AGENDA

A REGULAR MEETING OF THE EQUITY: PUBLIC/PRIVATE COMMITTEE

OF THE BOARD OF INVESTMENTS AND BOARD OF INVESTMENTS*

LOS ANGELES COUNTY EMPLOYEES RETIREMENT ASSOCIATION

300 N. LAKE AVENUE, SUITE 810, PASADENA, CA

8:00 A.M., WEDNESDAY, FEBRUARY12, 2020

The Committee may take action on any item on the agenda,
and agenda items may be taken out of order.

I. CALL TO ORDER

II. APPROVAL OF MINUTES

A. Approval of the Minutes of the Equity: Public/Private Committee Meeting of November 20, 2019.

III. PUBLIC COMMENT

IV. REPORTS

A. Investment Recommendation Format Redesign
Christopher Wagner, Principal Investment Officer
(Memo dated January 31, 2020)

B. Private Equity Education
StepStone Group LP
John Coelho, Partner
Natalie Walker, Managing Director
(Memo dated January 31, 2020)

V. ITEMS FOR STAFF REVIEW

VI. GOOD OF THE ORDER
(For information purposes only)

VII. ADJOURNMENT

*The Board of Investments has adopted a policy permitting any member of the Board to attend a standing committee meeting open to the public. In the event five or more members of the Board of Investments (including members appointed to the Committee) are in attendance, the meeting shall constitute a joint meeting of the Committee and the Board of Investments. Members of the Board of Investments who are not members of the Committee may attend and participate in a meeting of a Committee but may not vote, make a motion, or second on any matter discussed at the meeting. The only action the Committee may take at the meeting is approval of a recommendation to take further action at a subsequent meeting of the Board.

Documents subject to public disclosure that relate to an agenda item for an open session of the Board of Investments that are distributed to members of the Board of Investments less than 72 hours prior to the meeting will be available for public inspection at the time they are distributed to a majority of the Board of Investments Members at LACERA's offices at 300 N. Lake Avenue, Suite 820, Pasadena, CA 91101, during normal business hours of 9:00 a.m. to 5:00 p.m. Monday through Friday.

Persons requiring an alternative format of this agenda pursuant to Section 202 of the Americans with Disabilities Act of 1990 may request one by calling the Board Offices at (626) 564-6000, Ext. 4401/4402, from 8:30 a.m. to 5:00 p.m. Monday through Friday, but no later than 48 hours prior to the time the meeting is to commence. Assistive Listening Devices are available upon request. American Sign Language (ASL) Interpreters are available with at least three (3) business days notice before the meeting date.

MINUTES OF THE REGULAR MEETING OF THE EQUITY: PUBLIC/PRIVATE COMMITTEE OF THE BOARD OF INVESTMENTS AND BOARD OF INVESTMENTS

LOS ANGELES COUNTY EMPLOYEES RETIREMENT ASSOCIATION

300 N. LAKE AVENUE, SUITE 810, PASADENA, CA 91101

8:00 A.M., WEDNESDAY, NOVEMBER 20, 2019

PRESENT: Herman B. Santos, Vice Chair

David Green

Ronald A. Okum, Alternate

ABSENT: Gina V. Sanchez, Chair

Wayne Moore

MEMBERS AT LARGE:

Keith Knox

STAFF, ADVISORS, PARTICIPANTS

Jonathan Grabel, Chief Investment Officer

Christopher Wagner, Principal Investment Officer

Jude Perez, Principal Investment Officer

David Chu, Senior Investment Officer

David Simpson, Investment Officer

Ron Senkandwa, Senior Investment Analyst

STAFF, ADVISORS, PARTICIPANTS (Continued)

StepStone Group, LP
Jose Fernandez, Partner

Meketa Investment Group
Timothy Filla, Vice President
Stephen McCourt, Managing Principal

I. CALL TO ORDER

The Meeting was called to order by Vice Chair Santos at 8:00 a.m., in the Board Room of Gateway Plaza.

II. APPROVAL OF MINUTES

A. Approval of the Minutes of the Equity: Public/Private Committee Meeting of March 13, 2019.

Mr. Okum made a motion, seconded by Mr. Green, to approve the minutes of the meeting of March 13, 2019. The motion carried by unanimous vote.

III. PUBLIC COMMENT

There were no requests from the public.

IV. NON-CONSENT ITEMS

A. Recommendation as submitted by Christopher Wagner, Principal Investment Officer and David Simpson, Investment Officer: That the Committee advance the revised Private Equity Objectives, Policies, and Procedures to the Board of Investments for approval.
(Memo dated October 29, 2019)

This Item was held out of order after Item IV. B.

IV. NON-CONSENT ITEMS (Continued)

Messrs. Grabel, Wagner, Simpson, Chu, and Mr. Fernandez from StepStone Group provided a presentation and answered questions from the Committee.

Mr. Okum made a motion, Mr. Green seconded, to advance the revised Private Equity Objectives, Policies, and Procedures to the Board of Investments for approval. The motion was passed unanimously.

B. Recommendation as submitted by Ted Wright, Principal Investment Officer, and Ron Senkandwa, Senior Investment Analyst: That the Committee advance the Global Equity Implementation Update to the Board of Investments for approval.
(Memo dated November 12, 2019)

This Item was held out of order after Item III.

Messrs. Grabel, Perez, Senkandwa, and Mr. Filla from Meketa Investment Group provided a presentation and answered questions from the Committee.

Mr. Okum made a motion, Mr. Green seconded, to advance the Global Equity Implementation Update to the Board of Investments for approval. The motion was passed unanimously.

V. ITEMS FOR STAFF REVIEW

There were no items to report.

VI. GOOD OF THE ORDER
(For information purposes only)

There were no comments.

VII. ADJOURNMENT

There being no further business to come before the Committee, the meeting was adjourned at 8:47 a.m.

January 31, 2020

TO: Trustees – Equity: Public/Private Committee

FROM: Christopher J. Wagner
Principal Investment Officer

FOR: February 12, 2020 Equity: Public/Private Committee Meeting

SUBJECT: **INVESTMENT RECOMMENDATION FORMAT REDESIGN**

Currently, for investment recommendations, staff prepares a 15-20 page memorandum and a 2-page summary for the Trustees. Staff is providing a format for discussion to replace the two investment recommendation submissions with one standardized PowerPoint presentation format. The proposed format will:

- streamline and simplify the production process
- ensure consistency of structure
- ensure consistency of information

Most importantly, the proposed redesign will enable Trustees to fulfill their oversight and governance roles by being able to quickly and consistently extract key comparative and referenceable information and data to evaluate each investment opportunity.

Table 1 maps the content that is currently captured in the existing memo format and indicates where that information will exist in the proposed presentation format.

The attached presents a full recommendation template for a hypothetical fund in the redesigned format.

Staff is seeking the Committee's feedback on the proposal and the format. With the Committee's input, for the March 2020 BOI investment recommendations, staff will produce the reports in both the memorandum and PowerPoint formats. With the BOI's feedback in March, staff will evaluate the proper presentation format subsequent to the March BOI meeting.

Table 1
MEMO CONTENT / PRESENTATION FORMAT COMPARISON

Memo	Presentation
Recommendation	Slide 3 – Recommendation and Overview
Purpose for Closed Session	Cover Memorandum
Executive Summary	Slide 3 - Recommendation and Overview
Compliance Matters - ESG - Diversity and Inclusion - Placement Agent Policy - Misconduct	 Slide 9 – Diversity and Inclusion Slide 10 – Investment Strategy
Background - Asset Category Objectives - Portfolio Fit within Asset Category - Portfolio Fit Within Total Fund	 Slide 4 – Due Diligence Process Slide 5 – Portfolio Fit Slide 5 – Portfolio Fit – LACERA Sub-Asset Class Slide 6 – Portfolio Fit
Evaluation Process	Slide 4 – Due Diligence Process
Investment Evaluation - Organization - Investment Team - Investment Strategy - Performance Track Record - Terms - Strengths and Merits - Concerns and Mitigating Factors	 Slide 7 – Organization Slide 8 – Team Slide 10 – Investment Strategy Slide 12 – Performance Slide 17 – Attachment 2 – Glossary of Terms Slide 13 – Strengths and Merits Slide 14 – Concerns and Mitigating Factors Slide 11 – Case Study (optional)
Other Considerations	Slide 3 - Overview
Attachment 1 – Purpose for Closed Session	Attachment 1 – Purpose for Closed Session
Attachment 2 – Glossary of Terms	Attachment 2 – Glossary of Terms
Attachment 3 – Partnership Proposed Terms	Attachment 3 – Partnership Terms
Attachment 4 – StepStone Memo	Attachment 4 – Commitments YTD
Attachment 5 – LACERA PE Commitments YTD	Attachment 5 – StepStone Memo

Attachment

NOTED AND REVIEWED:

Jonathan Grabel
Chief Investment Officer

CW:mm

January 24, 2020

TO: Trustees – Board of Investments

FROM: Christopher J. Wagner
Principal Investment Officer

FOR: February 12, 2020 Board of Investments Meeting

SUBJECT: **HYPOTHETICAL PRIVATE EQUITY PARTNERS III, L.P.**

RECOMMENDATION

Approve a commitment of up to $XX million to Hypothetical Private Equity Partners III, L.P.

PURPOSE FOR CLOSED SESSION

This item has been placed on the agenda for closed session pursuant to Section III.B of the Policy Governing the Use of Open and Closed Sessions to Consider the Purchase or Sale of Particular, Specific Investments. See **Attachment 1** for the detailed explanation.

REPRESENTATIONS

Hypothetical Private Equity Partners ("HPEP," the "Firm," or "General Partner") has engaged placement agent X to raise capital for Hypothetical Private Equity Partners III, L.P. ("HPEP III" or the "Fund") and has provided LACERA with the required Placement Agent Policy Disclosure Form. Staff reviewed the most recent ADV document and found that HPEP does not have any outstanding SEC-related matters. To the best of the Firm's knowledge, no former or current HPEP member has been accused or charged with sexual harassment or sexual misconduct while employed at the Firm or in the past.

Attached is the support for this investment recommendation.

Noted and Reviewed:

____
Jonathan Grabel
Chief Investment Officer

CW:mm

cc: Santos H. Kreimann
Jonathan Grabel
Steven Rice
Investments Staff
Legal Office - Investment Team

Hypothetical

Hypothetical Private Equity Fund Recommendation

Hypothetical Private Equity Partners III, L.P.

Board of Investments Meeting

February 12, 2020

Hypothetical

LOS ANGELES COUNTY EMPLOYEES RETIREMENT ASSOCIATION

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Title	Slide No.
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Strengths and Merits	13
Concerns and Mitigating Factors	14

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Attachment 3 – Partnership Terms	18
Attachment 4 – Private Equity Commitments in 2020	19
Attachment 5 – StepStone Memo	

Hypothetical

All Information Hypothetical

Recommendation and Overview

Recommendation

- Approve a commitment of up to $75 million to Hypothetical Private Equity Partners III, L.P.
- If approved, HPEP III would represent LACERA's first investment with Hypothetical Private Equity Partners

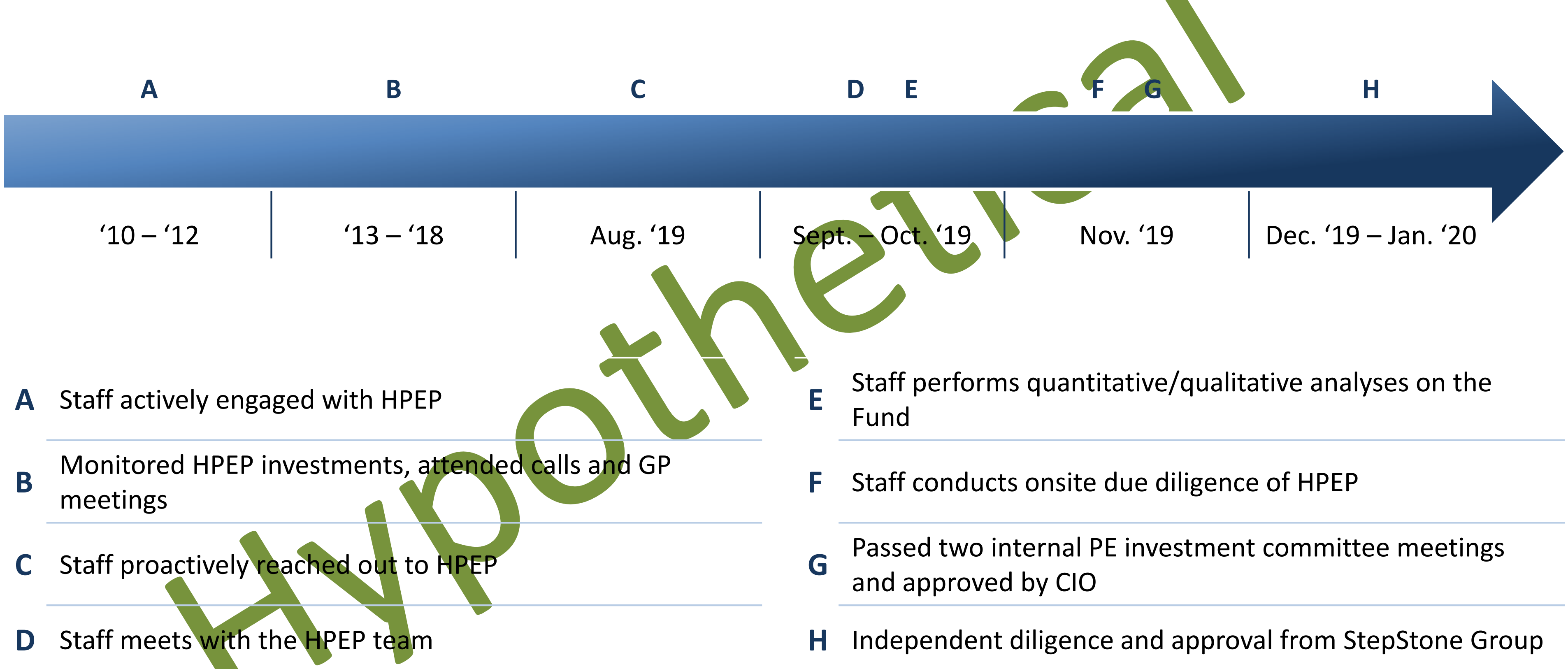
Overview

- HPEP is a pan-European small market growth equity manager with a core sector focus on technology, healthcare and life sciences, and other growth products and services
- HPEP is an investment firm with $27 billion of committed capital founded in 1984
- HPEP III will target minority and majority stakes in founder-owned, category-leading companies with strong recurring revenue business models in the GP's core sectors
- The investment approach is complemented by HPEP's differentiated sourcing capabilities
- StepStone Group LP conducted independent investment and operational due diligence on the Manager and provided their affirmative assessment of the opportunity in **Attachment 5**

Hypothetical

All Information Hypothetical

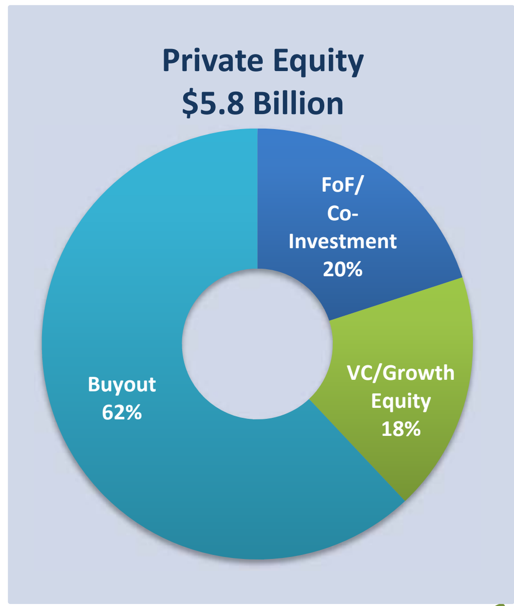
Due Diligence Process



A	Staff actively engaged with HPEP	**E**	Staff performs quantitative/qualitative analyses on the Fund
B	Monitored HPEP investments, attended calls and GP meetings	**F**	Staff conducts onsite due diligence of HPEP
C	Staff proactively reached out to HPEP	**G**	Passed two internal PE investment committee meetings and approved by CIO
D	Staff meets with the HPEP team	**H**	Independent diligence and approval from StepStone Group

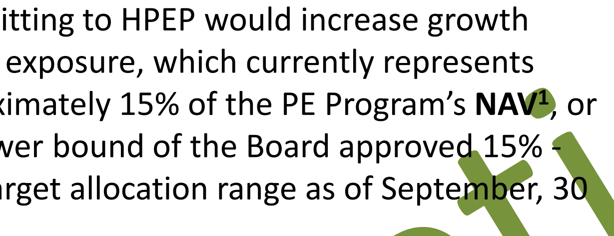
All Information Hypothetical

Portfolio Fit



Private Equity Targets

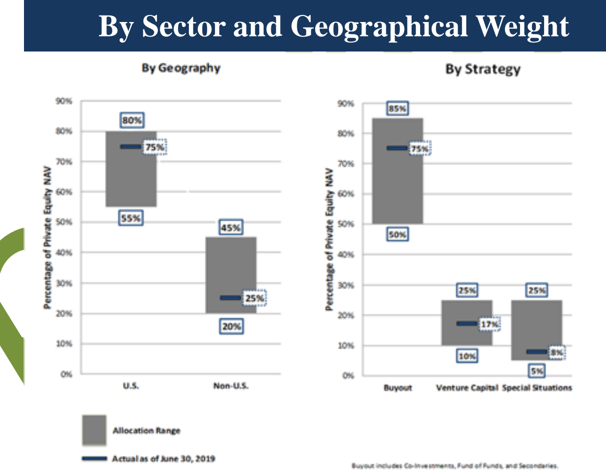
Return: MSCI ACWI+2%
Buyout Exposure: 50%-85%
VC/Growth Exposure: 15%-30%
FoF/Co-Invest Exposure: 10%-25%
Objective: MSCI ACWI+2%



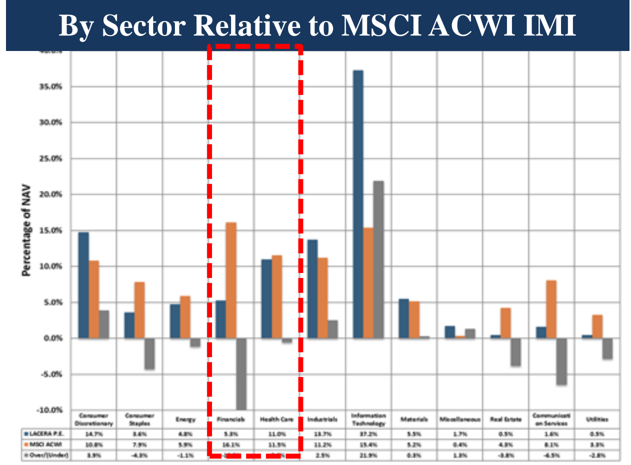
Committing to HPEP would increase growth equity exposure, which currently represents approximately 15% of the PE Program's **NAV**[1], or the lower bound of the Board approved 15% - 35% target allocation range as of September, 30 2019

As a reference point, LACERA's private equity exposure is currently underweight healthcare and financial services relative to the MSCI ACWI IMI by 2% and 11%, respectively, industries that HPEP targets

By Sector and Geographical Weight



By Sector Relative to MSCI ACWI IMI



[1] Glossary of terms can be found in **Attachment 2**.

Hypothetical
All Information Hypothetical

Portfolio Fit – LACERA's Growth Equity Exposure

- LACERA's portfolio has seven active growth equity managers that represent 6% ($600 million) of LACERA's $10.1 billion of total private equity exposure
- LACERA has only committed to two growth equity funds over the past seven years

Managers	Exposure	Target Sectors	Primary Regions
Manager 1	$150,000,000	Consumer Discretionary, Consumer Services, Consumer Staples, Industrials	Emerging Markets
Manager 2	$100,000,000	Consumer Discretionary, Consumer Services, Consumer Staples	Global, North America
Manager 3	$100,000,000	Communications, Financial Services, Healthcare, Software, Technology	Global, North America
Manager 4	$100,000,000	Software, Technology-enabled services	North America, Europe
Manager 5	$50,000,000	Business Services, Information Technology, Software	North America
Manager 6	$50,000,000	Internet, Software	Global, North America
Manager 7	$50,000,000	Technology, Healthcare, Financial Services, Consumer, and Business Services	Global, North America
Sum of Active Managers	**$600,000,000**		

Hypothetical

All Information Hypothetical

Organization

- Founded in 2000 as part of an investment bank that became independent in 2005
- Investment strategy and incentive compensation structure is highly differentiated
- HPEP's current fund strategies include control and minority investments in growth companies and subordinated debt investments alongside its equity investments
- Carried interest allocated to its teams based on long-term realized returns to incentivize its top-performing investment professionals to retain HPEP employees
- Since the year 2010, HPEP has raised $1.0 billion across two private equity funds, which have collectively generated a 2.5x gross MOIC (2.0x net) and 30% gross IRR (20% net)

Hypothetical

All Information Hypothetical

Organization – Team

- Partner A (managing partner), Partner B (managing partner), and Partner C (managing director), who have collectively worked at the Firm for 30 years, lead the Firm's 9-person team
- HPEP Value Creation Division helps management teams scale growth and improve portfolio company performance

Team Member	Years at HPEP	Select Previous Experience	Location
Partner A* Managing Partner	10	HPEP, Bank B	Paris
Partner B* Managing Partner	10	HPEP, Bank A	London
Partner C* Managing Director	10	Law Firm A	Paris
Partner D Managing Director	10	PE Fund C	Munich
Partner E* Managing Director	10	Bank A and PE Fund D	Paris
Partner F* Managing Director	10	PE Fund E	Paris
Partner G* Managing Director	10	Consulting Firm A	Paris

Bold denotes members of Executive Committee.
*Denotes members of the Investment Committee.

Hypothetical

All Information Hypothetical

Organization – Diversity and Inclusion

LACERA supports diversity in the workforce and has shared our desire to partner with like-minded firms. Although HPEP has some diversity on its investment team, LACERA would prefer to see more at the Firm.

Appointed Partner D, managing director, to the executive committee

Sits on the board of Club A as part of its effort to add gender diversity to its boards and to recruit qualified woman as C-level executives at its portfolio companies

Diversity and Inclusion Items	Response
Diversity and inclusion policy	Yes
Workplace harassment policy	Yes
Demographics of investment team and firm leadership, as reported:	
a. Percentage of women in US operations:	xx%
b. Percentage of people of color in US operations:	xx%
Known EEO regulatory or litigation track record, as reported and researched for past 12 years, if any:	None
Notable initiatives, objectives, and strategies addressing Diversity and Inclusion (including any efforts to improve firm's track record):	PEWIN

All Information Hypothetical

Hypothetical

Investment Strategy

Strategy

- Sector specialization focused technology, healthcare, financial services, consumer, and business services investments
- Thematic investment approach predicated on deep subsector research, combining HPEP's vast institutional knowledge with its vast network of intermediaries and C-Suite executives
- HPEP's sourcing effort has originated 65% of investments made from 2014 – 2018. Fifty percent of HPEP's investments were proprietary deals with no other competing firms
- Investment committee is highly aligned with LPs: 1) they must invest no less than 6% of the equity commitment; 2) deal becomes part of the individuals' track record

ESG

- HPEP has a formal ESG policy to identify and manage ESG factors within its investment and portfolio management process
- The investment staff of HPEP will evaluate whether there are any material ESG risks or opportunities associated with an investment both before and after an investment is made
- The investment committee for such investment will weigh any identified ESG risks and opportunities in connection with their overall assessment and rating of the investment opportunity and will document such findings in an ESG risk check-list

Outcome Expectations

- Staff expects HPEP III to generate a net IRR return of approximately 13%-16% at maturity, this represents a premium of 430-730 basis points over the LACERA 10-year private equity composite expected return of 8.7% as projected by Meketa

Hypothetical

All Information Hypothetical

Investment Strategy – Case Study (OPTIONAL)

Status	Realized
Sector	Publishing and Information Services
Date of Investment	August 2005
EBITDA Purchase Multiple	8.6 x (LTM as of 6/05)
ABC Partners / ZYX Equity Investment	$38.4 million
Equity Capital Partner	PDQ Partners
Realized Value	$25.6 million
Gross IRR	n/a
Gross Investment Multiple	0.7x

Summary

Business
- Business details

Investment Thesis
- Thesis details

Post-Investment Value Creation
- Value creation details

HVAC Revenue & EBITDA Performance

Hypothetical

All Information Hypothetical

Performance

HPEP Prior Funds Net Performance Summary
As of September 30, 2018 ($ in millions)

Funds	Vintage Year	Fund Size	Invested Capital	Amount Realized	Amount Unrealized	Total Value	HPEP	Private iQ		HPEP	Private iQ		HPEP	Private iQ	
							Net IRR	1st Quartile	Median	Net MOIC	1st Quartile	Median	DPI	1st Quartile	Median
Fund I	2010	$500	$450	$900	$450	$1,350	**19%**	19%	13%	**2.3x**	1.8x	1.6x	**1.5X**	1.4x	1.0x
Fund 2	2016	$500	$450	$450	$900	$1,350	**21%**	21%	8%	**1.4x**	1.2x	1.1x	**0.8x**	0.1x	0.0x
Total Funds		**$1000**	**$900**	**$1,350**	**$1,350**	**$2,700**	**20%**			**2.0x**			**1.2x**		

Burgiss Private iQ Global PE Performance as of September 30, 2018.

Quartile
- 1st
- 2nd
- 3rd
- 4th

Fund	Vintage	vs. S&P 500		vs. MSCI ACWI IMI		vs. MSCI ACWI IMI + 200bps	
		PME	Direct Alpha	PME	Direct Alpha	PME	Direct Alpha
Fund I	2010	1.4	6%	1.5	7%	1.3	5%
Fund II	2016	1.1	11%	1.2	15%	1.2	12%
Total		**1.3**	**7%**	**1.4**	**8%**	**1.3**	**6%**

Notes: A PME value greater than one indicates that an investor benefited from investing in the respective private equity fund rather than the index. Direct Alpha measures the private equity fund's outperformance or underperformance versus a public market index.

Funds I and II are first quartile in all metrics

HPEP Funds I and II outperformed each of the indices with K&S PME values ranging from 1.1 to 1.6, and Direct Alphas ranging from 5% to 15%

On an aggregate basis, HPEP I – HPEP II funds exceeded the performance of all the indices with Direct Alphas ranging from 6% to 7%

Hypothetical
All Information Hypothetical

Strengths and Merits

Merit	
Strong Performance Results	• Generated a 2.5x gross MOIC (2.0x net) and 30% gross IRR (20% net) • All funds are upper quartile
Significant General Partner Commitment	• G.P. commitment of 6% represents a strong alignment of interest between HPEP and its LPs
Value Creation at Portfolio Company Level	• Enacts value creation plans that include organic and inorganic growth initiatives
Experienced and Tenured Leadership Team	• 100% of the Firm's seven Partners started at HPEP as associates • The managing principals have on average, 10 years of experience working at HPEP and the Firm's managing directors have, on average, 10 years of experience with HPEP
Proprietary Sourcing Effort	• HPEP has sourced 65% of its deals through its outbound efforts from 2014 – 2018

HPEP Fund	Vintage Year	Fund Size ($ millions)	Average Revenue Growth	Average EBITDA Growth
HPEP I	2010	$500	90%	100%
HPEP II	2016	$500	90%	10%

Hypothetical

All Information Hypothetical

Concerns and Mitigating Factors

Concern	Mitigating Factors
Unrealized Investments in Fund II	• HPEP has a pool of 7 Partners such that there are 1.8 active portfolio companies per Partner, as of December 31, 2018
Lack of IRR-Based Performance Hurdle	• HPEP III has a European waterfall structure where carried interest will only be paid once the fund investors have all of their invested capital returned • Strong alignment of interest through its 6% G.P. commitment • All funds have exceeded the 8% market based hurdle required to receive carry
Increased Fund Size	• Including co-investments, HPEP has been deploying $200 million a year since 2012 which is supportive of the $1 billion target size

Hypothetical

All Files Hypothetical

Appendix

All Information Hypothetical

Attachment 1 – Purpose for Closed Session

This item has been placed on the agenda for executive session pursuant to Section III.B of the Policy Governing the Use of Open and Closed Sessions to Consider the Purchase or Sale of Particular, Specific Investments for the following reasons:

1. This memo includes due diligence information subject to the agreement ("Confidentiality Agreement") required to access the online data room entered into between LACERA and HPEP Fund III GP Limited (the "Manager"). The Confidentiality Agreement provides that "the information contained in this workspace, including any attachments (collectively, "Workspace Data") is confidential, and is proprietary and constitutes trade secrets of HPEP, its funds and portfolio companies. By clicking "agree", you acknowledge and agree to: strictly maintain the confidentiality of all Workspace Data and not to divulge Workspace Data to any third party or otherwise use the contents for any purpose other than the internal monitoring of HPEP III Fundraising." This memo also includes confidential information from the Private Offering Memorandum ("POM") for HPEP III. The POM is marked as "Confidential" on the cover page. The POM also provides that it is "being furnished on a confidential basis" and "will be used for the sole purpose of evaluating a possible investment in the partnership. Delivery to anyone other than such person is authorized." By accepting the POM, LACERA was provided notice of these terms.
2. This memo includes information within the protection of the Confidentiality Agreement and POM, including, for example: information regarding the Manager's track record as discussed on pages 5, 11, and 12 of this memo, and information regarding the general partner's fund commitment on pages 5, and 13. Public disclosure and discussion of this information will expose LACERA to risk under the Confidentiality Agreement and POM.
3. Aside from noncompliance with the terms of the Confidentiality Agreement and PPM, public discussion and disclosure of information provided to LACERA in confidence will undermine LACERA's reputation and credibility with the Manager as well as potentially with others in the highly competitive marketplace for quality private equity fund investments if LACERA acquires a reputation of not being willing or able to respect the confidentiality of sensitive information. This, in turn, could negatively affect and possibly exclude LACERA from further consideration as a potential limited partner in this investment, which is expected to be oversubscribed, and investments that LACERA may wish to consider or make in the future with this Manager or others.
4. StepStone provides its memo to LACERA in confidence, as stated on page 35 of the memo. StepStone regards its information and analysis as proprietary and having market value to StepStone, particularly, for example: the StepStone Assessment on pages 2-5; the Fund Strategy on pages 11-14; the Performance Analysis on pages 15-23; the Fund Terms on pages 27-32; and Operational Due Diligence on page 34. StepStone shares its detailed, proprietary information, analysis, and judgments with the understanding that the information will be maintained in confidence. If StepStone's memo is subject to public discussion and disclosure, it will affect the level of detail that StepStone provides in its Board memos.
5. Public discussion and disclosure of this memo and the StepStone memo, particularly, for example, the specific sections and pages identified in paragraphs 2 and 4 above, could have a market impact on the Manager and LACERA's investment if approved. Prevention of market impact is a primary public purpose underlying the Brown Act provision permitting executive session discussion of particular, specific public pension investments.

To the extent that information in this memo and the StepStone memo are subject to disclosure under the California Public Records Act, LACERA will produce redacted copies to any person who requests them, in accordance with the law and LACERA's usual practice.
LACERA's Legal Division has reviewed and approved staff's memo.

Hypothetical

All Information Hypothetical

Attachment 2 – Glossary of Terms

Term	Acronym	Definition
Carried interest ("carry")	N/A	The share of profits that the general partners of a private equity or VC fund receive as part of their compensation.
Direct Alpha	N/A	Measures the private equity fund's outperformance or underperformance versus a public market index.
Distributions to Paid-in Capital	DPI	A ratio of total capital returned to investors to the capital paid-in.
Earnings Before Interest, Taxes, Depreciation, and Amortization	EBITDA	A measure of a company's operating performance which is calculated by adding back the non-cash expenses of depreciation and amortization to a firm's operating income.
Exposure	N/A	Exposure is defined as the net asset value ("NAV") plus any unfunded commitments.
Growth Equity	N/A	The growth equity strategy typically sits between buyouts and venture capital on the risk/return spectrum and often targets companies with the following characteristics: (1) founder-owned or management-owned, (2) proven business models (profitable or break-even), (3) zero or limited use of leverage, (4) moderate to high revenue growth rates in mature businesses.
Internal Rate of Return	IRR	IRR is a measure of performance used to evaluate the attractiveness of an investment. The interest rate at which the net present value of all cash flows is zero.
Kaplan & Schoar Public Market Equivalent Analysis	K&S PME	Compares private equity fund performance to a hypothetical portfolio of similar investments in a public index. The analysis discounts fund contributions and distributions based on realized public index returns during the same time period, with the ratio representing the sum of the discounted distributions and market value divided by the sum of the discounted contributions. A PME value greater than 1.0 indicates that the investor benefitted from investing in the private equity fund rather than the public index.
Multiple of Invested Capital	MOIC	A ratio of the current value of remaining investments within a fund plus the total value of all distributions, to the amount of capital paid-in.
Net Asset Value	NAV	Represents the net value of an entity and is calculated as the total value of the entity's assets minus the total value of its liabilities

Hypothetical
All Information Hypothetical

Attachment 3 – Partnership Terms

Limited Partnership Key Terms	Proposed Term	ILPA Preferred* (Yes/No)
Term:	10 years	N/A
Term Extensions:	Three one-year extensions, with general partner and advisory committee consent	Yes
Target Fund Size:	$1.0 billion	N/A
Maximum Fund Size:	$1.0 billion	N/A
Commitment Period:	Five years	N/A
Management Fee:	1%	Yes
Operating Expenses:	The general partner shall be responsible for the fund's normal operating expenses	Yes
Organizational Expenses:	Up to $3 million	N/A
General Partner Transaction Fee/Income Offsets:	100%	Yes
Distribution Waterfall:	European	No
Preferred Return:	No	No
Carried Interest:	20%	N/A
General Partner Commitment:	5%	Yes
Key Person Provision:	Yes, 50% of full-time HPEP partners	N/A
For Cause Removal of General Partner:	Yes; upon the vote of >50% in-interest of the limited partners	Yes
No Fault Removal of General Partner:	No; but can terminate fund without cause with a vote of 75% in-interest of the limited partners	No
Clawback Provision:	Yes, after-tax clawback payable annually and at dissolution	Yes
Limited Partner Advisory Committee (“LPAC”):	TBD	N/A
Key Investment Limitations:	15% cap on single issuer, 15% cap on publicly traded companies;	N/A

*Per the ILPA, the Private Equity Principles "should not be applied as a checklist, as each partnership should be considered separately and holistically." The ILPA also emphasizes that a single set of terms (even those defined by the ILPA) do not allow for broad market dynamics, and therefore, cannot be applied prescriptively when negotiating governing fund documents, including the limited partnership agreement.

Hypothetical

All Information Hypothetical

Attachment 4 – Commitments in 2020

LACERA Private Equity Commitments in 2020

Board Date	Fund Name	Commitment ($ in Millions)*
January 8, 2020	Gateway Plaza V , L.P.	$xx
February 12, 2020	Mentor Avenue VI, L.P.*	$xx
February 12, 2020	Pasadena Partners IV, L.P.**	$xx
February 12, 2020	Hypothetical Private Equity Fund III, L.P.**	$xx
Total		$xxx

*Commitment amounts are updated with actual allocations received by LACERA post BOI approval.

** Subject to Board approval.

Hypothetical

LACERA

January 31, 2020

TO: Trustees – Equity: Public/Private Committee

FROM: Christopher J. Wagner
Principal Investment Officer

FOR: February 12, 2020 Equity: Public/Private Committee Meeting

SUBJECT: **PRIVATE EQUITY EDUCATION**

At the February 12, 2020 Board of Investments Equity: Public/Private Committee Meeting, LACERA's private equity advisor StepStone Group LP ("StepStone") will make an educational presentation to update Committee members with recent market developments in the Venture Capital and Growth Equity asset categories. Topics include fundraising, exit activity, secondary transactions, and the growth and ongoing importance of software companies.

Natalie Walker and John Coelho will lead the presentation (**Attachment 1**) on behalf of StepStone. Also attached to this memorandum is a StepStone authored research paper **(Attachment 2)** that covers the presentation subject in detail.

Attachments

NOTED AND REVIEWED:

Jonathan Grabel
Chief Investment Officer

CW:mm

ATTACHMENT 1

Venture Capital & Growth Equity Educational Session

FEBRUARY 2020

*Slides for discussion based on StepStone's white paper titled
Venture Capital: Partying Like It's 1999?

Disclosure

This document is meant only to provide a broad overview for discussion purposes. All information provided here is subject to change. This document is for informational purposes only and does not constitute an offer to sell, a solicitation to buy, or a recommendation for any security, or as an offer to provide advisory or other services by StepStone Group LP, StepStone Group Real Assets LP, StepStone Group Real Estate LP, StepStone Conversus LLC, Swiss Capital Invest Holding (Dublin) Ltd, Swiss Capital Alternative Investments AG or their subsidiaries or affiliates (collectively, "StepStone") in any jurisdiction in which such offer, solicitation, purchase or sale would be unlawful under the securities laws of such jurisdiction. The information contained in this document should not be construed as financial or investment advice on any subject matter. StepStone expressly disclaims all liability in respect to actions taken based on any or all of the information in this document.

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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 market 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 calculated in accordance with StepStone's Valuation Policies 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 Group LP, its affiliates and employees are not in the business of providing tax, legal or accounting advice. Any tax-related statements contained in these materials are provided for illustration purposes only and cannot be relied upon for the purpose of avoiding tax penalties. 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, StepStone Group Real Estate LP and StepStone Conversus LLC 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" and together with SCHIDL, "Swiss Cap") is an SEC Exempt Reporting Adviser. 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 January 2020 unless otherwise noted.

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

JOHN COELHO, PARTNER, LA JOLLA

Mr. Coelho is a member of the private equity team, focusing on venture capital, growth equity, and co-investments.

Prior to joining StepStone in 2007, Mr. Coelho was an assistant vice president with ATEL Capital Group, a venture debt and asset-based lender. Before that he served as a venture capital advisor to Unigestion, an alternative asset manager based in Geneva, and as an associate at Plantagenet Capital Management, a private equity firm that focused on early stage and turnaround investments.

Mr. Coelho received his BS and MBA from the Haas School of Business at the University of California, Berkeley.

NATALIE WALKER, MANAGING DIRECTOR, LA JOLLA

Ms. Walker is a member of the private equity team, focusing on US-based small-market managers and secondary investments.

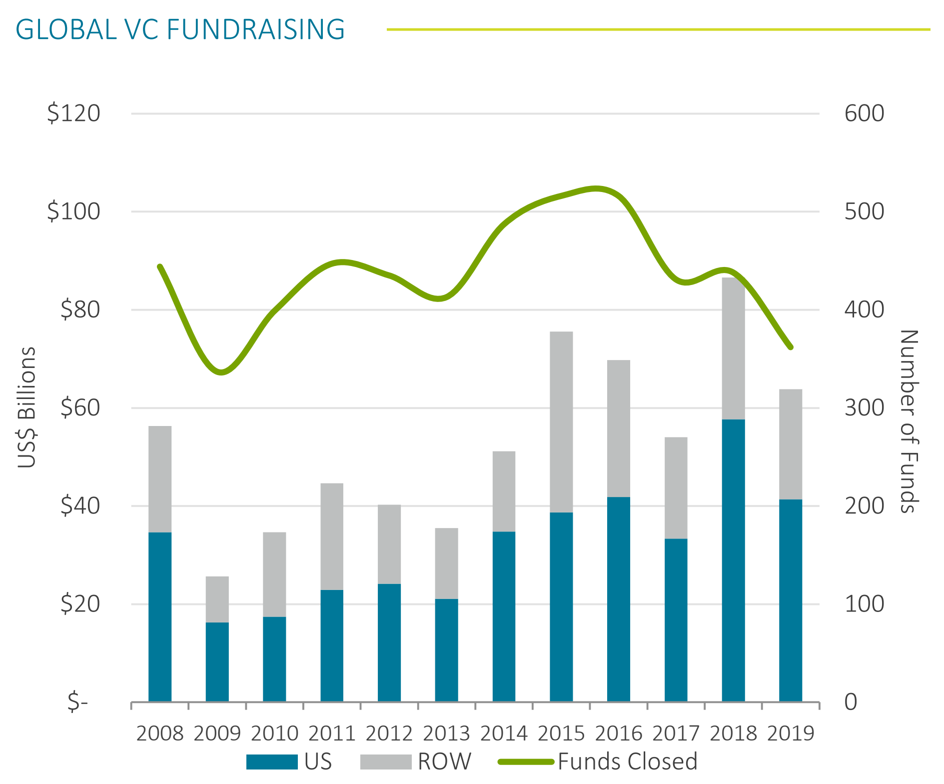
Prior to StepStone, Ms. Walker was a research analyst at Oppenheimer & Co., a leading national investment bank and full-service investment firm offering investment banking, financial advisory services, capital markets services, asset management, wealth management, and related products and services worldwide. 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. Before that she worked for a private equity backed start-up and Women-owned Business Enterprise, Sundance Energy.

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

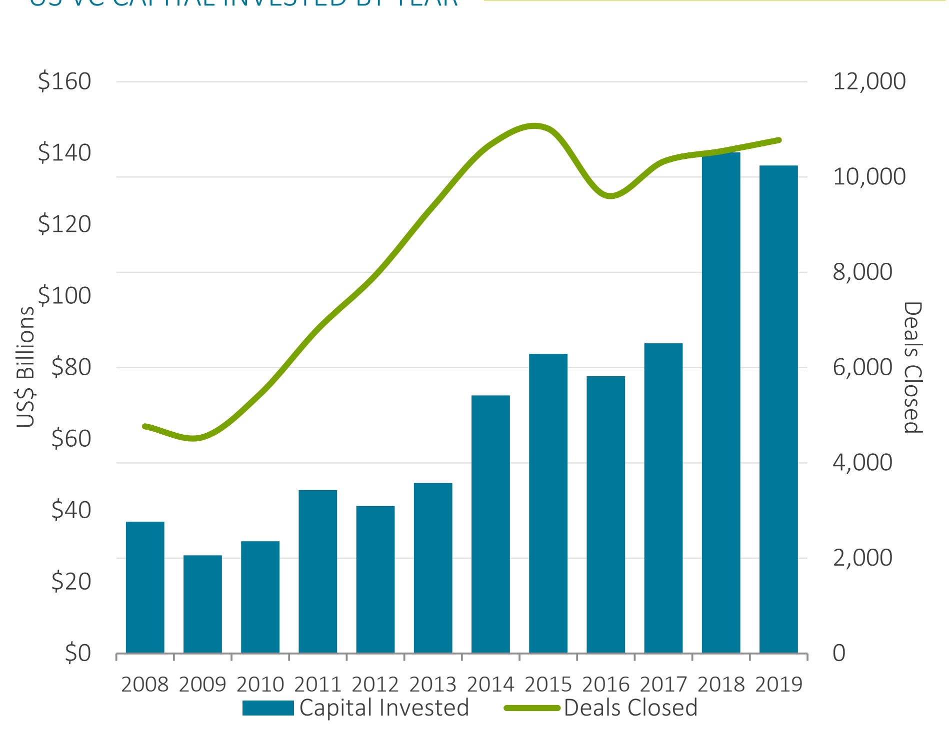
The VC Boom

A decade of expansion in VC has led to a number of recent milestones, including a record amount of capital raised by VC funds and invested in VC-backed companies, in 2018

GLOBAL VC FUNDRAISING



US VC CAPITAL INVESTED BY YEAR



Source: Pitchbook, December 2019

The VC Boom (cont.)

Pre-money values have exploded in late-stage VC and exit sizes have increased correspondingly

US MEDIAN PREMONEY VALUATION (US$M)

$600
$500
$400
$300
$200
$100
$0
2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019
Angel & seed
Early VC
Late VC

US VC EXIT COUNT BY EXIT SIZE (US$M)

100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019
$500M+
$100M-$500M
$50M-$100M
$25M-$50M
Under $25M

Source: Pitchbook, December 2019

Bigger Exits But Longer Time to Liquidity

Although the time to liquidity has lengthened, exit activity for VC-backed companies increased dramatically

MEDIAN AGE OF TECH COMPANIES AT IPO (YEARS)

US VC EXIT ACTIVITY BY YEAR

Source: Jay Ritter, 2016; Pitchbook, December 2019

Larger, Fewer Outcomes at Exit

A handful of IPOs are responsible for most of the exit value

US VC EXIT VALUE BY TYPE ($B)

100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%

2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019

Buyout
IPO
Acquisition

Source: Pitchbook, December 2019

VC Returns Have Improved

After a decade of underperformance, top quartile VC funds have outperformed buyouts; but dispersion of returns remains a major concern; manager selection is critical

TOP QUARTILE NET IRRS TO LPS BY VINTAGE YEAR

35%
30%
25%
20%
15%
10%
5%
0%

2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016

US VC
US Buyout

Source: StepStone Private Markets Intelligence, 2019

Growth Equity Remains Attractive Relative to VC

Growth equity's realized loss ratios are lower than are VC's, with IRR and TVMs higher, on average

VC VS GROWTH EQUITY AVERAGES (2000-2019)

Gross TVM
2.6x
2.5x
2.4x
2.3x
2.2x
2.1x
2.0x

Loss Ratio (%)
45%
40%
35%
30%
25%
20%
15%
10%
5%
0%

VC: 2.2x, 39%
Growth Equity*: 2.6x, 16%

*StepStone defines growth equity as profitable or break-even companies, typically growing 25%+ with little to no prior institutional capital raised.

Source: StepStone Private Markets Intelligence, January 2020
3,576 full-realized software and internet deals.

Software is Fueling the Private Equity Industry

IT is one of the fastest growing segments of the private equity market; recurring revenues and high margins are big reasons why

NUMBER OF US PE DEALS BY SECTOR

Source: Pitchbook, January 2020

Small Funds Have More Upside and More Risk

25% of deals pursued by small funds have delivered 3x returns or better; although seed + early stage loss ratios have remained above 50%, late-stage loss ratios have fallen sharply

VC GROSS TVM DISTRIBUTION OF DEALS BY FUND SIZE

100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%

<$100M
$100-250M
$250-500M
$500-1000M
>$1000M

<1x 1x-2x 2x-3x 3x-5x >5x

Source: StepStone Private Markets Intelligence, 2019

Wider Spectrum of Venture & Growth Strategies

Venture capital and growth equity have developed a broader range of opportunities for LPs to evaluate

MEDIAN NET IRR BY STAGE

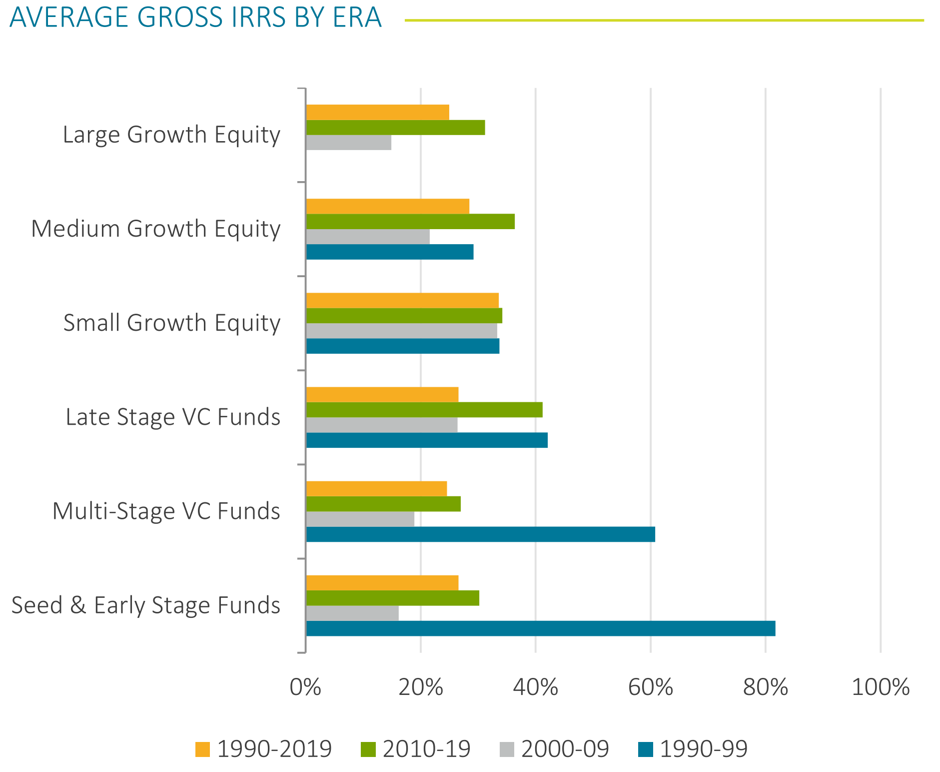
Stage	Median Net IRR
Seed Stage	20%
Series A	15%
Multi Stage	16%
Late Stage	21%
Opportunity SPVs	23%
Small Growth	20%
Medium Growth	21%
Large Growth	17%

Source: StepStone Private Markets Intelligence, January 2020.

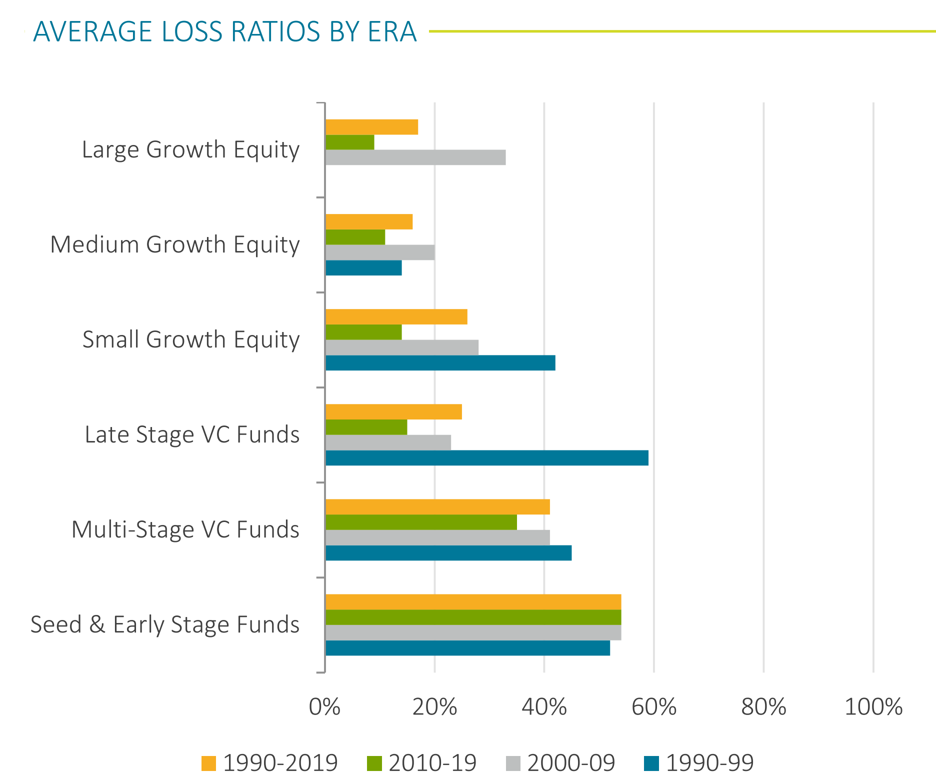
Venture & Growth Performance Over Time

Late-stage VC, small growth equity, and medium growth equity have delivered strong returns, with less risk

AVERAGE GROSS IRRS BY ERA



AVERAGE LOSS RATIOS BY ERA



Source: StepStone Private Markets Intelligence, January 2020.

Rise of The Secondary Market

Secondary directs are a critical liquidity component for GPs, LPs, & employees; direct secondaries have grown rapidly, especially in growth equity; LP venture secondaries have also grown to reach approximately US$6.4 billion in 2019 according to estimates by Evercore

GLOBAL DIRECT SECONDARY TRANSACTIONS IN VC-BASED COMPANIES

US$ Millions

$5,000
$4,000
$3,000
$2,000
$1,000
$0

Number of Deals

250
200
150
100
50
0

2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019

Capital Invested
Deal Count

Source: Evercore, Pitchbook, January 2020.

Conclusion

- Despite the excesses of the tech market and parallels to the dot-com bubble, the risk/reward in VC and growth equity has improved. The rise of software and SaaS as a sustainable business model offers high margins, recurring revenues, and opportunities to apply artificial intelligence to monetize data.

- We expect software to continue penetrating other sectors of the economy. This growth opportunity and the resiliency of the SaaS business model should enable VC to outperform, powering the IPO, M&A, and buyout markets in the process.

- Seed and early-stage funds still offer the best path to outsized returns, but LPs must grapple with volatility and long hold periods. Late-stage strategies have become more attractive as a way to generate attractive returns without the long investment horizon associated with early-stage VC.

- Because growth equity companies are typically profitable, they are not subject to the same financing and technology risk as VC companies. Growth equity, compared to VC, has been the safer bet for LPs. Realized loss ratios for growth equity are much lower, while generating higher IRRs and multiples, on average.

- As many of the most important pre-IPO companies have waited 10 or more years to go public, their shareholders are seeking liquidity for their stakes. VC funds generally trade at a greater discount than buyout funds since the values of underlying assets tend to be more volatile and the time to liquidity is less certain. For LPs seeking to build VC exposure, secondaries can be a less risky way to access the VC market.

The opinions expressed herein reflect the current opinions of Stepstone as of the date appearing in this material only. There can be no assurance that views and opinions expressed in this document will come to pass.

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. In those instances where StepStone and/or the underlying portfolio fund managers receive carried interest over and above their basic management fees, receipt of carried interest 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. StepStone does not receive any carried interest with respect to advice provided to, or investments made on behalf, of its advisory clients.

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.

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ATTACHMENT 2

ADVANCE READ-ONLY DRAFT

Venture Capital:

Partying Like It's 1999?

Low interest rates, pent-up demand for growth, and major advances in IT infrastructure have made it easier for software companies to start up and scale. As Marc Andreessen predicted, software has eaten the world, gobbling up a massive share of private and public markets alike, and generating strong performance for investors in the process.[1] As a result, the last decade has been very good to the venture capital (VC) industry. Venture-backed software and internet companies now account for seven of the 10 largest companies in the world. Returns have improved markedly over the prior decade and are now largely outperforming buyouts. Investments and exits are at all-time highs. Can it last?

We tend to think so. Despite the excesses of the tech market and the parallels to the dot-com bubble, risk/reward in VC has actually improved. We believe the rise of software and SaaS as a business model explain why: They have offered high margins, recurring revenues, and opportunities to apply artificial intelligence to monetize data. There are more investment strategies than ever for LPs to consider.

We expect software to continue penetrating other sectors of the economy. This growth opportunity and the resiliency of the SaaS business model should enable VC to outperform, powering the IPO, M&A, and buyout markets in the process.

[1] Andreessen, Marc. 2011. "Why Software Is Eating the World." *The Wall Street Journal*, August 20.

February 2020

The VC Boom

A decade of expansion in VC has led to a number of recent milestones, including a record amount of capital invested in VC-backed companies in 2018 and a record amount of liquidity in 2019. It has clearly been a golden era for VC.

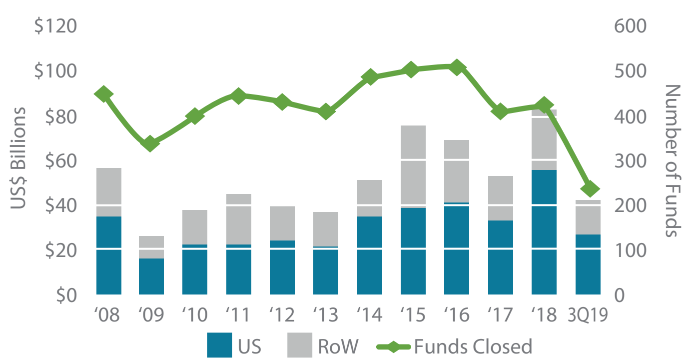
As seen in **Figures 1–3**, 2018 was a banner year, and that momentum largely continued into 2019. The IPOs of high-profile companies Uber, Zoom, Slack, Pinterest, and Lyft led the way for what was a record year for exit value. This is certainly a welcome development for the LPs that have waited a decade or more to realize these gains and have been constrained in their ability to commit more capital to the asset class.

A clear separation between the "haves" and "have nots" has emerged. The 25 largest VC managers have collectively raised more than 50% of all LP commitments over the last decade (even excluding the US$100 billion Softbank Vision Fund). At the same time, hundreds of new seed-funds have emerged. In 2018, funds smaller than US$250 million may have accounted for 74% of all new VC funds raised, but they represented only 16% of the total dollars raised. By contrast, funds larger than US$500 million accounted for 12% of new funds raised, but represented 66% of the total capital raised.[2]

One consistent concern among venture GPs and LPs has been the massive rise in valuations. This inflation of pre-money values has occurred at every stage, but it is most apparent in the late-stage market **(Figure 4)**. In prior eras, many of the late-stage, high-valuation companies would have pursued IPOs much earlier in their life cycle; today these "unicorns" are happy to raise money on more favorable terms in private markets while avoiding the glare of the public markets.

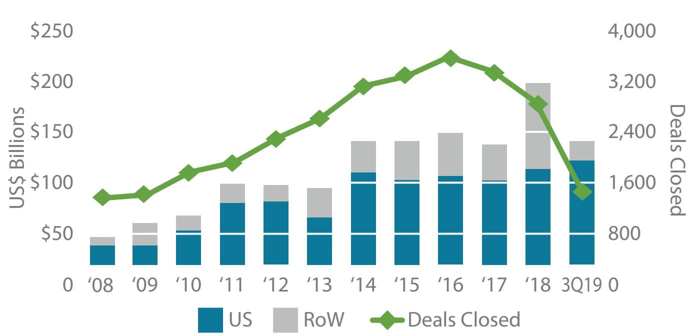
Loss rates for late-stage venture have declined sharply since 2000.

FIGURE 1 | GLOBAL VC FUNDRAISING



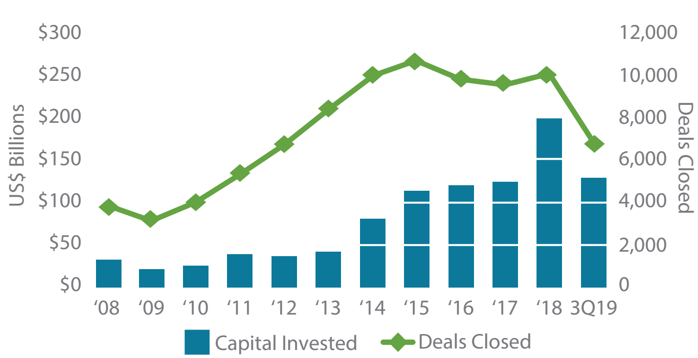
Source: Pitchbook, September 2019.

FIGURE 2 | CAPITAL EXITED BY YEAR



Source: Pitchbook, September 2019.

FIGURE 3 | CAPITAL INVESTED BY YEAR



Source: Pitchbook, September 2019.

[2] Rowley, Jason D. 2019. "There Are More VC Funds Than Ever, But Capital Concentrates At The Top." *Crunchbase*, March 7.

BIGGER EXITS BUT LONGER TIME TO LIQUIDITY

Although overall exit activity has improved in VC, the time to liquidity for technology companies has soared. Unlike in the late 1990s, the companies going public today are older and much larger **(Figure 5)**. According to Jay Ritter of the University of Florida, the median revenue at IPO for tech companies in 2018 was US$167 million versus a mere US$17 million in 1999.

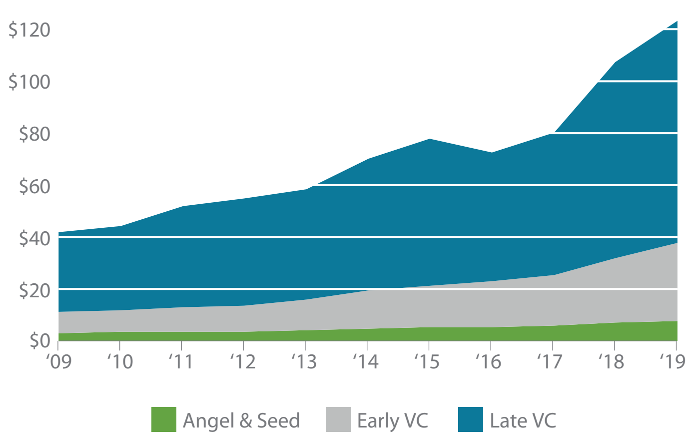
Changes in the market and regulatory environment since 2000 are among the reasons companies have to meet a higher standard before they can go public. Rules like Sarbanes-Oxley and Regulation Fair Disclosure have raised the cost of being a public company. The abundance of private capital, epitomized by the massive Softbank Vision Fund, has made it more attractive for companies to remain private for longer; they can continue to raise capital on attractive terms from a variety of late-stage investors including mega funds, crossover funds, corporates, and sovereign wealth funds.

Although the time to liquidity has extended significantly, thankfully, exit values have also increased for VC-backed companies. In 2018, VC-backed exits generated nearly US$200 billion across 2,442 transactions worldwide **(Figure 6)**. Total exit value for the year was 33% higher than the rolling five-year average even though there were 23% fewer deals. As in the LP fundraising market, there has been a greater concentration of value in a handful of the largest exits, and the value is disproportionately coming from IPOs. More than 80% of exit value through 1H19 has come from IPOs **(Figure 7)**.

VC RETURNS HAVE IMPROVED

After a decade of underperformance, top quartile VC funds have largely outperformed buyouts **(Figure 8)**. Despite this strong performance, liquidity in VC has lagged the buyout sector. Many LPs have not been rewarded with returns commensurate with the risks they have undertaken. VC remains a game of outliers, with a handful of massive outcomes generating the majority of returns each vintage year. The dispersion of returns is greater in VC than in any other asset class. Manager selection is critical.

FIGURE 4 | US MEDIAN PRE-MONEY VALUATION (US$M)

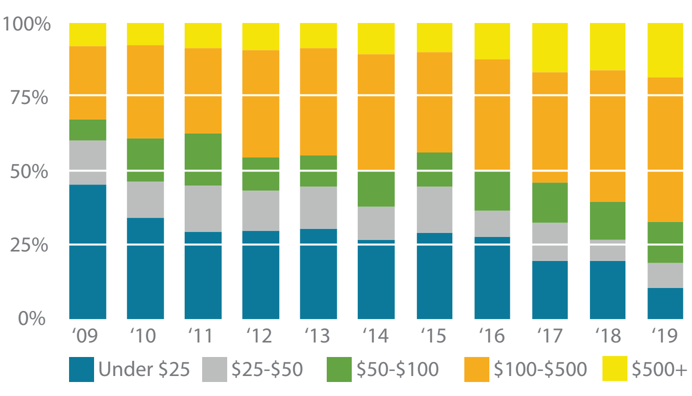


Source: Pitchbook, September 2019.

FIGURE 5 | MEDIAN AGE OF TECH COMPANIES AT IPO (YEARS)

Source: Jay Ritter, 2016.

FIGURE 6 | US VC EXIT COUNT BY EXIT SIZE (US$M)



Source: Pitchbook, September 2019.

GROWTH EQUITY IS STILL ATTRACTIVE RELATIVE TO VC

Growth equity, compared to VC, has been the safer bet for LPs. Its realized loss rates are much lower; on average, it has generated both higher IRRs and multiples.

Across 3,576 fully realized software and internet deals in our SPI database, growth equity returned 2.6x with a 29% gross IRR and 21% loss ratio. VC, on the other hand, returned 2.2x with a 22% gross IRR and a 43% loss ratio **(Figure 9)**. According to our data, LPs investing in growth equity are generating higher returns than those investing in VC, with considerably less risk. Although 3x+ net funds are very rare in growth equity, many LPs are willing to trade off upside potential predictability.

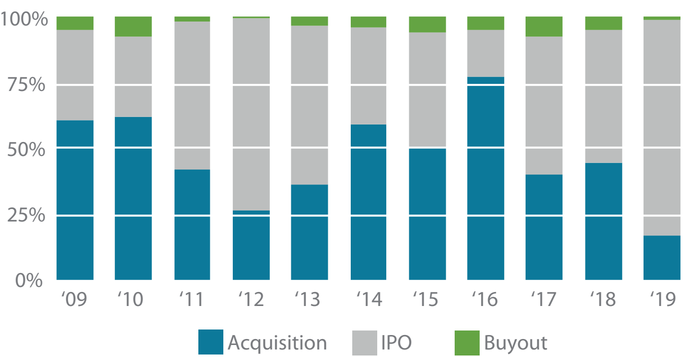
Because growth equity companies are typically profitable (or at least breaking even) and have avoided raising institutional capital, they are not subject to the same financing and technology risk as VC companies. At the same time, these founder-owned emerging companies are benefiting from the same advancements in software that have been driving seed-stage VC.

SOFTWARE EATING THE PRIVATE EQUITY INDUSTRY

IT, especially software, is the fastest growing segment of the buyout market and the biggest sector for buyout funds after business services **(Figure 10)**. Recurring revenue streams, high margins, and compelling growth profiles are big reasons why. The most successful VC-backed companies generally have very high growth rates (and significant cash burn). They also tend to receive valuations that are higher than buyout funds are willing to pay. However, for companies with moderate growth rates that aren't likely IPO candidates, buyout funds have increasingly been a viable exit path. In the high-priced software market, buy and build has gained favor among private equity GPs. Here, the manager acquires a software platform in a fragmented sub-sector and makes multiple add-on acquisitions at lower revenue multiples, allowing the business to get to scale quickly and the GP to buy down its initial purchase price.

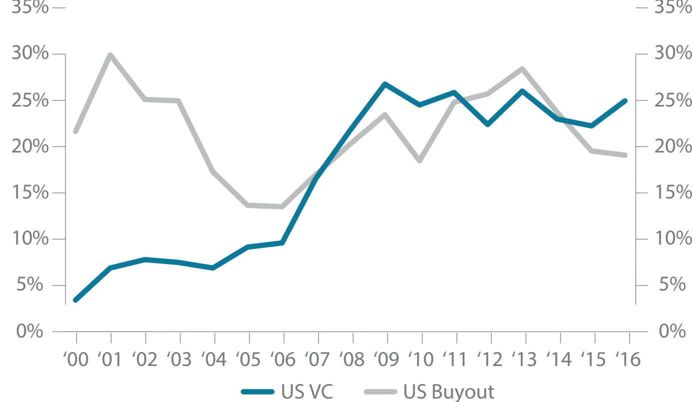
Buyouts offer a new exit path for VC-backed companies that reduces risk and loss rates.

FIGURE 7 | EXIT VALUE BY TYPE ($B)



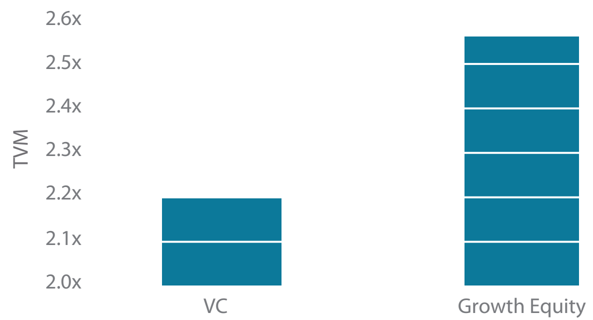
Source: Pitchbook, September 2019.

FIGURE 8 | NET IRRS TO LPS BY VINTAGE YEAR



Source: StepStone Private Markets Intelligence, 2019.

FIGURE 9 | VC VS GROWTH EQUITY (2000–2019)



Source: StepStone Private Markets Intelligence, January 2020.

WIDER SPECTRUM OF VENTURE-GROWTH STRATEGIES

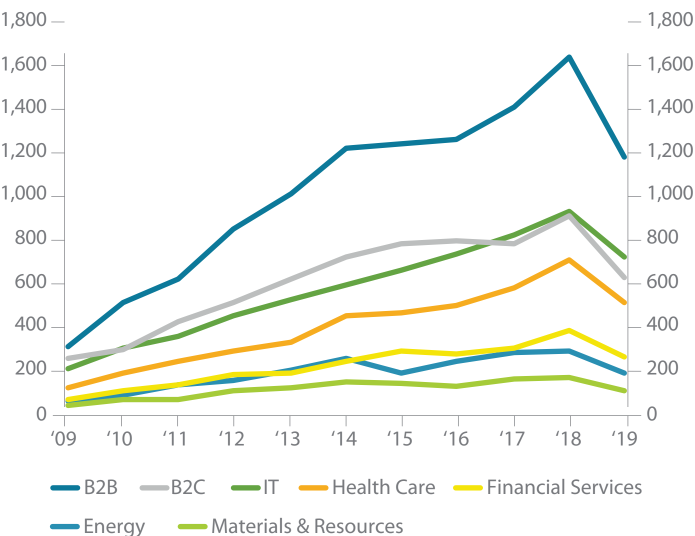
Twenty years ago, there were two primary types of VC strategies available to LPs; early-stage funds focused on Series A rounds, and late-stage funds investing in Series B or later. Over the last 15 years, new types of venture capitalists have emerged including seed funds (e.g., First Round Capital), accelerators (e.g., Y Combinator), incubators (e.g., Rocket Internet), and crowdfunding platforms (e.g., AngelList). Advances in cloud computing, open source software, and mobile networks have dramatically reduced the cost of starting new software businesses, which has driven an explosion of new startups. This new IT infrastructure has reduced the cost of failure; companies no longer have to invest significant capital in hardware, servers, and proprietary software to launch their businesses. Instead they can leverage Amazon Web Services for computing resources and Apple iOS and Android for distribution.

Despite the clear benefits of this new infrastructure, we found that loss rates in seed and early-stage VC have remained steady at more than 50% over the last three decades. Seed-stage VC was particularly compelling a decade ago when pre-money valuations were typically less than US$5 million, and there were fewer funds active in the space. Today pre-money valuations on seed rounds have more than doubled to US$7.6 million, and hundreds of small funds are writing first checks to startups. Furthermore, as exit values have become concentrated in a handful of large IPOs, the number of small M&A exits has declined, damaging the prospects for seed funds that were accustomed to selling companies to Google or Facebook.

The rising challenges in the seed space notwithstanding, the potential for an LP to generate a 3x net multiple on a seed VC fund commitment is still greater than with larger funds. Our data indicate that 25% of the deals pursued by sub–US$100 million funds have delivered a 3x return or greater, whereas only 15% of deals pursued by funds in the US$500 million to US$1 billion range have generated at least 3x **(Figure 11)**. Although the returns in seed VC have been attractive over the last cycle, many LPs choose to not focus on the category. Deploying capital at scale remains challenging, and low barriers to entry have allowed many new players to enter the space.

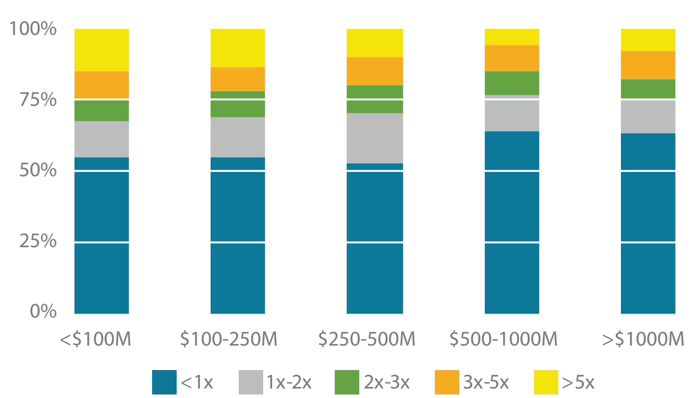
The long hold periods and winner-take-all market dynamics inherent in IT have in many ways shifted the advantage to larger "brand name" VC funds, which have the capacity to invest in their best companies throughout their life cycle.

FIGURE 10 | NUMBER OF US PE DEALS BY SECTOR



Source: Pitchbook, January 2020.

FIGURE 11 | GROSS TVM OF VC DEALS BY FUND SIZE



Source: StepStone Private Markets Intelligence, 2019.

These larger funds focus on Series A rounds but have the flexibility to invest from seed to pre-IPO. Premium fees and massive fund sizes often require these GPs to effect multiple US$10 billion+ outcomes per fund, something that very few have been able to do consistently.

Although our data show seed and early-stage loss rates have remained above 50% over the last 30 years, loss rates for late-

stage venture have declined sharply since 2000 **(Figure 12)**. We believe a large driver of this is the rise of software as a dominant VC category. Advances in IT infrastructure have reduced the cost of failure at the early-stage, and the high visibility that recurring-revenue SaaS business models affords is enabling later-stage investors to avoid throwing good money after bad. This improvement in the risk-reward dynamic helps explain the ongoing boom in late-stage VC.

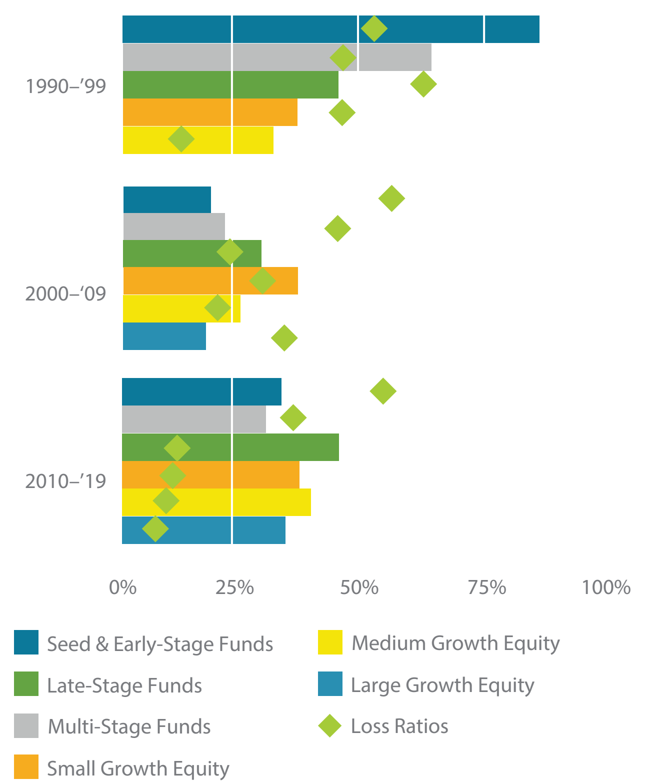
Investments from late-stage GPs (typically Series C or later) have outperformed seed, early-stage, and multi-stage VC funds on average, with a higher gross IRR and TVM and a lower loss ratio. Whereas loss ratios for early-stage VC have held steady at about 50% on average over the last three decades, the loss ratios for late-stage investments have decreased significantly from 59% in the 1990s to 15% in the 2010s.

We analyzed net return data for 462 venture and growth equity funds raised since 2005. As seen in **Figure 13**, the top performers were late-stage VC, medium growth equity (i.e., US$0.5–US$1.5 billion), and opportunity funds, which target late-stage companies.

These data help explain why the amount of capital deployed in late-stage rounds has exploded over the last several years. Recurring-revenue software companies that have achieved product-market fit and maintain low customer churn, represent compelling investment opportunities at all stages. The high visibility afforded by SaaS business models has revolutionized VC, with company selection seemingly becoming much easier. The best "platform" companies have extreme product-market fit and are growing rapidly thanks in part to network effects and the barriers to entry they provide. Accessing these companies, however, is easier said than done; everyone wants a piece of these clear winners. Most VC funds no longer take on technical risk. Instead they seek to deploy capital into proven companies. This dynamic is reverberating throughout the sector, affecting VC strategies at all stages.

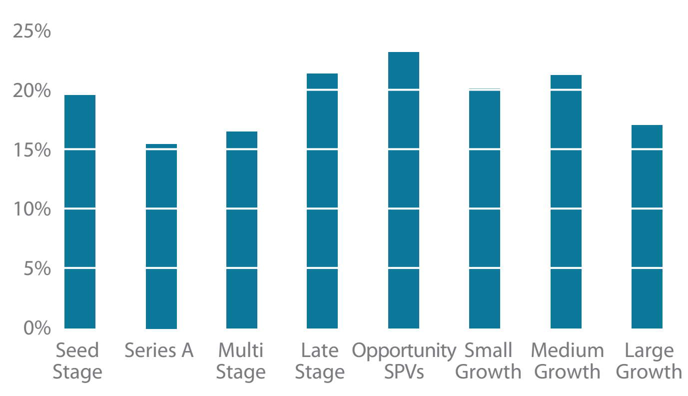
For example, most seed funds now prefer revenue-stage businesses, and the majority of VC funds have become "momentum" investors, avoiding technical risk and targeting companies with products in market. This is of course a byproduct of the significant advances in IT infrastructure over the last 15 years (e.g., open source software tools, cloud computing, mobile

FIGURE 12 | GROSS IRRS & LOSS RATIOS BY ERA



Source: StepStone Private Markets Intelligence, 2019.
Note: Gross IRR will ultimately be reduced by management fees, carried interest, taxes, and other fees and expenses.

FIGURE 13 | MEDIAN NET IRR BY STAGE



Source: StepStone Private Markets Intelligence, January 2020.

networks and devices, and DevOps). It is now much cheaper to start a software company. Reaching the scale, however, to meet global demand requires a lot of growth capital, the provision of which has become the raison d'être of the venture industry.

This dynamic helps explain the rise of mega multi–stage VC funds, new entrants to the late-stage market (e.g. Softbank Vision Fund), "opportunity funds," and special purpose vehicles (SPVs), which enable early-stage investors to continue to deploy late-stage capital into their best companies.

OPPORTUNITY FUNDS, SPVS AND LP CO-INVESTMENT

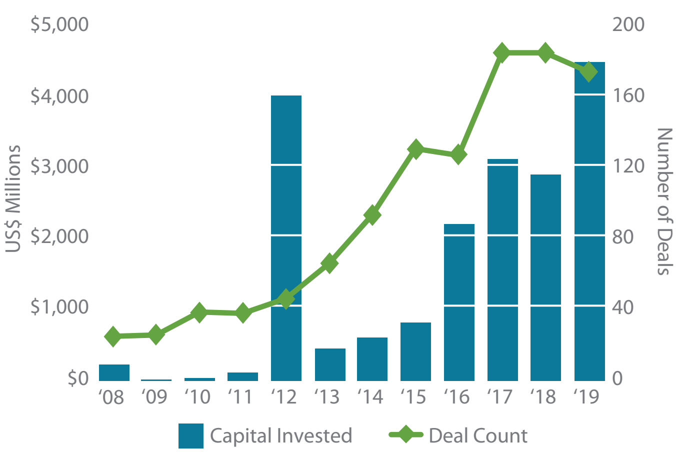
In exchange for taking on the risk inherent in seed and Series A rounds, early-stage funds receive meaningful pro rata rights to invest in later rounds. But their smaller fund sizes and higher return targets are often not a fit for higher-valuation late-stage rounds. Opportunity funds, SPVs, and LP co-investments allow early-stage GPs to continue backing their best companies. They also offer LPs a compelling way to scale their relationships with these smaller funds. In our view, the most interesting opportunity funds are those with significantly reduced (or no) management fees and a clear pipeline of investment opportunities.

RISE OF THE SECONDARY MARKET

With hold periods in the best VC-backed companies often exceeding a decade, secondaries have become a critical liquidity component for GPs, LPs, and employees; they provide yet another way to gain exposure to blue-chip companies. VC funds generally trade at a greater discount than buyout funds since the values of underlying assets tend to be more volatile and the time to liquidity is less certain. For LPs seeking to build VC exposure, secondaries can be a less risky way to access the VC market.

Although separate from LP secondaries, the direct secondary market has also been growing rapidly (**Figure 14**). As many of the most important pre-IPO companies have waited 10 or more years to go public, their shareholders are seeking liquidity for their stakes. It's also worth noting that direct secondary transactions are a very common occurrence in growth equity, with most growth equity investments involving secondary liquidity to founders. Profitable growth stage companies don't require large funding rounds to maintain their growth rates and the insiders are often sensitive to dilution. As a result, growth equity and technology buyout GPs' most common way to access these companies is through secondary purchases of stock.

FIGURE 14 | GLOBAL SECONDARY TRANSACTIONS IN VC-BACKED COMPANIES



Source: Pitchbook, January 2020.

Looking Ahead

Despite the warning signs, we believe the future is bright for VC and growth stage software investing. Revenue multiples are likely to decline substantially if and when market sentiment worsens. At the same time, quality software companies with market-leading products, recurring revenues, and low customer churn could weather an economic downturn and gain market share. Software and SaaS business models have transformed the technology industry, and we expect software to continue eating the world. Financial services, health care, agriculture, and energy remain underpenetrated by software and are undergoing technology disruption and rapid change. With the pace of technological innovation continuing unabated, and trends such as artificial intelligence, automation, and blockchain powering a new wave of companies, we believe the future is bright for software investing.

Conclusion

Although high valuations and greater competition at every stage might suggest VC is peaking, StepStone believes the sector remains attractive for LPs willing to devote the time and effort to construct the right portfolio. Seed and early-stage funds still offer the best path to outsize returns, but LPs must grapple with volatility and long hold periods. Late-stage strategies have become more attractive as the time to liquidity for the best companies has lengthened. There are more data than ever to evaluate young companies; network effects are creating barriers to entry. As such, late-stage investing has become less about company selection and more about accessing companies that appear to be on a path to an IPO.

Quality software companies with market-leading products, recurring revenues, and low customer churn should be well positioned to weather an economic downturn. As software continues to penetrate all sectors of the economy, and new waves of innovation such as artificial intelligence and blockchain disrupt the incumbents, we expect VC and growth equity to continue driving significant value in the economy and for LPs.

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The Firm creates customized portfolios for many of the world's most sophisticated investors using a disciplined, research-focused approach that prudently integrates fund investments, secondaries and co-investments.

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