



INVESTMENT COMMITTEE CALENDAR SHEET
Retirement Board Meeting of January 20, 2021

To: The Investment Committee

Through: Jay Huish
Executive Director

From: William J. Coaker, Jr – CFA
Chief Investment Officer

Date: January 20, 2021

Discussion Item:

“Private Markets: Pandemic Perspectives.”

Background:

Staff is pleased to host our guest speaker at today's Investment Committee, Andrea Auerbach. Ms. Auerbach is the Global Head of Private Markets at Cambridge Associates, where she has served for nearly 20 years.

At Cambridge Ms. Auerbach leads a 50-person global team responsible for sourcing and underwriting private equity, growth equity, venture capital, and distressed funds, as well as direct, co-investment, and secondary investment opportunities. She serves as the Co-Chair of the Co-Investment and Secondaries Investment Committee and is a member and former chair of the firm's Private Investment Committee.

Ms. Auerbach has co-authored a significant volume of private investment research and she is a frequent keynote speaker at private investment industry conferences worldwide. She is also a faculty member at the Institutional Limited Partner Association (ILPA) Institute where she has taught for over 10 years. In 2020, Ms. Auerbach was recognized by Chief Investment Officer magazine as a “Knowledge Broker All-Star.”

Ms. Auerbach joined Cambridge in 2001 as Head of International Private Equity and Venture Capital Research. Previously, she served as a Senior Director in the Private Equity Group at

Prudential Insurance. She earned a Master's in Business Administration from Harvard Business School and a Bachelor of Arts in Economics from Smith College.

Enclosed please find Ms. Auerbach's presentation titled "Private Investments: Pandemic Perspectives." Ms. Auerbach will speak to the presentation and is also available for questions on any subject related to private markets investing.

Attachment: *Private Markets: Pandemic Perspectives*, Cambridge Associates

PRIVATE INVESTMENTS: PANDEMIC PERSPECTIVES

ANDREA AUERBACH, CAMBRIDGE ASSOCIATES

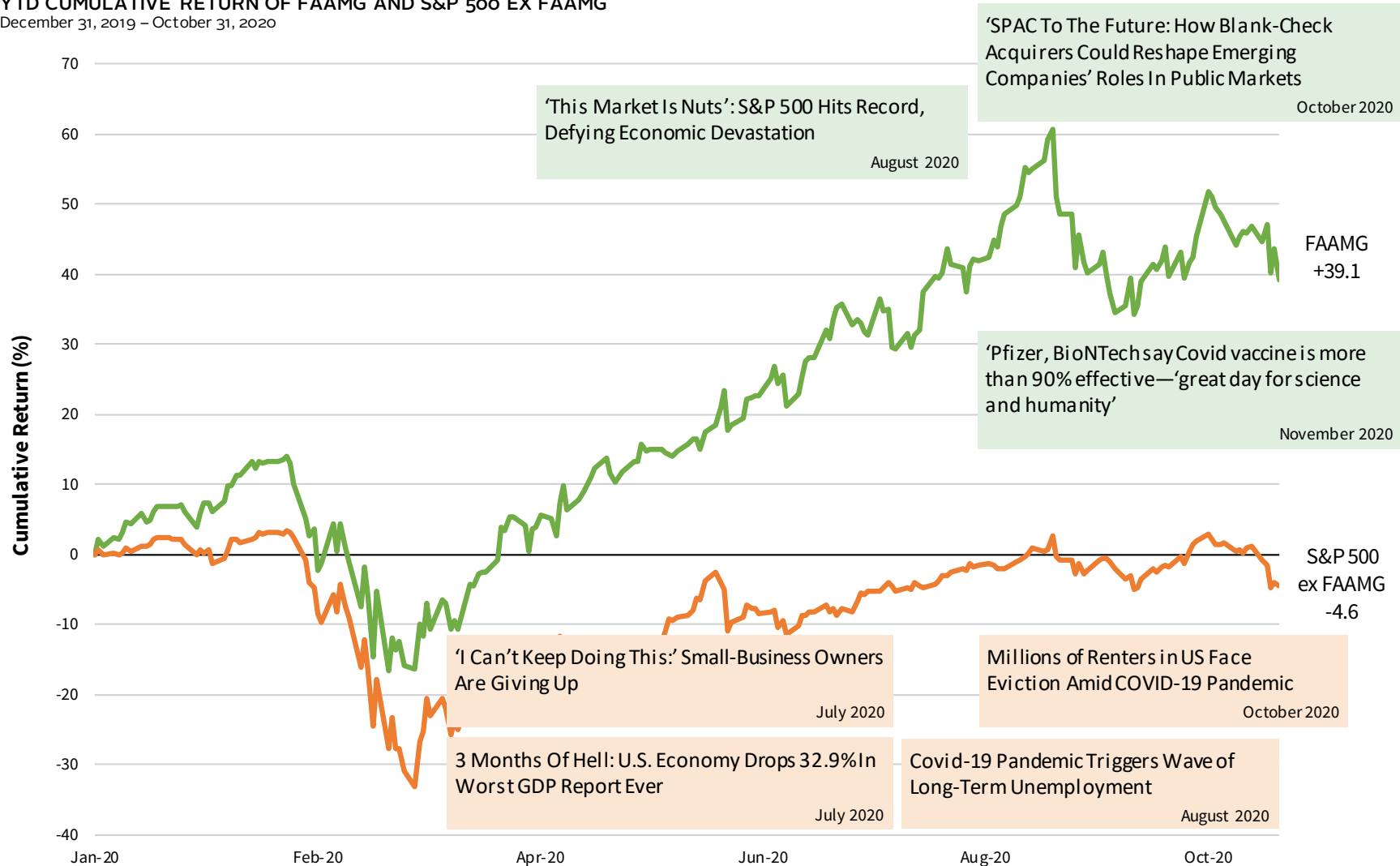


COVID AND PRIVATE MARKETS



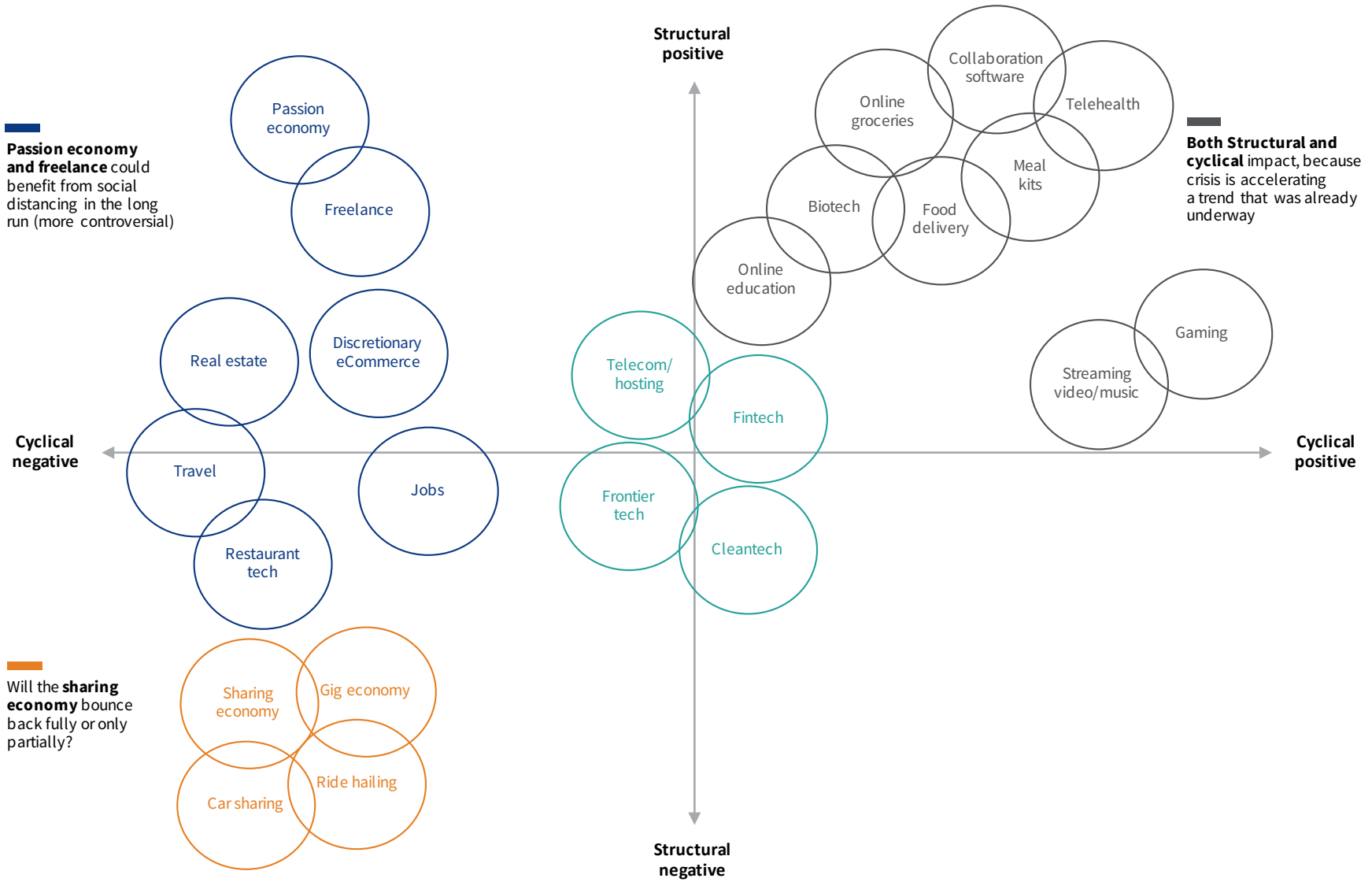
What pandemic? Depends on which side of the line you are on

YTD CUMULATIVE RETURN OF FAAMG AND S&P 500 EX FAAMG
December 31, 2019 – October 31, 2020



Sources: Cambridge Associates LLC, Factset Research Systems, Standard & Poor's, and Thomson Reuters Datastream.
Notes: Cumulative return data are based on daily total returns gross of dividends and taxes. FAAMG represents Facebook, Amazon, Apple, Microsoft, And Google.
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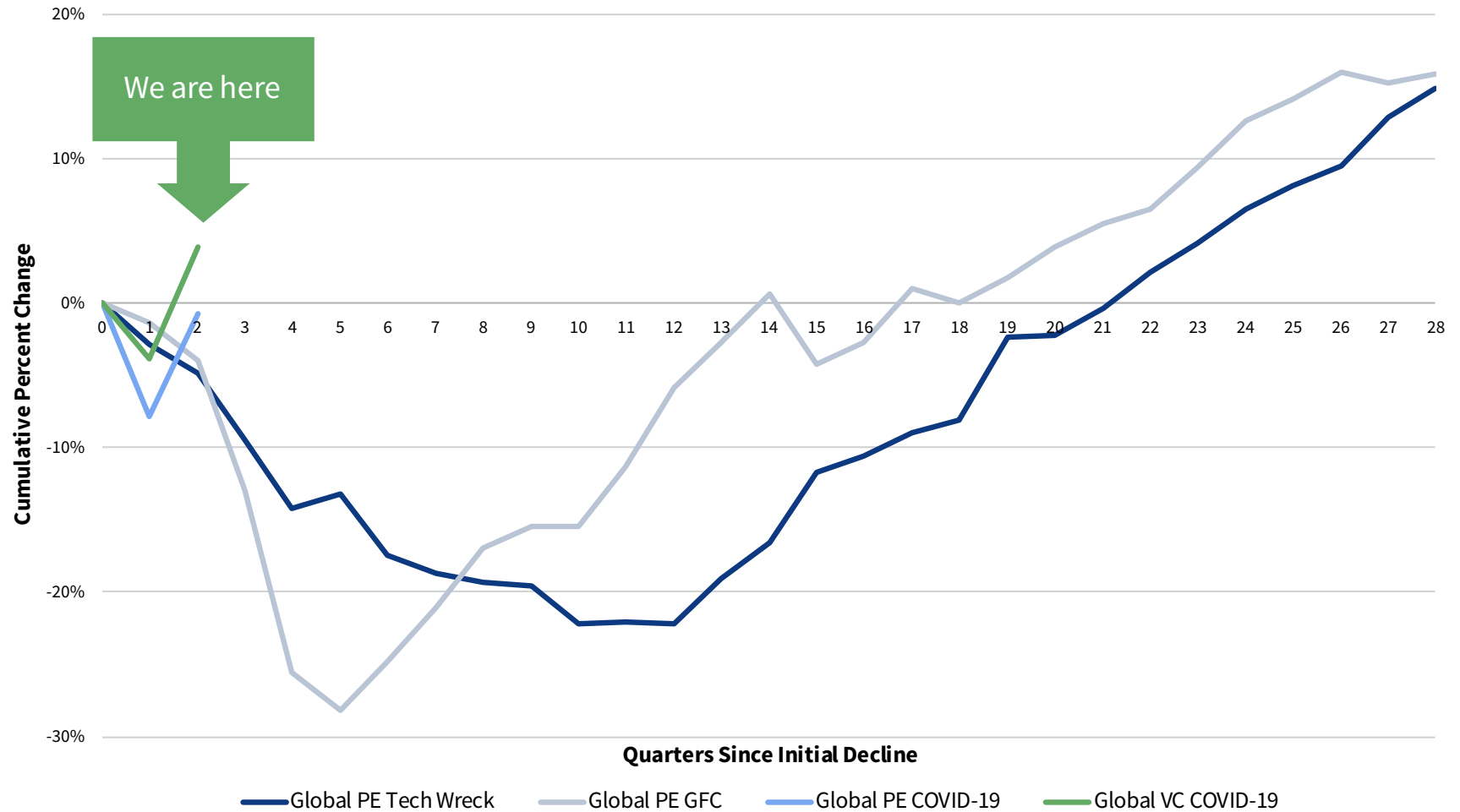
COVID-19 accelerating structural shifts in various sectors



What pandemic, indeed. Check, please

CUMULATIVE TIME TO RECOVERY—GLOBAL PE AND VC

Tech Wreck: Vintages 1994–1999 • GFC: Vintages 2001–2006 • COVID-19: Vintages 2014–2019



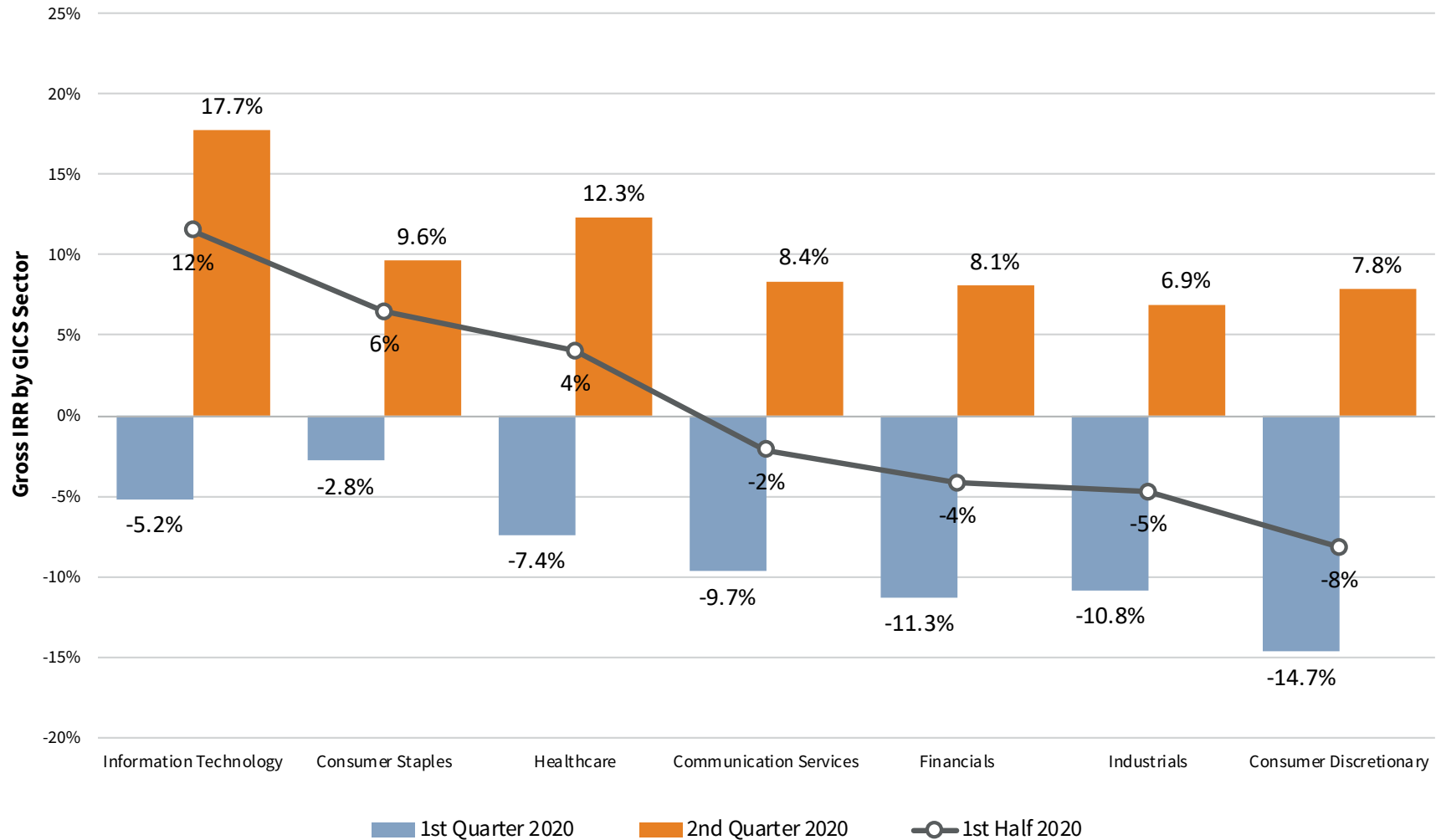
Source: Cambridge Associates LLC Private Investments Database.

Notes: Data as of June 30, 2020. Returns are net of fees, expenses and carried interest. Cumulative TVPI represents total change in pooled TVPI over the period for global private equity and venture capital funds. Private equity includes buyout and growth equity funds. Tech wreck cumulative return calculated for vintage years 1994-1999, starting with quarter ending 3/31/2000; initial decline (quarter one) occurred in quarter ending 6/30/2000. GFC cumulative return calculated for vintage years 2001-2006, starting with quarter ending 3/31/2007; initial decline (quarter one) occurred in quarter ending 3/31/2008. COVID-19 cumulative return calculated for vintage years 2014-2019, starting with the quarter ending 12/31/2019; initial decline (quarter one) occurred in quarter ending 3/31/2020. Quarter zero represents one quarter prior to quarter of initial decline.

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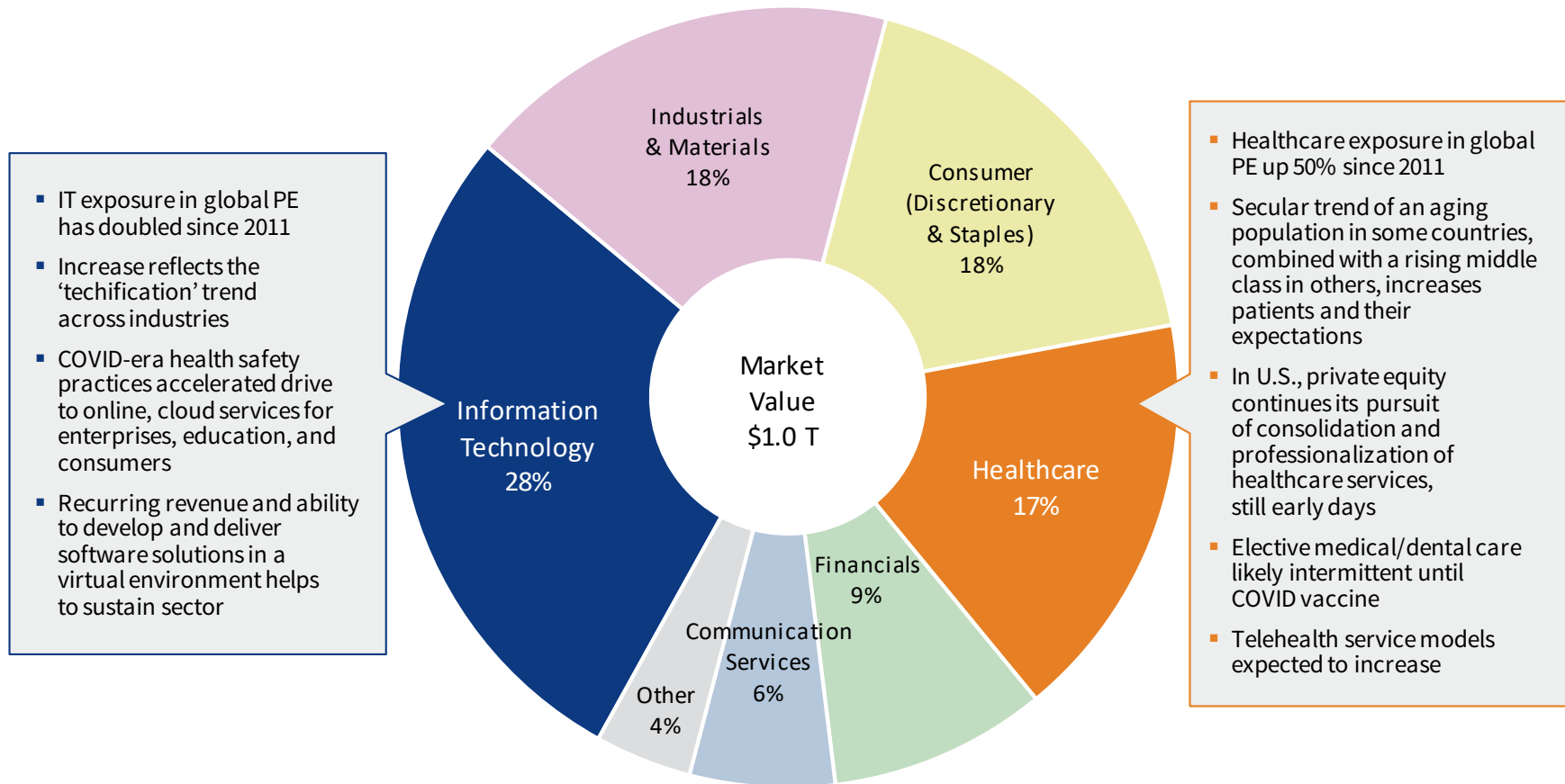
In global private equity, early pandemic “winners” included IT, staples, and healthcare

GLOBAL PRIVATE EQUITY: GROSS PERIODIC RATES OF RETURN BY GICS SECTOR
January 1, 2020 – June 30, 2020



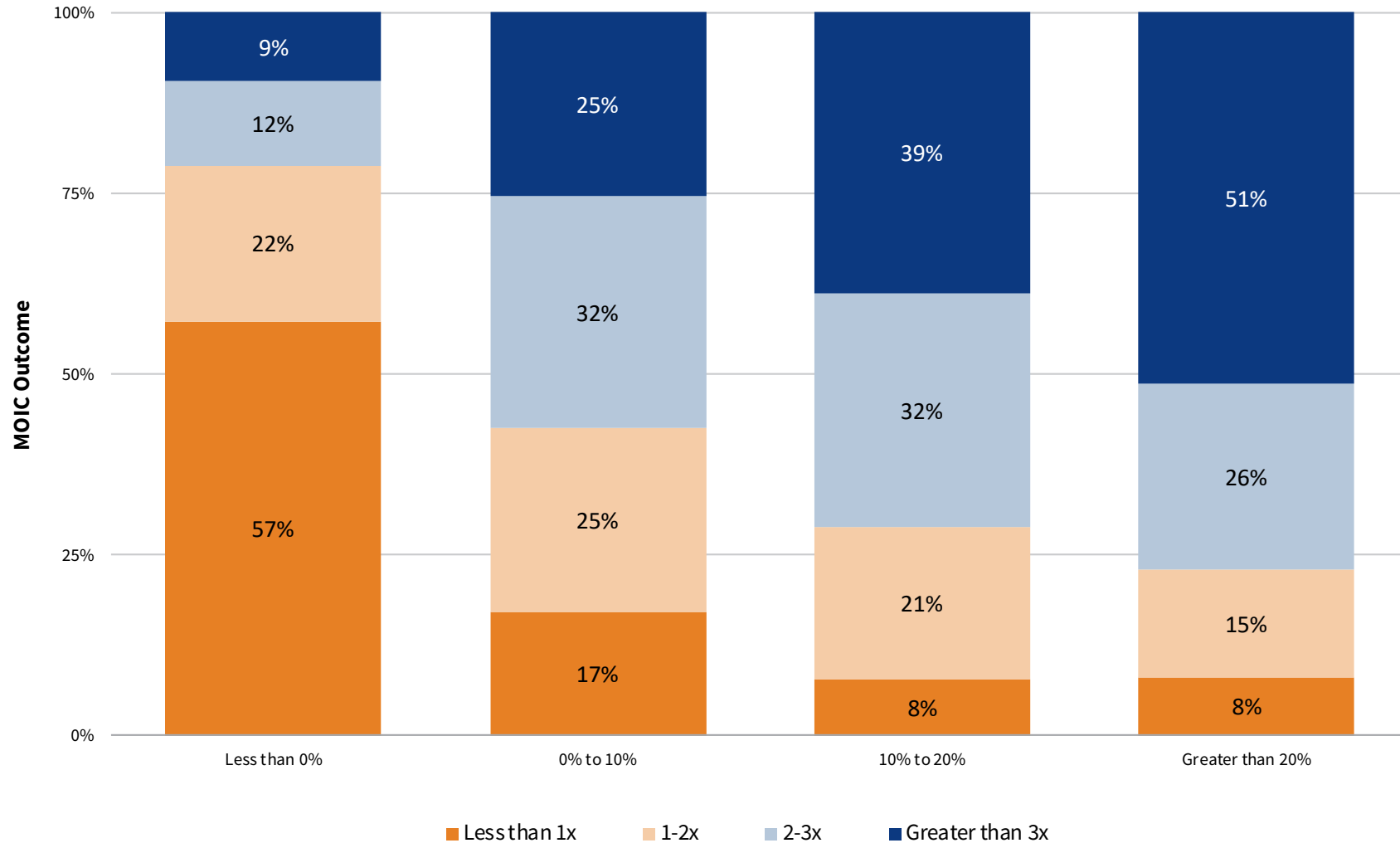
Beyond COVID, technology and healthcare continue to benefit from secular trends

GLOBAL PRIVATE EQUITY BY GICS SECTOR
As of June 30, 2020—Percent of Market Value



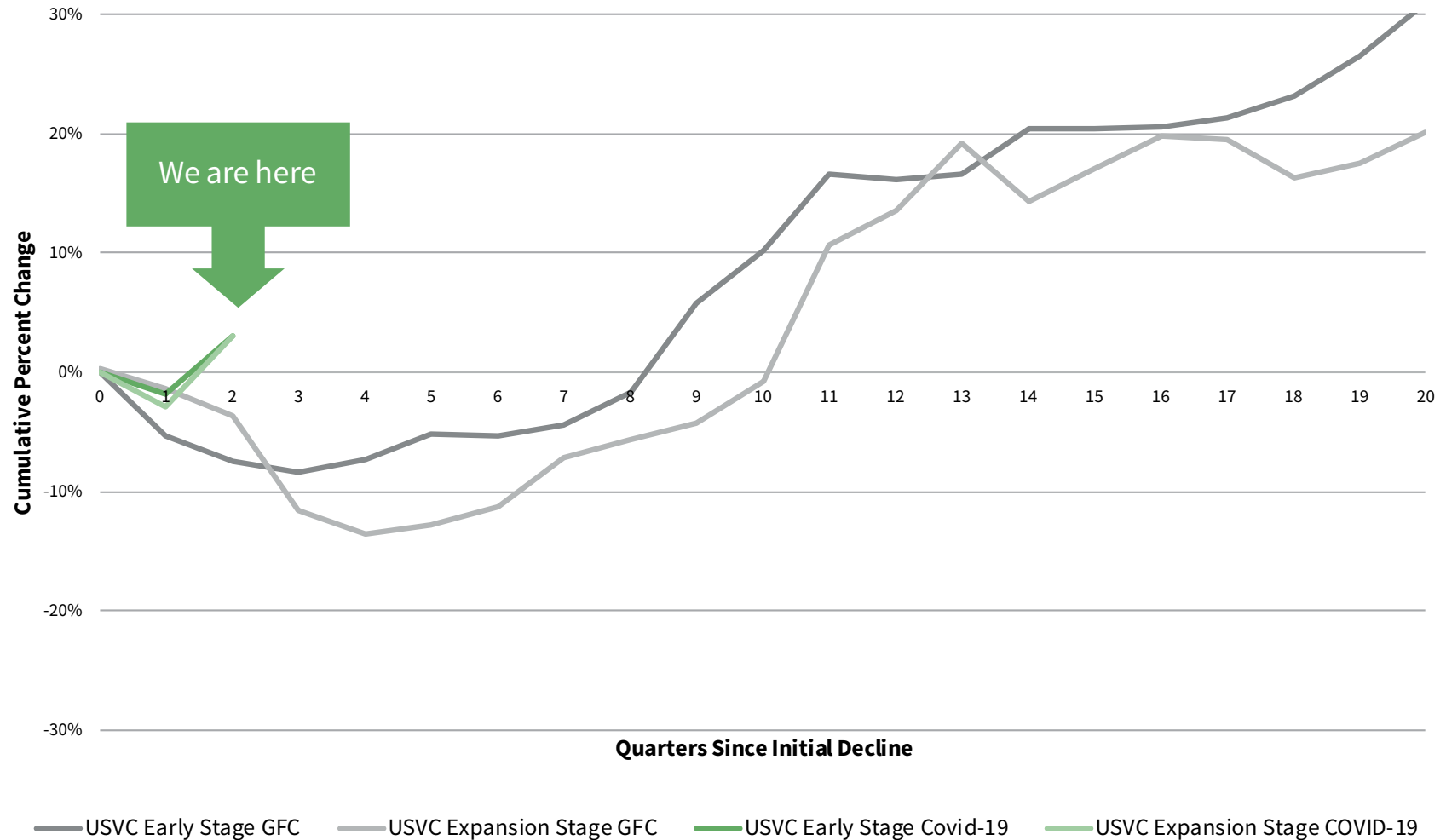
Pandemic or not, growth wins in private equity

US PRIVATE EQUITY: REALIZED INVESTMENT RETURN (MOIC) BY REVENUE CAGR
As of December 31, 2018



In venture capital, the pandemic has barely registered

CUMULATIVE TIME TO RECOVERY—USVC
 GFC: Vintages 2001–2006 • COVID-19: Vintages 2014–2019



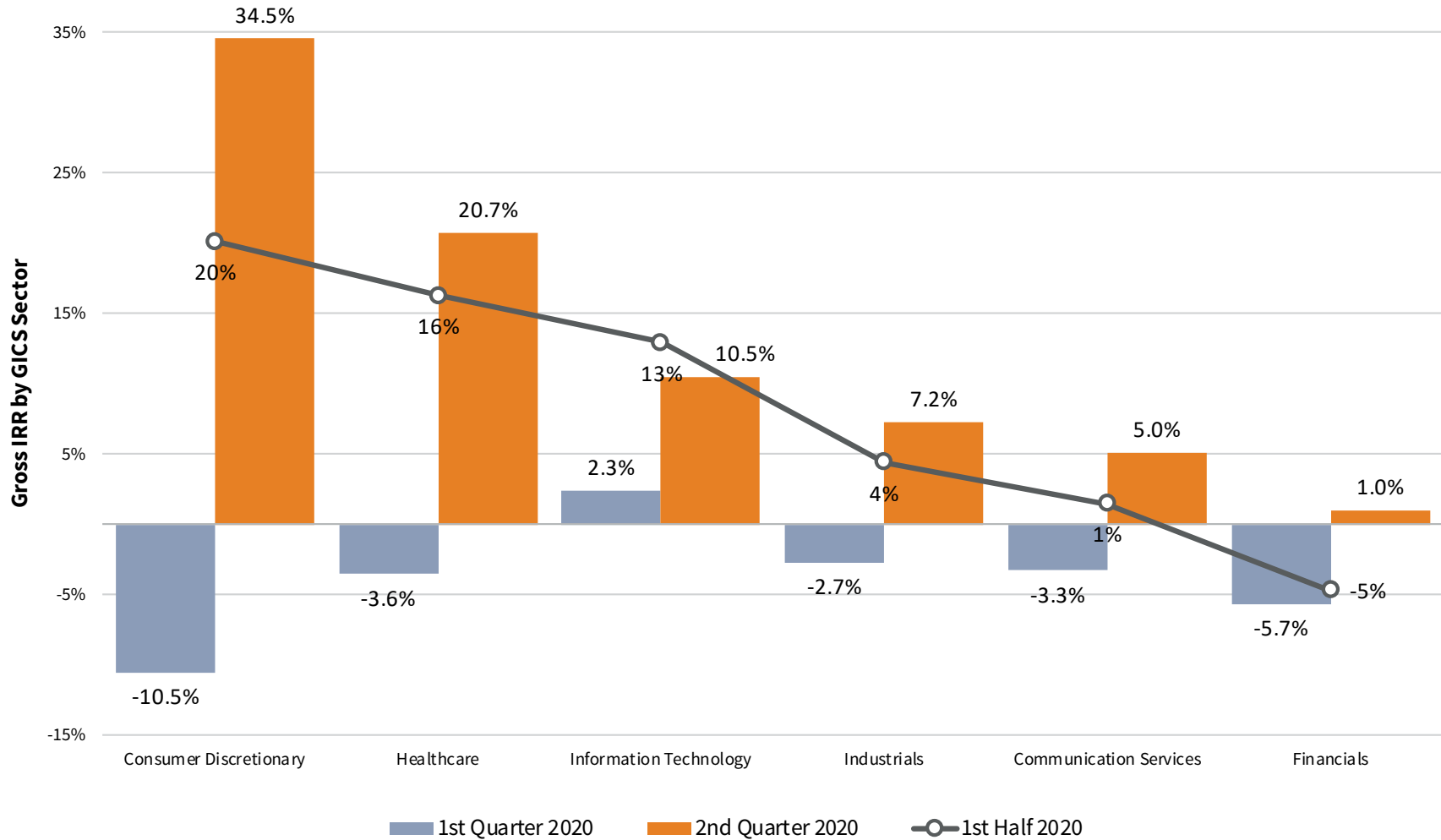
Source: Cambridge Associates LLC Private Investments Database.

Notes: Data as of June 30, 2020. Returns are net of fees, expenses and carried interest. Cumulative TVPI represents total change in pooled TVPI over the period for US venture capital funds. GFC cumulative return calculated for vintage years 2001-2006, starting with quarter ending 3/31/2007. For early stage, initial decline (quarter one) occurred in quarter ending 9/30/2008. For expansion stage, initial decline (quarter one) occurred in quarter ending 6/30/2008. COVID-19 cumulative return calculated for vintage years 2014-2019, starting with the quarter ending 12/31/2019; initial decline (quarter one) for both stages occurred in quarter ending 3/31/2020. Quarter zero represents one quarter prior to quarter of initial decline.

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In global VC, only financials posted negative returns in the first half

GLOBAL VENTURE CAPITAL: GROSS PERIODIC RATES OF RETURN BY GICS SECTOR
January 1, 2020 – June 30, 2020

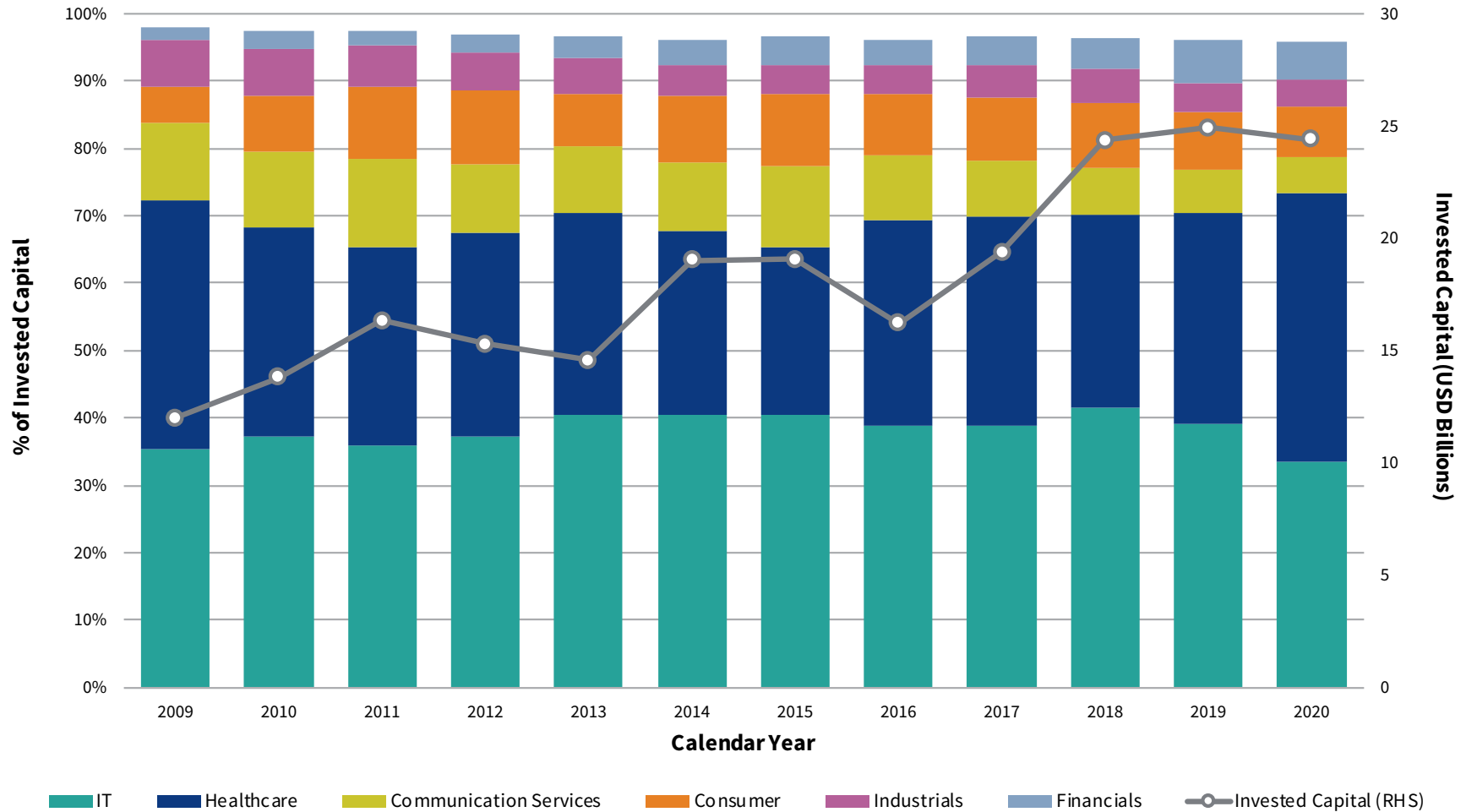


Source: Cambridge Associates LLC.

Notes: Pooled private investment periodic returns are net of fees, expenses and carried interest. The Global Industry Classification Standard (GICS®) was developed by and is the exclusive property and a service mark of MSCI Inc. and S&P Global Market Intelligence LLC and is licensed for use by Cambridge Associates LLC.
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Healthcare growing as a percent of global invested venture capital, reaching 40% in 2020

GLOBAL VENTURE CAPITAL: ANNUAL INVESTED CAPITAL AND GICS SECTOR EXPOSURE
January 1, 2009 – June 30, 2020



Source: Cambridge Associates LLC.

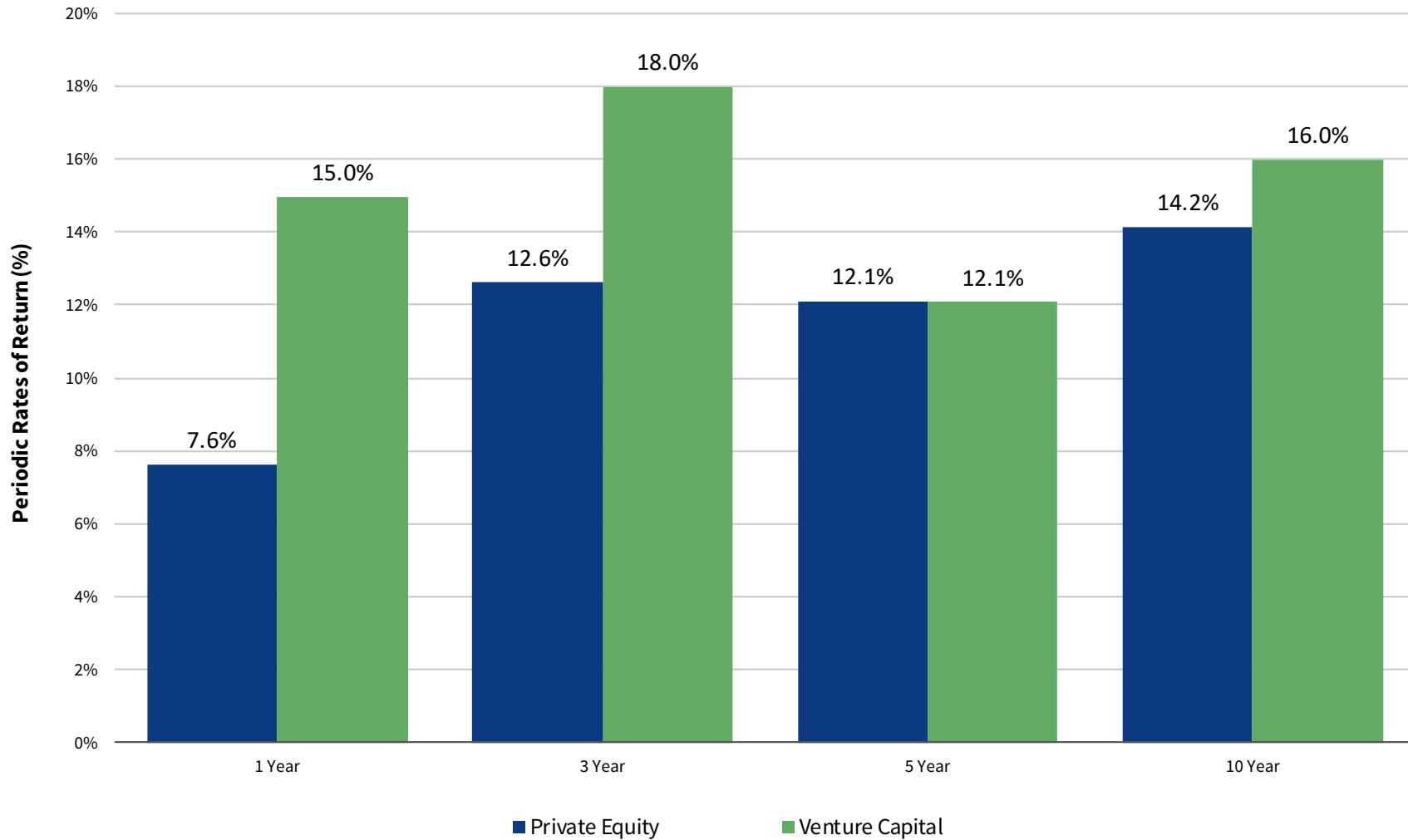
Notes: As of June 30, 2020. Capital invested by Global Venture Capital funds in each decade. The totals do not add to 100% because “other” sector investments have been excluded from the analysis. “Other” includes energy, limited partnership interests, portfolio, real estate, and utilities. Consumer includes consumer discretionary and consumer staples. Industrials includes industrials and materials. Years represent capital invested within those respective annual timeframes. Invested capital can include initial investments made in the respective year as well as add-ons from previous years. *2020 is annualized based on capital invested in the first six months. The Global Industry Classification Standard (GICS®) was developed by and is the exclusive property and a service mark of MSCI Inc. and S&P Global Market Intelligence LLC and is licensed for use by Cambridge Associates LLC. Copyright © 2021 by Cambridge Associates LLC. All rights reserved. Confidential.

PRIVATE MARKETS CHECK-IN



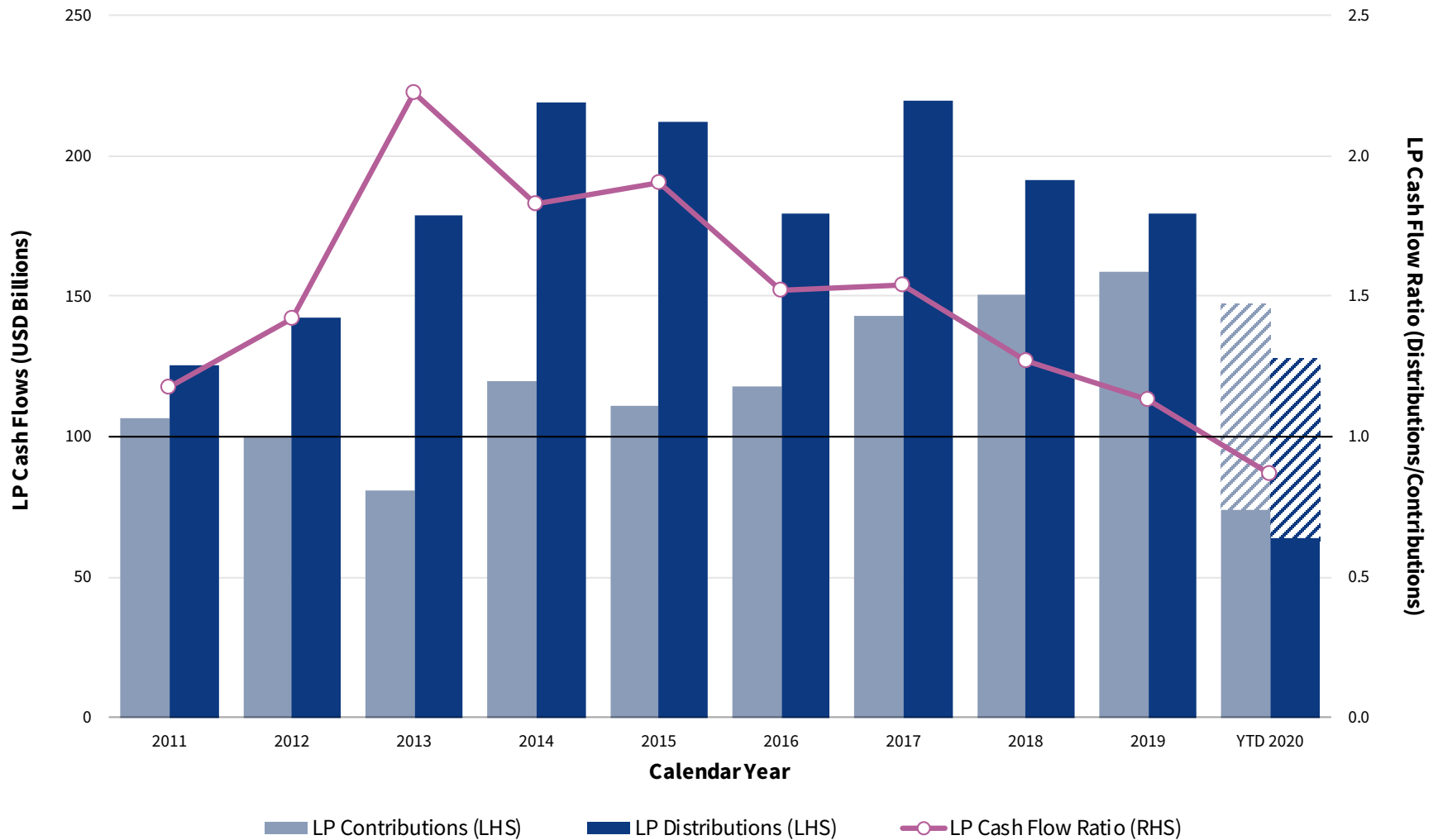
Private market performance holding its own overall

GLOBAL PRIVATE EQUITY & VENTURE CAPITAL: PERIODIC RATES OF RETURN
As of June 30, 2020



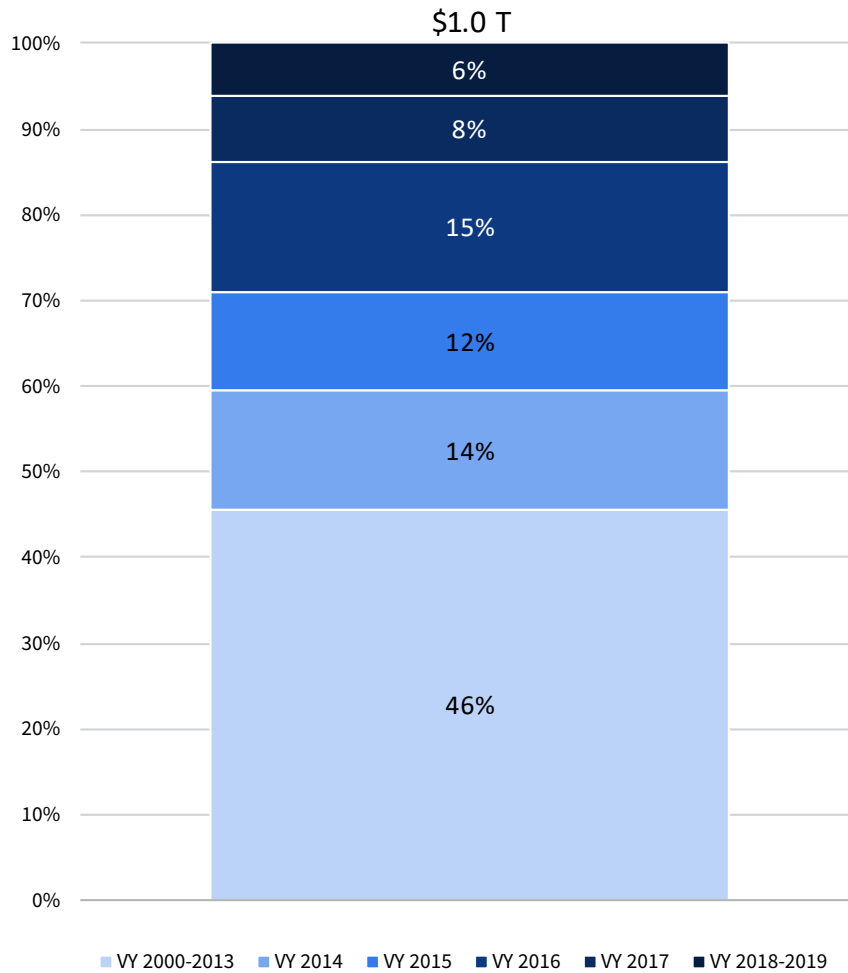
2020 may be the first year since 2010 where private equity contributions outpace distributions

GLOBAL PRIVATE EQUITY: LP CASH FLOWS AND CASH FLOW RATIO—CALENDAR YEARS 2011–2020
As of June 30, 2020

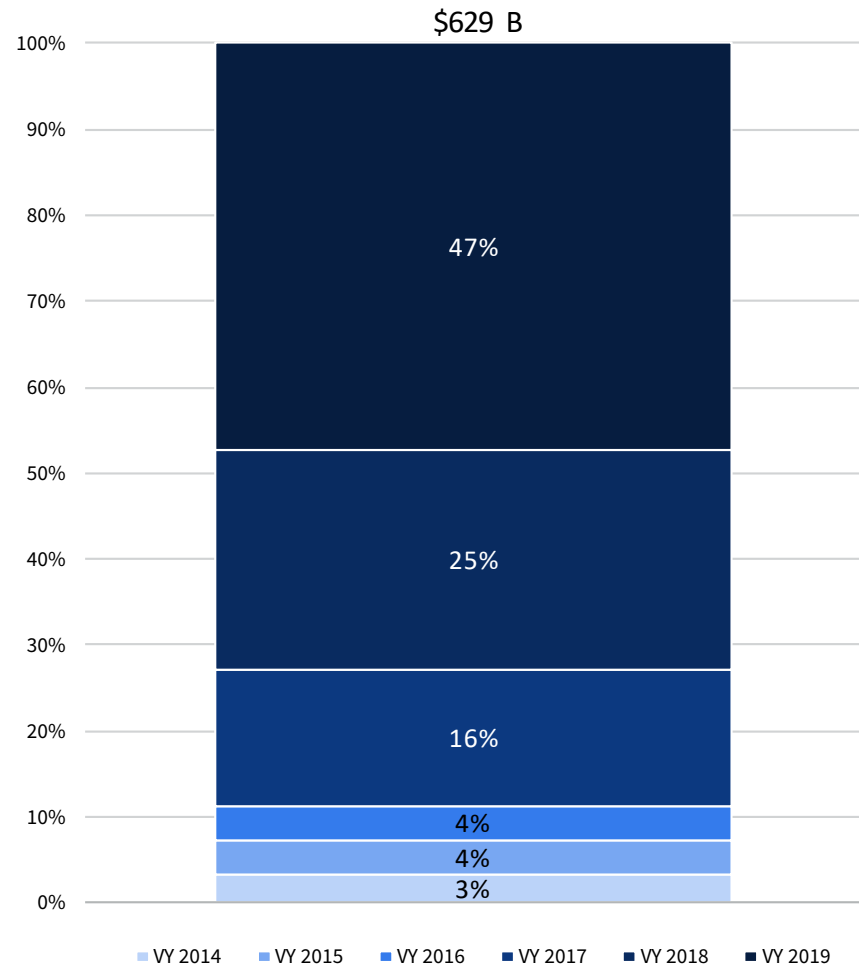


Know where/when your private capital is

GLOBAL PE: % OF LP NAV BY FUND VINTAGE YEAR
As of June 30, 2020



GLOBAL PE: OVERHANG ESTIMATE BY VINTAGE YEAR
As of June 30, 2020



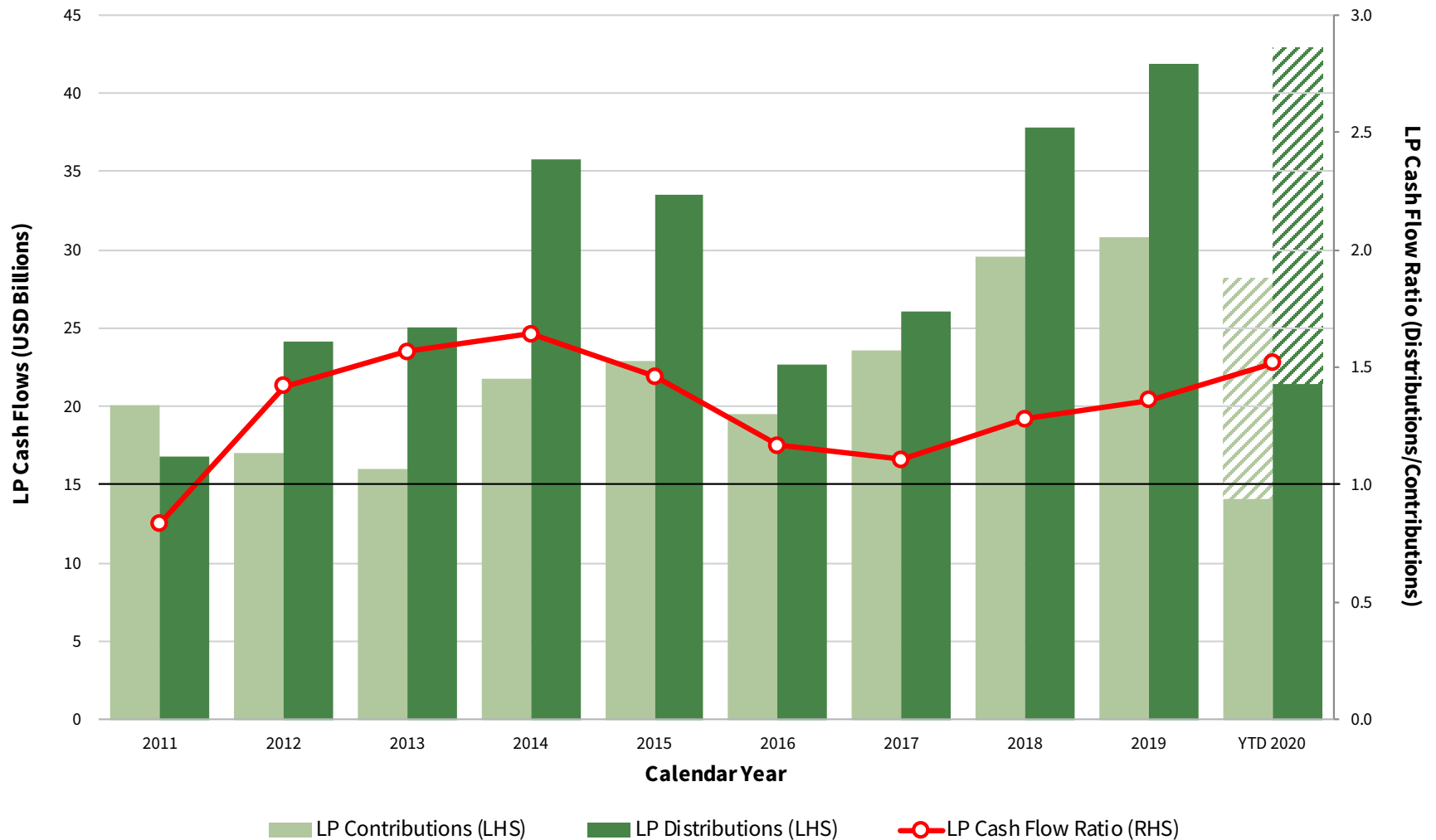
Sources: Cambridge Associates LLC and PitchBook Data Inc.

Notes: Global PE NAV breakdown based on information for 1,654 global private equity funds formed in vintage years 2000-2020. Fundraising data as of November 11, 2020. Paid-in and NAV data as of June 30, 2020. Estimate based on the percent paid in by global private equity funds tracked by Cambridge Associates LLC in each vintage year. Private equity includes buyout and growth equity funds. Vintage year is based on first cash flow. Cumulative overhang value includes the past six vintages; for example, cumulative overhang of \$629 billion includes vintages 2014-2019. Assumes a ten-year life span with a 1.5% fee decreasing linearly over the life of a fund, and no re-investment of capital.

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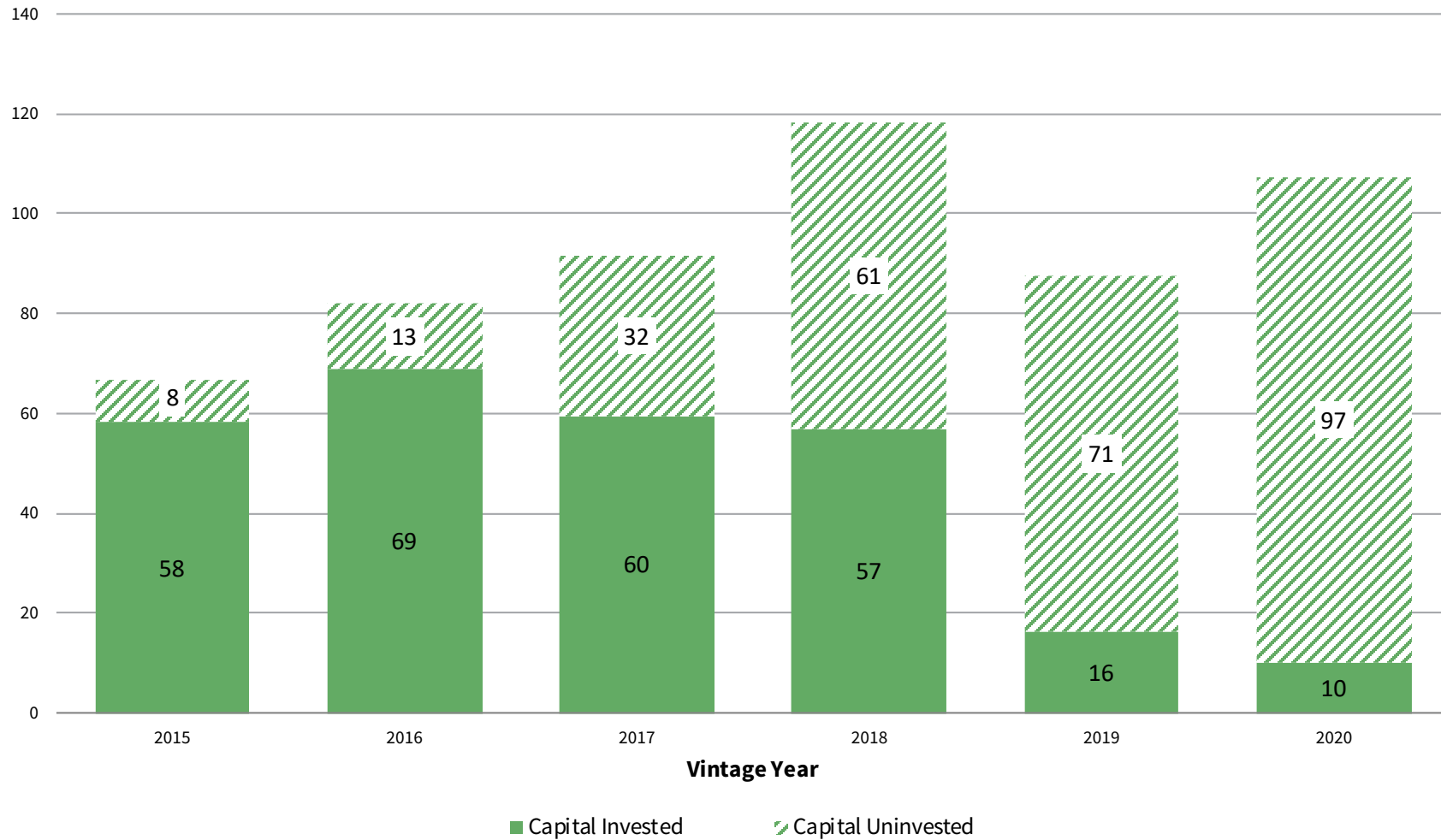
Global venture cash flows appear to be less impacted by the pandemic

GLOBAL VENTURE CAPITAL: LP CASH FLOWS AND CASH FLOW RATIO—CALENDAR YEARS 2011–2020
As of June 30, 2020



In venture capital, fundraising has been strong, leaving a lot of capital to be invested...

GLOBAL VENTURE CAPITAL: FUNDRAISING, INVESTED, AND UNINVESTED CAPITAL
Vintage Years 2015–2020 • US Dollar (billions)



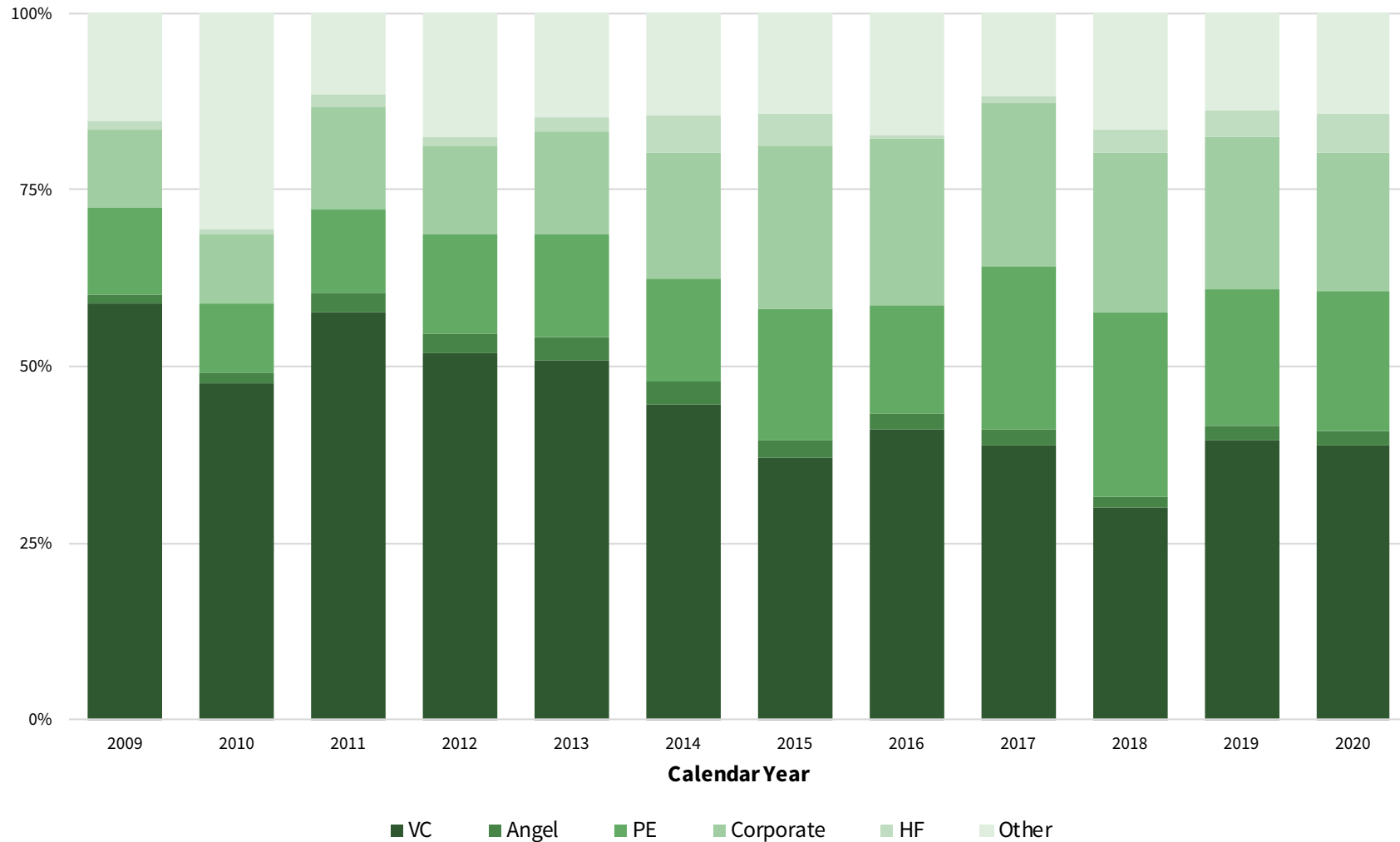
Sources: Cambridge Associates LLC Private Investments Database and PitchBook Data Inc.

Notes: Fundraising information as of November 17, 2020 and includes data for 4,602 global venture capital funds raised between 2015 and 2020. 2020 fundraising data is annualized based on data through November 17, 2020. Capital invested and capital uninvested estimates are as of June 30, 2020 and are based on data from 526 global venture capital funds tracked by Cambridge Associates LLC that were raised between 2015 and 2020. Estimates are based on the percentage paid in by funds in each vintage year relative to that vintage year's total commitments and reflect both LP and GP cash flows.

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More VC is done by non VC funds than VC funds, broadening exposure options

GLOBAL VENTURE CAPITAL: INVESTED CAPITAL BY CALENDAR YEAR AND DEAL SPONSOR
January 1, 2009 – September 30, 2020



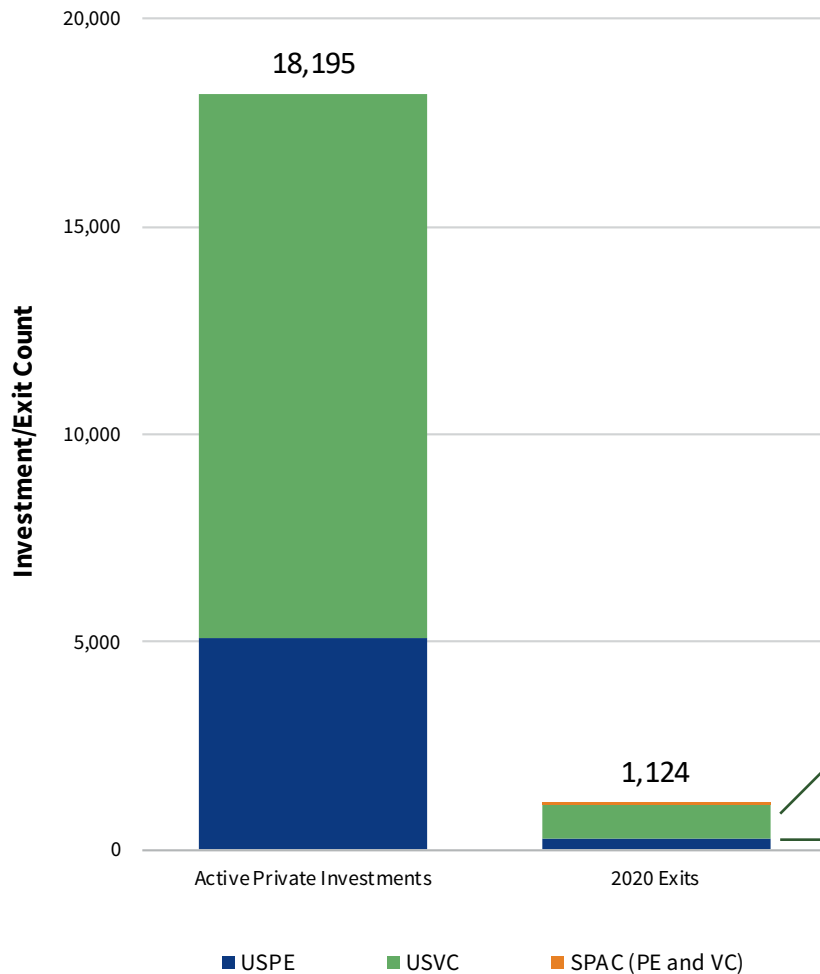
Source: PitchBook Data Inc.

Notes: Dataset includes all Global Venture Capital Deals, as defined by PitchBook Data Inc. Deal categorizations are based on the sole/primary investor(s). When there are multiple primary investors involved in a deal, the full deal amount is attributed to each investor; therefore, deals may be included more than once in different investor categories. Deals with no sole/primary investor listed are not included in the dataset. 2020 data are through September 30.

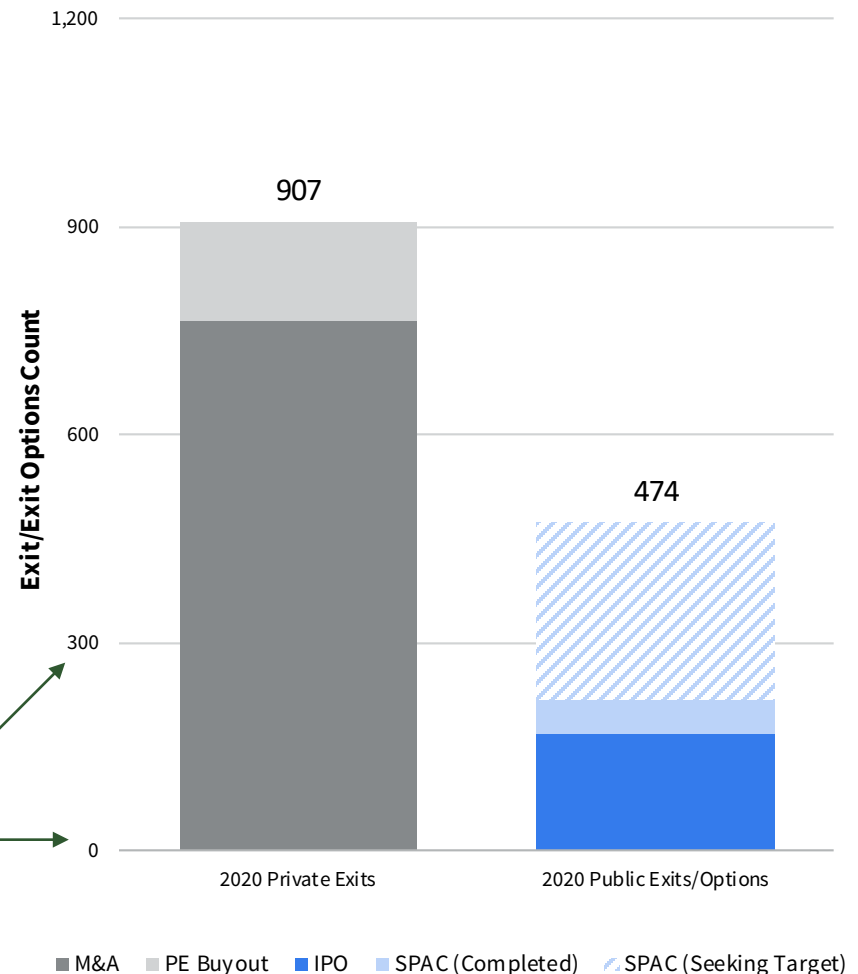
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2020's exit opportunities really just a drop in the proverbial bucket

US PEVC ACTIVE INVESTMENTS AND EXITS
Number of Investments/Exits



US PEVC 2020 EXITS AND EXIT OPTIONS
Number of Exits/Options



Sources: Cambridge Associates LLC, Dealogic, National Venture Capital Association, PitchBook Data Inc., SPACInsider, and SPAC Track.

Notes: Dealogic updates its database on a regular basis; therefore historical data may change. Active private investments include unrealized and partially realized investments made by US private equity and venture capital funds as of 6/30/2020. USPE exits include M&A and IPO activity and are annualized based on data through 10/31/2020. USVC exits include M&A, IPO, and PE Buyout activity and are annualized based on data through 9/30/2020. SPAC (Seeking Target) data include active publicly-listed SPACs that are classified as “seeking target” or “target announced” as of 11/4/2020, and 2020 information is annualized based on data through 11/4/2020. SPAC (Completed) figure includes SPACs that have completed an acquisition in 2020 and is annualized based on data through 11/20/2020. SPAC data exclude 64 SPACs raised in 2020 that have filed for IPO but are not yet publicly listed.

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Takeaways

Private Markets Get a COVID ✓

- COVID has accelerated structural shifts
- Technology and Healthcare maintaining investment attractiveness across all marketspaces
- Growth is holding its value
- Position capital to lean into those shifts

Private Markets Check-In

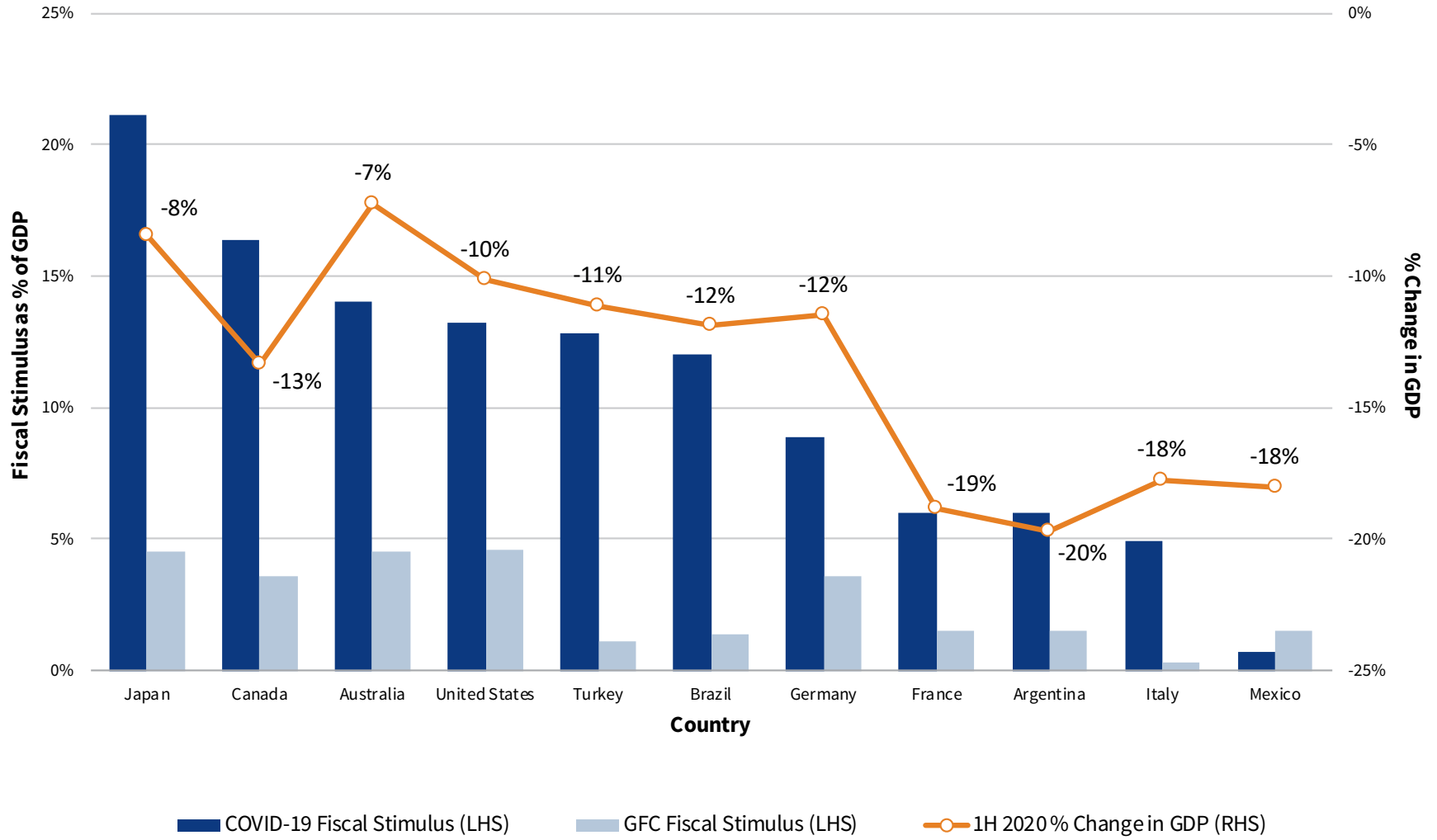
- Performance holding its own
- Cashflow patterns reverting to typical for private equity, less so for venture capital
 - A lot of capital waiting to go to work
 - Performance holding its own
- Exposure can be had through various capital sources
- Exits are happening at a decent-ish pace

APPENDIX



COVID-19 fiscal stimulus much, much larger than GFC

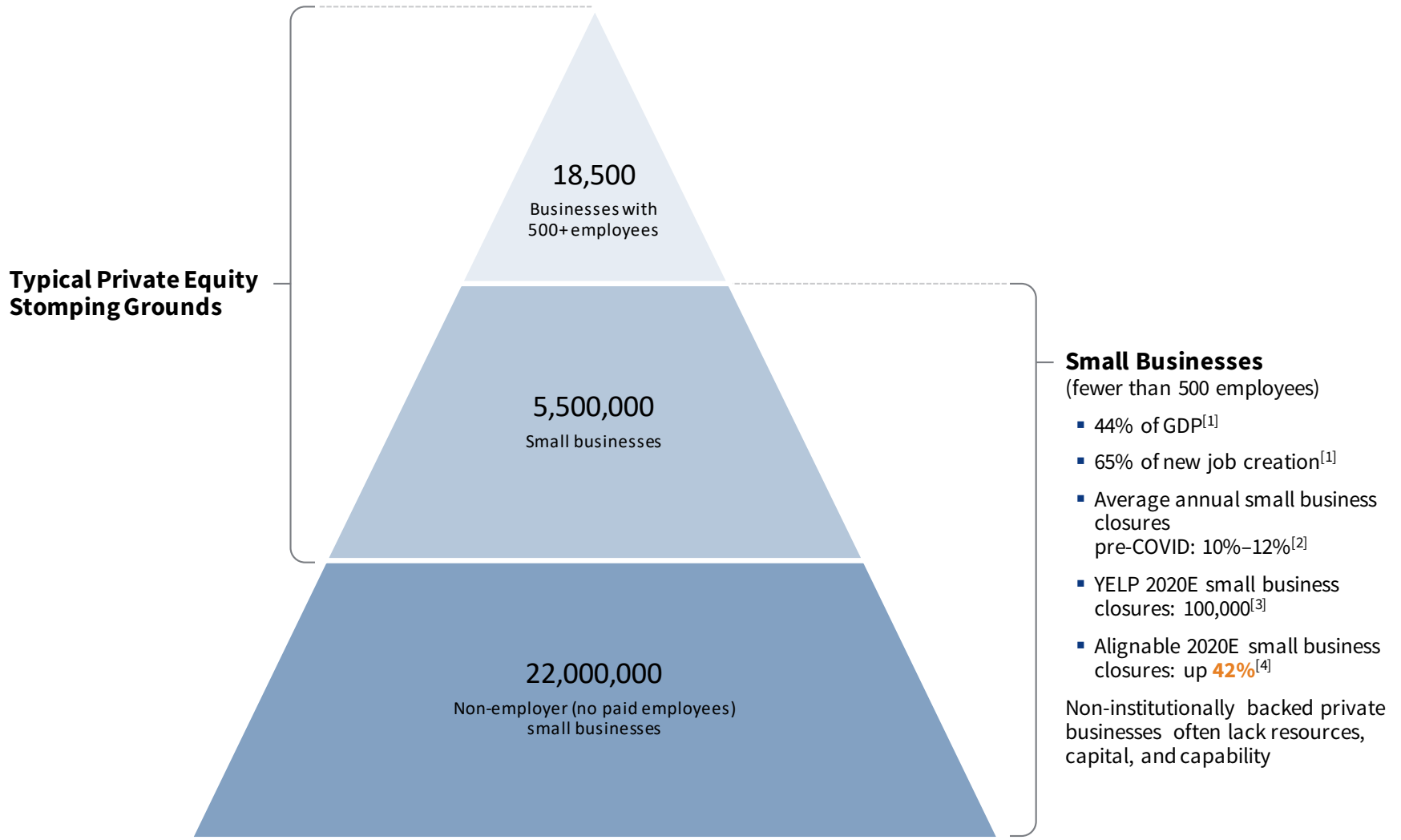
CRISIS-ERA FISCAL STIMULUS COMPARISON & 1ST HALF 2020 % CHANGE IN GDP: BY COUNTRY
 COVID-19 Stimulus: Feb – Oct 2020 • GFC Stimulus: Feb 2008 – April 2010 • GDP % Change: Jan – June 2020



Sources: Cambridge Associates LLC, International Monetary Fund, OECD, Statista.com.
 Notes: COVID-19 fiscal stimulus is calculated in USD through October 9, 2020 as a percentage of Q4 2019 GDP. GFC fiscal stimulus is calculated in USD between February 2008 and April 2010 as a percentage of 2007 GDP. GDP is calculated in USD as a percent change between Q4 2019 and Q2 2020.
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We suspect COVID is materially impacting non-institutionally-backed private businesses

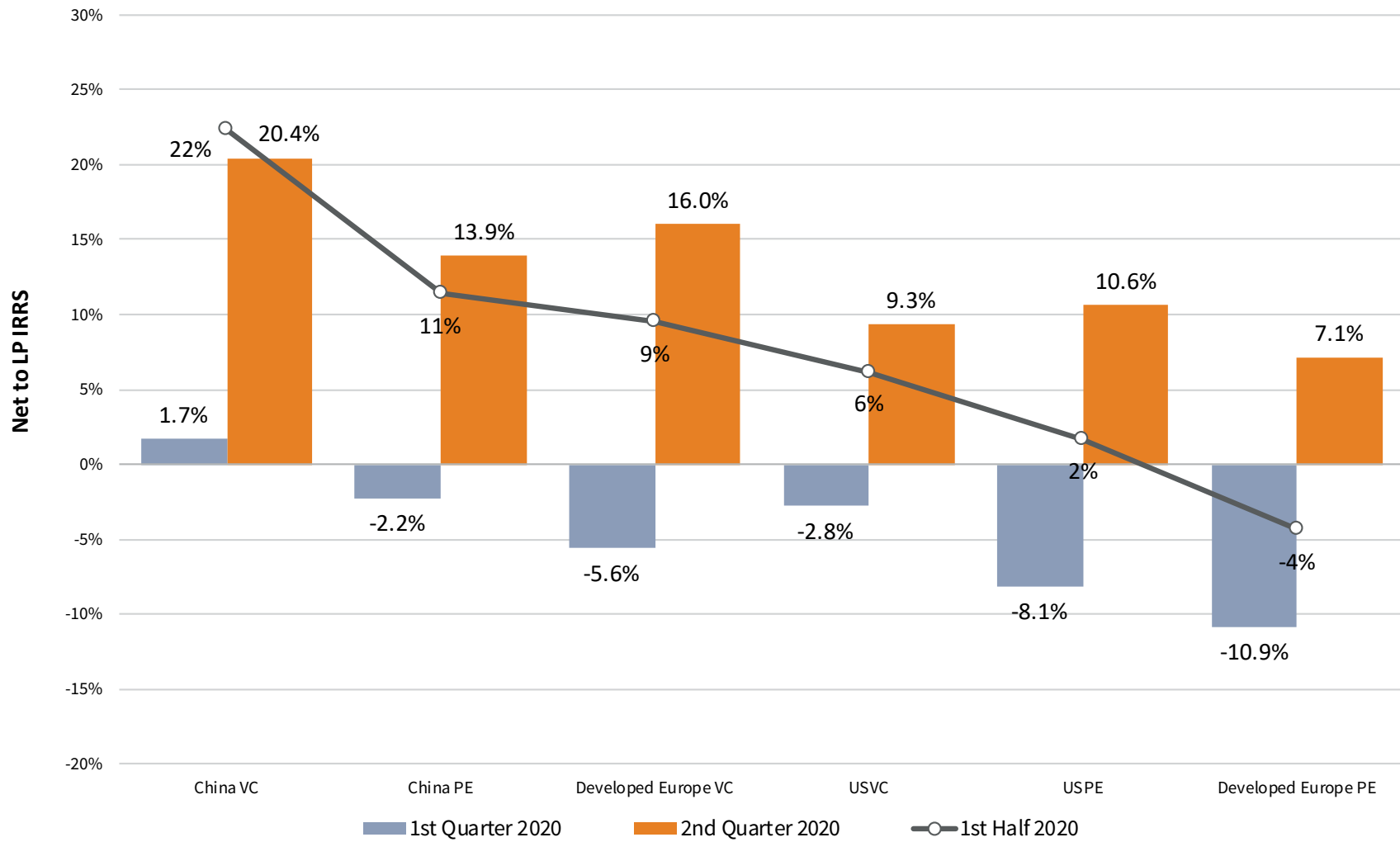
UNITED STATES BUSINESS SURVEY



Sources: Cambridge Associates LLC and sources indicated in notes.
Notes: Pyramid data derived from last U.S. Small Business Administration small business survey held in 2012. [1] 44% of GDP and 65% of new job creation statistics derived from 2014 SBA survey. [2] Average annual small business closures derived from 2012 SBA small business survey. [3] Yelp Inc. [4] Alignable, Inc., a small business referral network.
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Regionally, rebounds all around

PRIVATE EQUITY AND VENTURE CAPITAL: NET PERIODIC RATES OF RETURN BY REGION
January 1, 2020 – June 30, 2020



Source: Cambridge Associates LLC.
Notes: Pooled private investment periodic returns are net of fees, expenses and carried interest. Private equity includes buyouts and growth equity.
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