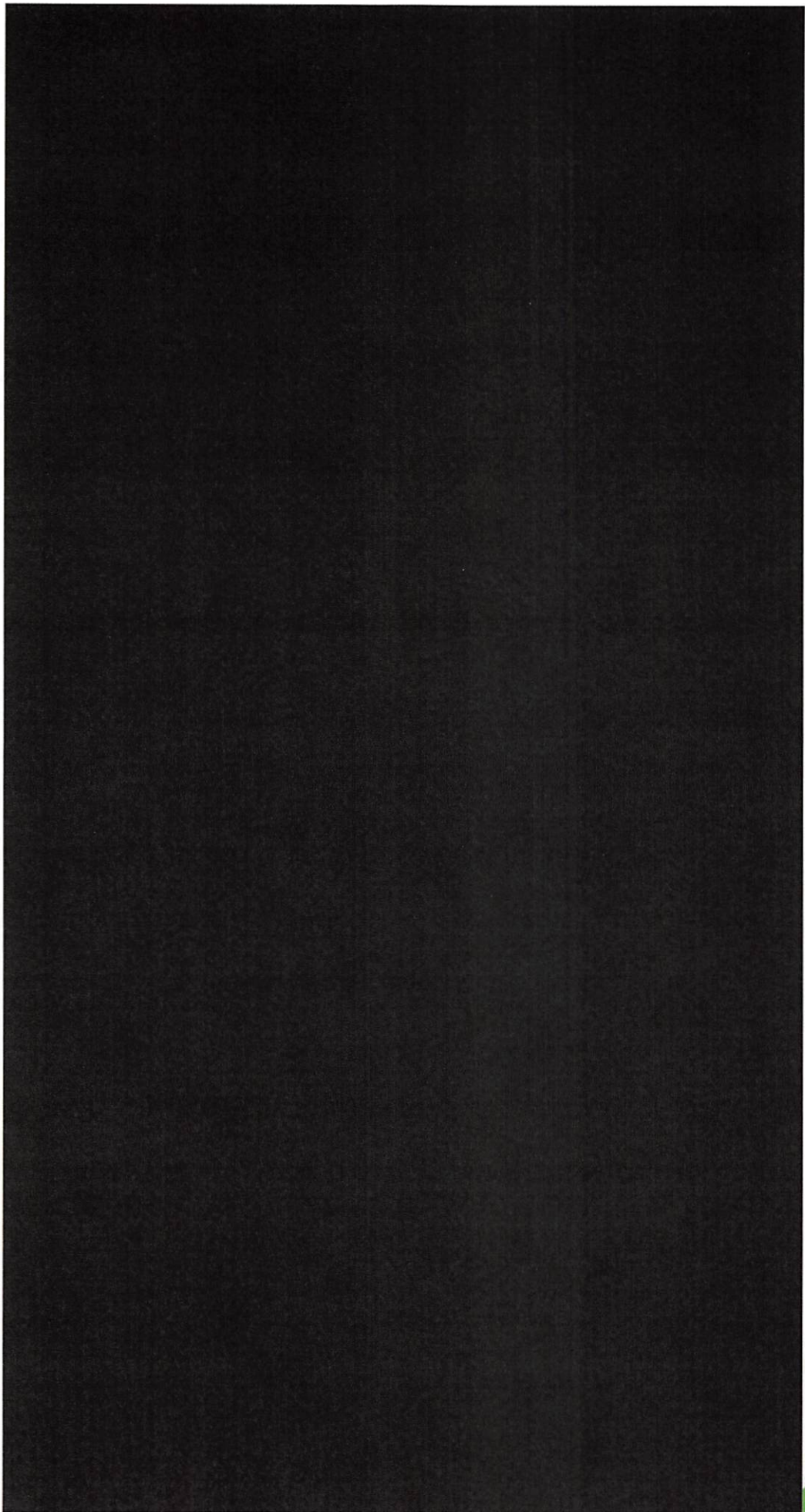
Innovation





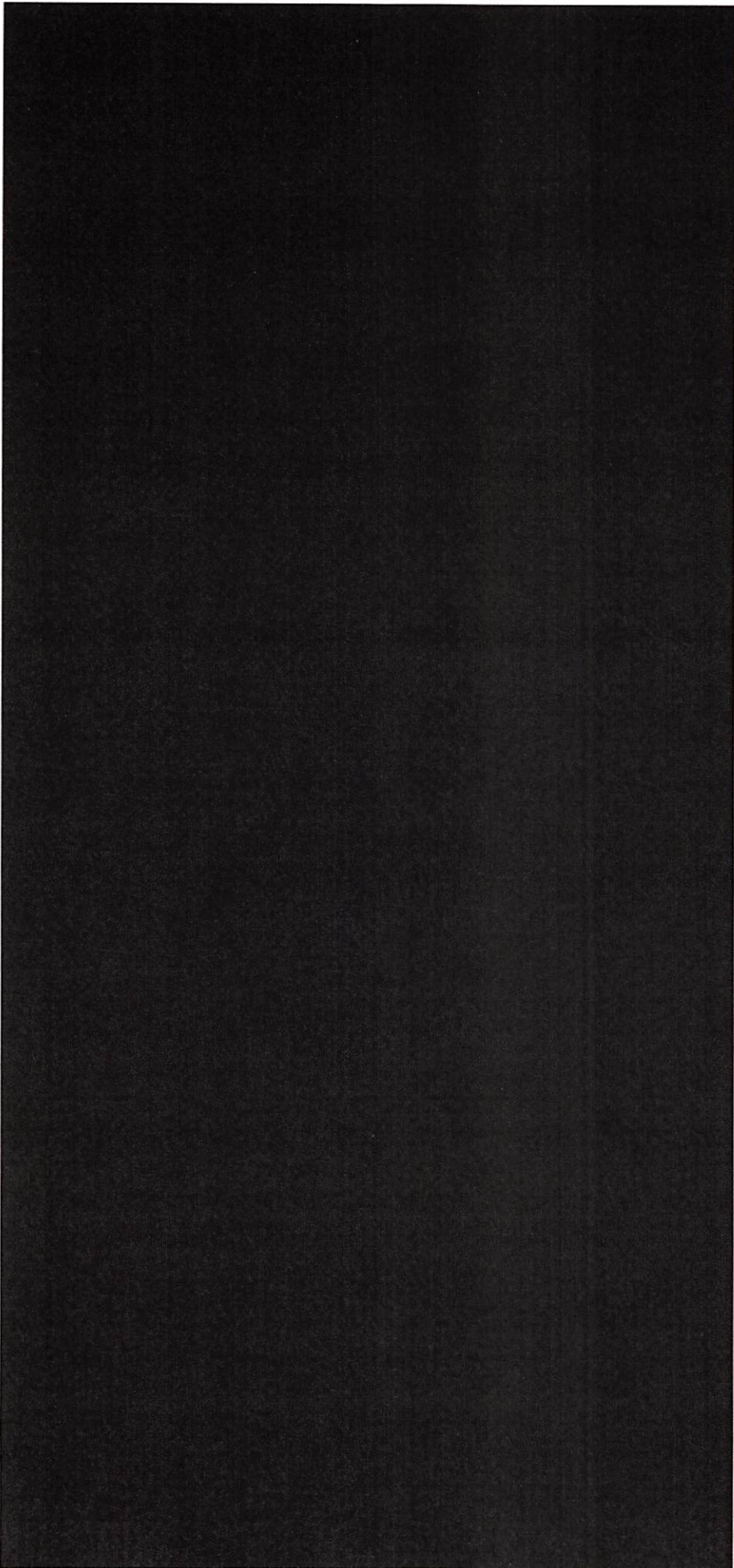
A number of potential operating models can be employed by Horizon and Innovation with their portfolio companies



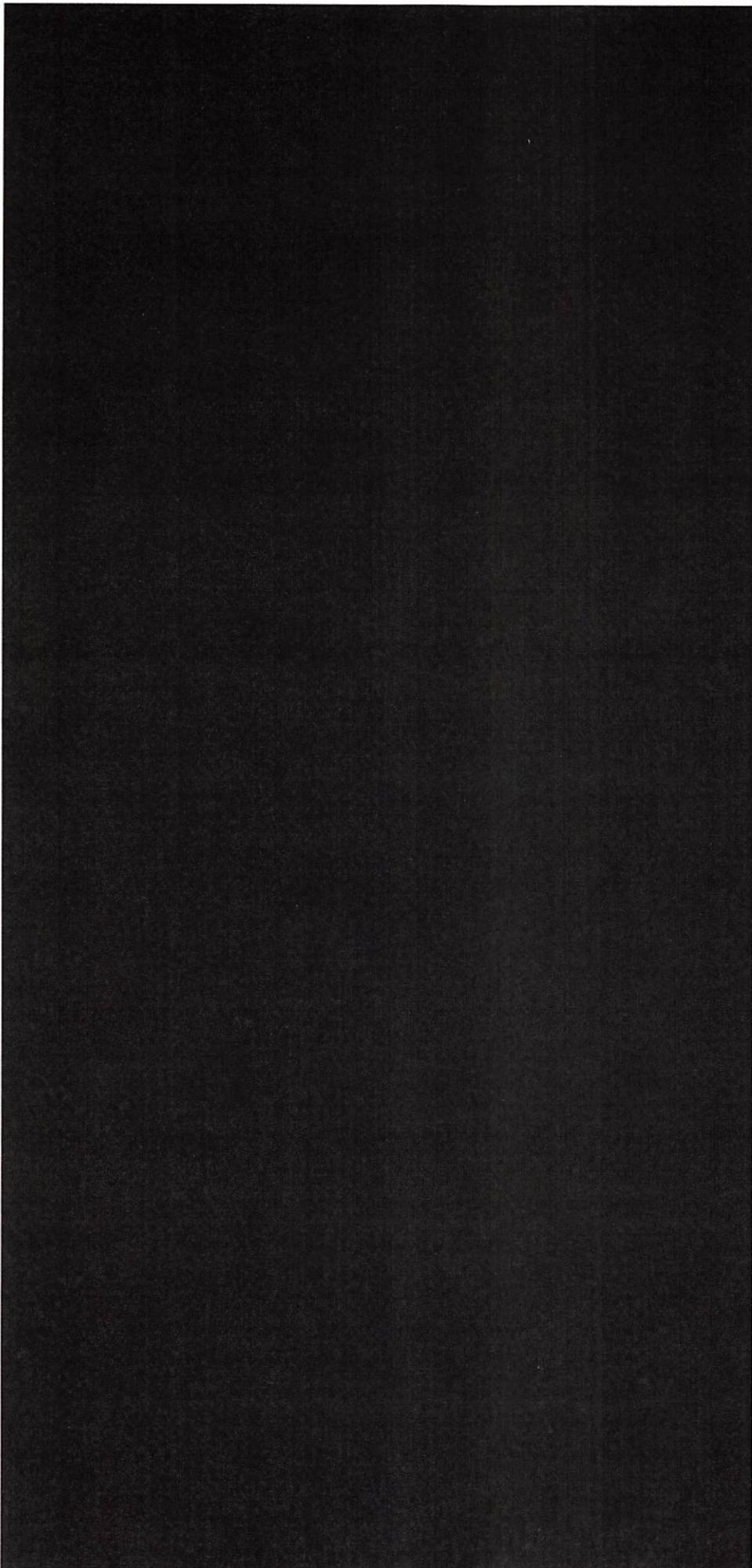




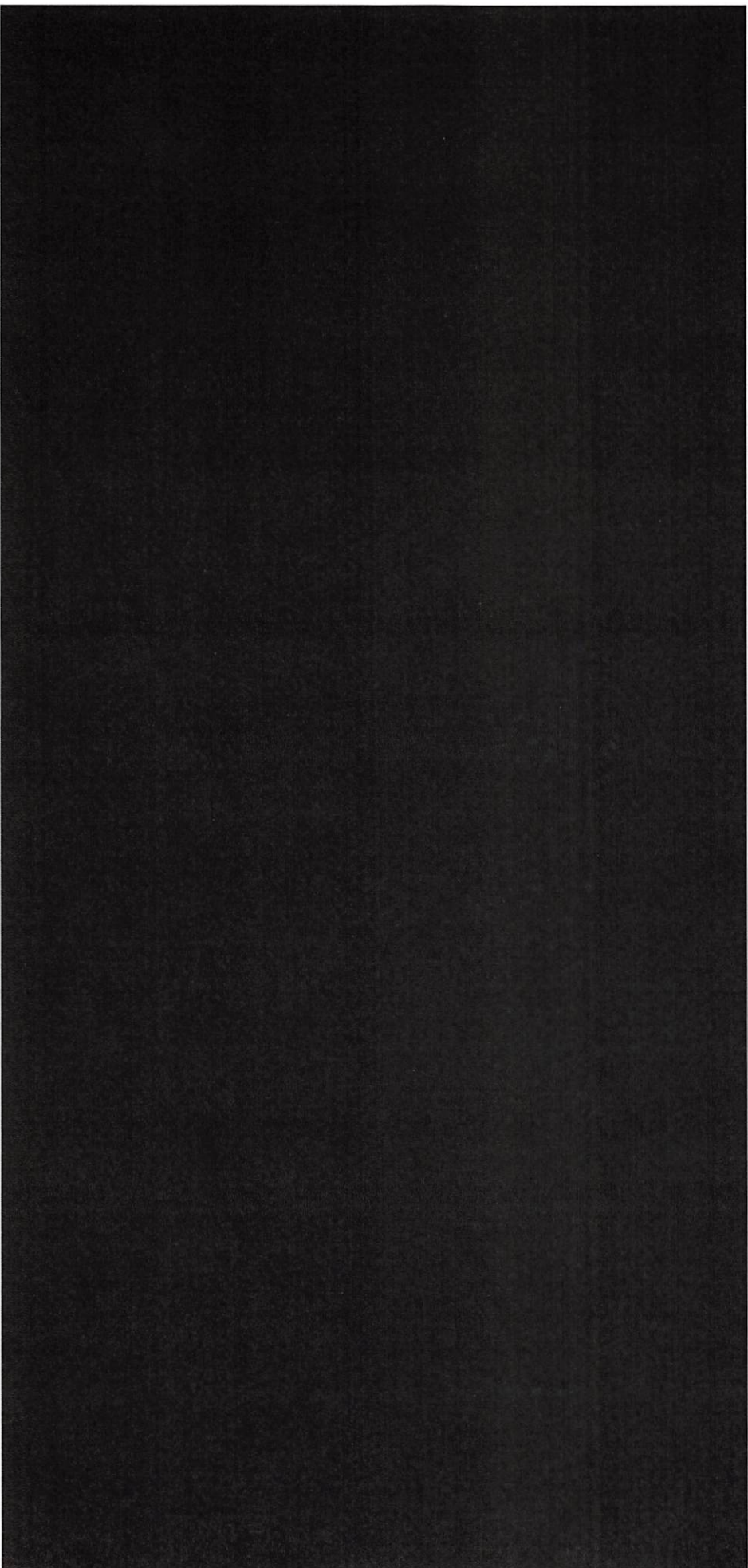
Key requirements for success of Horizon and Innovation



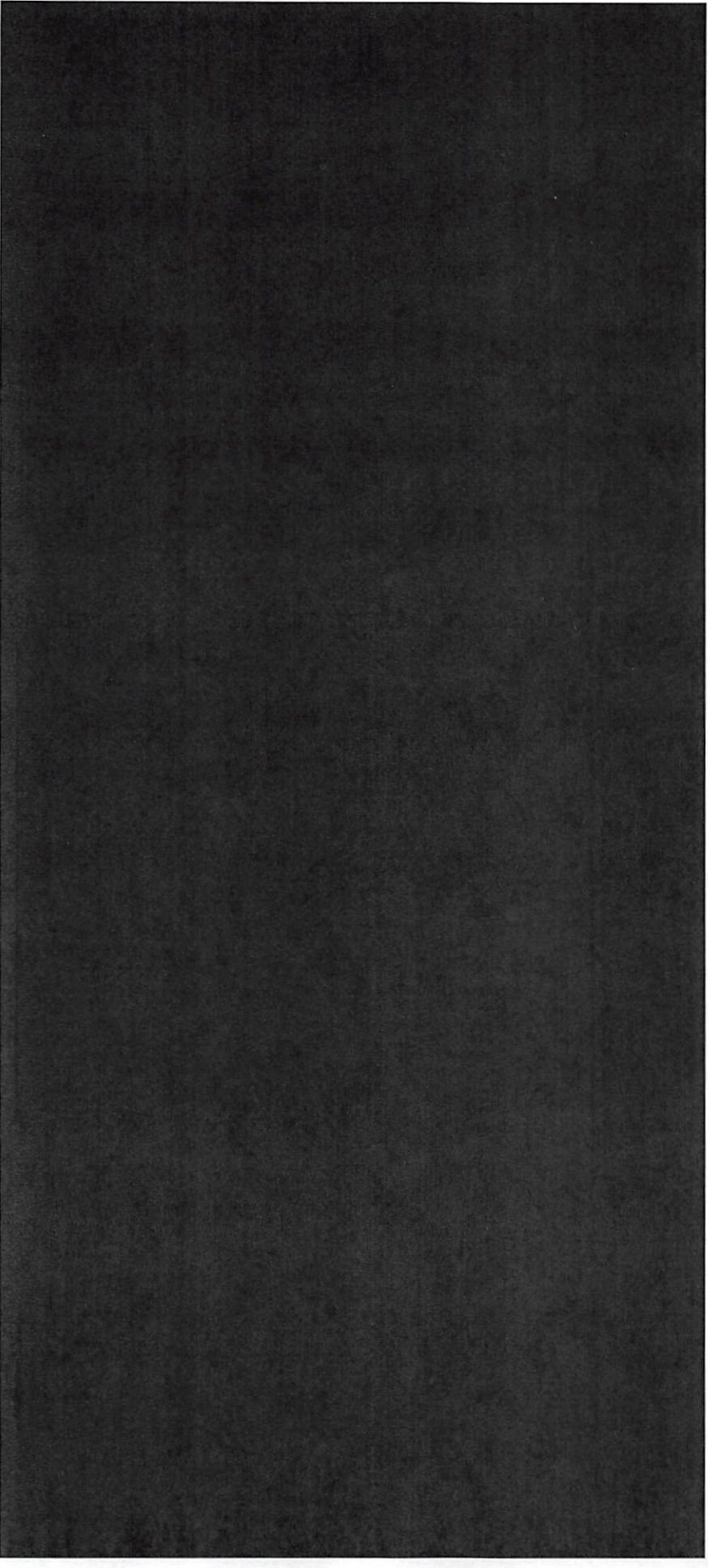
Assessment of progress against key requirements



Potential risks to model and mitigation strategies



BCG perspective: Horizon and Innovation on track to meet key requirements for a sound investment strategy



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