

# PRIVATE INVESTMENTS - *ALLOCATING CAPITAL IN THE CURRENT ENVIRONMENT*

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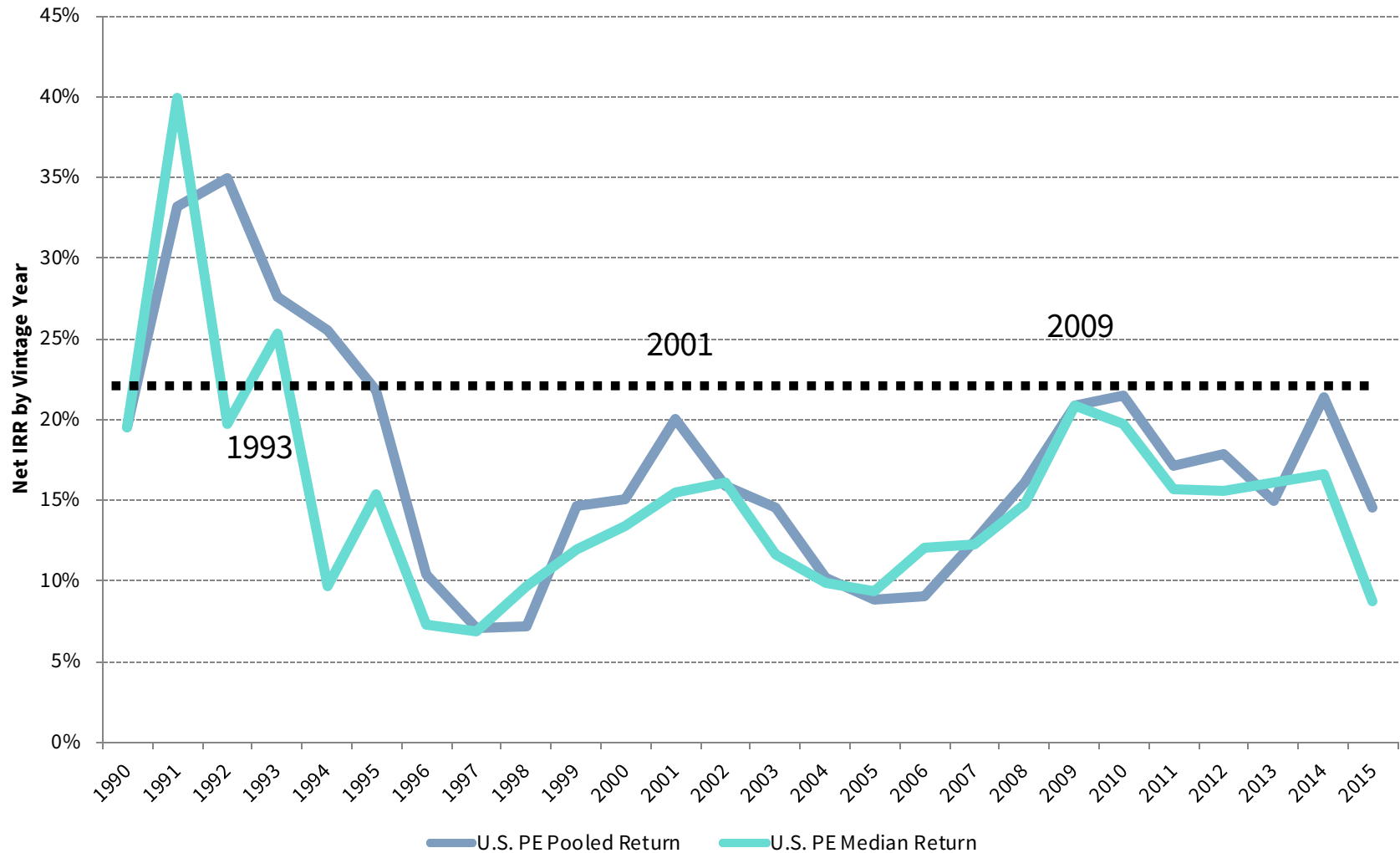
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# Private investment performance is not what it used to be

**U.S. PE NET POOLED IRRS AND MEDIAN FUND IRRS BY VINTAGE YEAR**  
As of December 31, 2018

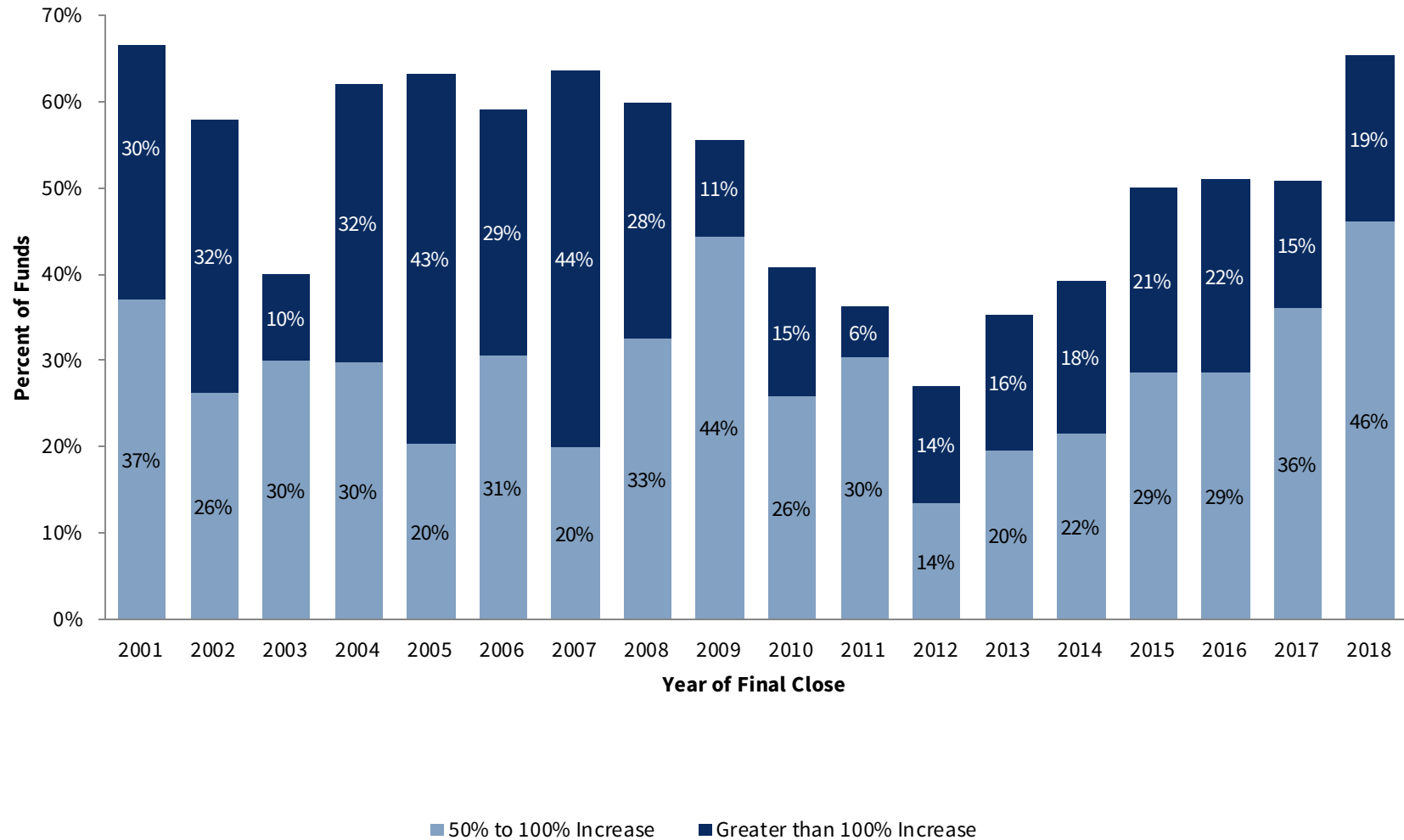


Sources: Cambridge Associates LLC Private Investments Database

Notes: Pooled and median net internal rates of return of U.S. private equity funds by vintage year. Vintage year funds after 2015 are considered too young to have produced meaningful results. Private equity includes growth equity and buyout.

# 60%+ of funds are raising 50% or more – Alarm bells??

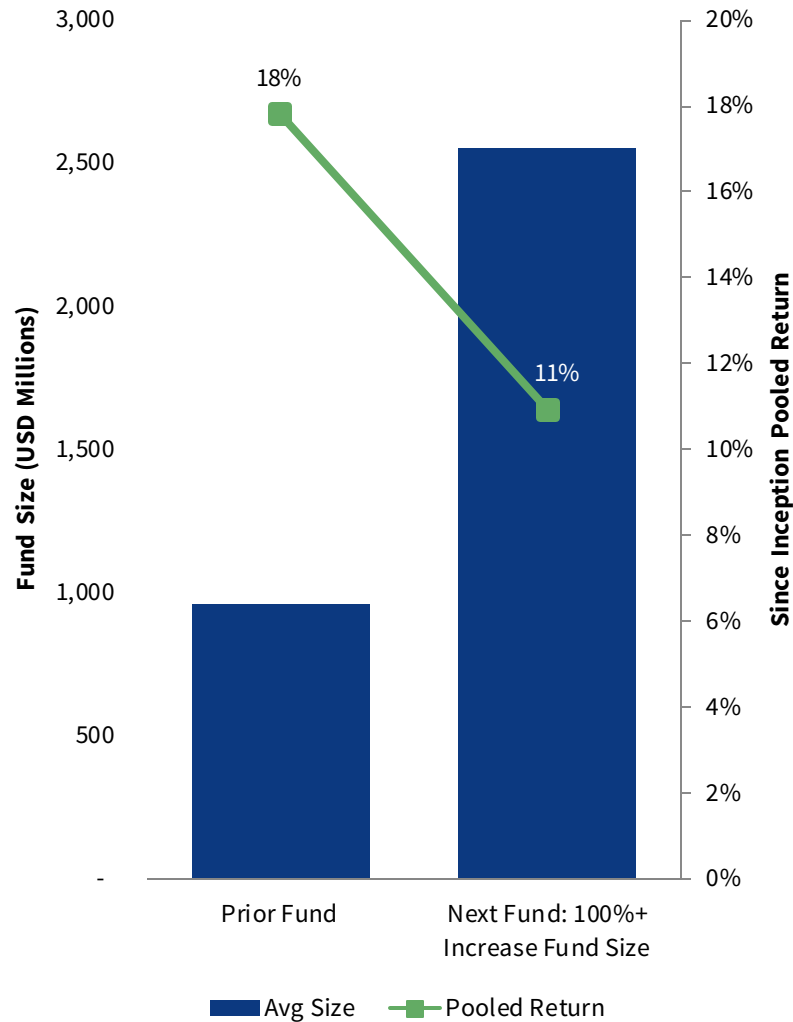
**CHANGE IN CAPITAL COMMITMENT SINCE CLOSE OF PREDECESSOR FUND BY FINAL CLOSE YEAR**  
As of May 31, 2019



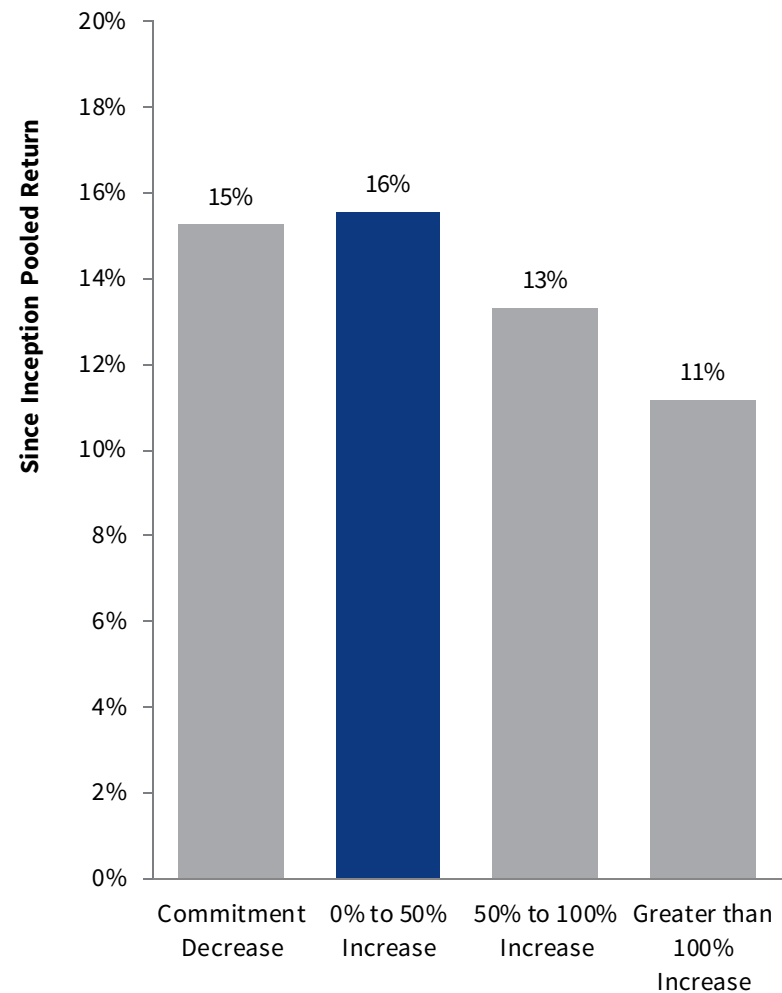
Sources: Cambridge Associates LLC Private Investments Database .  
Notes: Includes U.S. buyout funds only. Year of final close represents the year in which the subsequent fund held its final close. Averages of time and capital increase between predecessor and subsequent fund are taken for the fund immediately preceding the subsequent fund within the same strategy and same firm. Funds without a prior fund have been excluded.

# Alarm bells for sure

**POOLED RETURNS: FUNDS THAT INCREASED BY 100% OR MORE VS. PREDECESSOR FUND**  
As of December 31, 2018



**POOLED RETURNS BY CAPITAL INCREASE SINCE CLOSE OF PREDECESSOR FUND**  
As of December 31, 2018

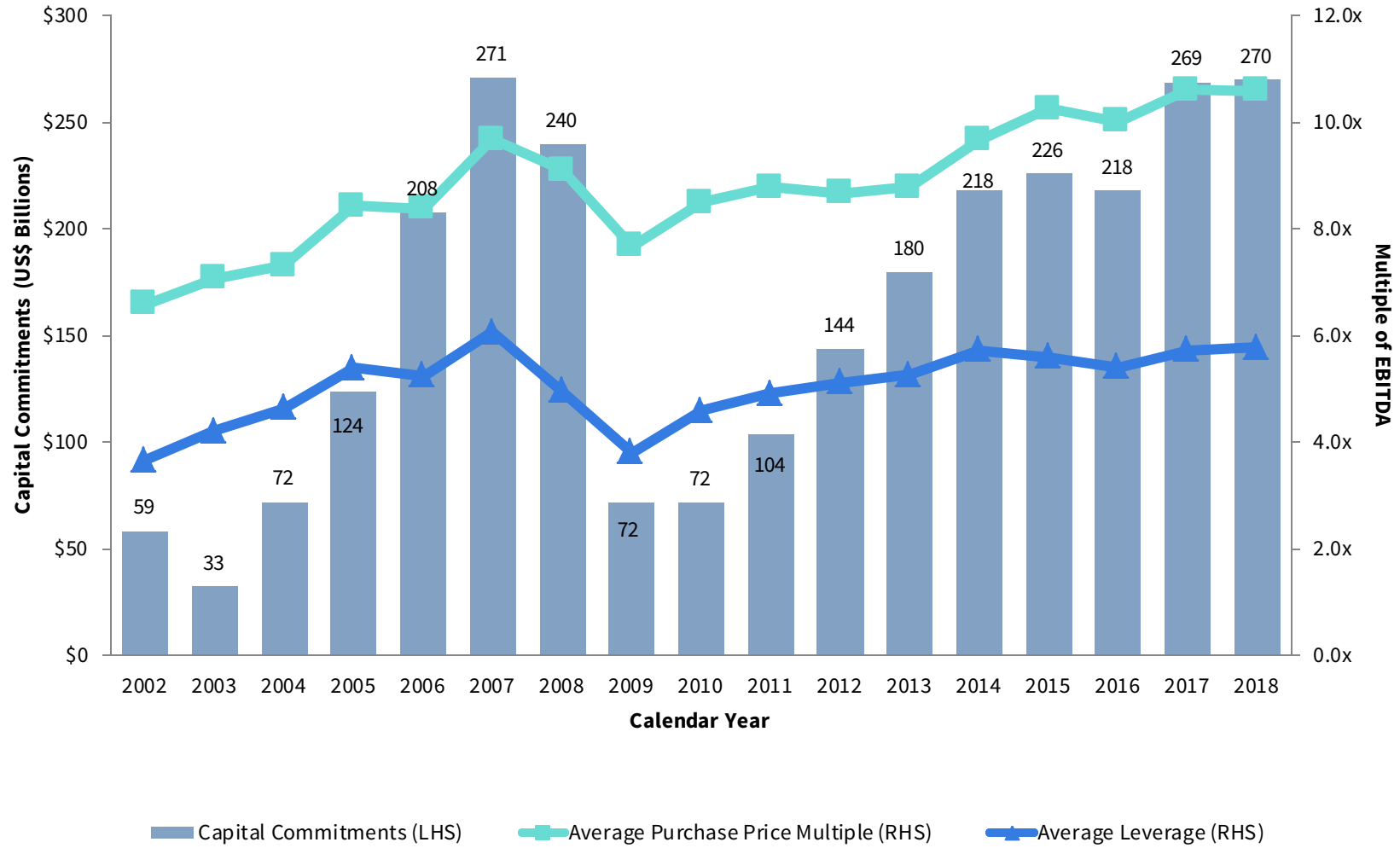


Sources: Cambridge Associates LLC Private Investments Database.  
Notes: Pooled private investment periodic returns are net of fees, expenses and carried interest. Includes U.S. buyout funds raised 1986-2015. Funds raised after 2015 are considered too young to have produced meaningful results. [LEFT] Sample includes firms that have at least one fund with a 100% increase in fund size from prior fund, along with a predecessor fund data.

## Yet those commitments still keep coming

### U.S. PRIVATE EQUITY COMMITMENTS, EBITDA PURCHASE PRICE AND LEVERAGE MULTIPLES

Commitment Data as of December 15, 2018. Multiple Data as of December 31, 2018.

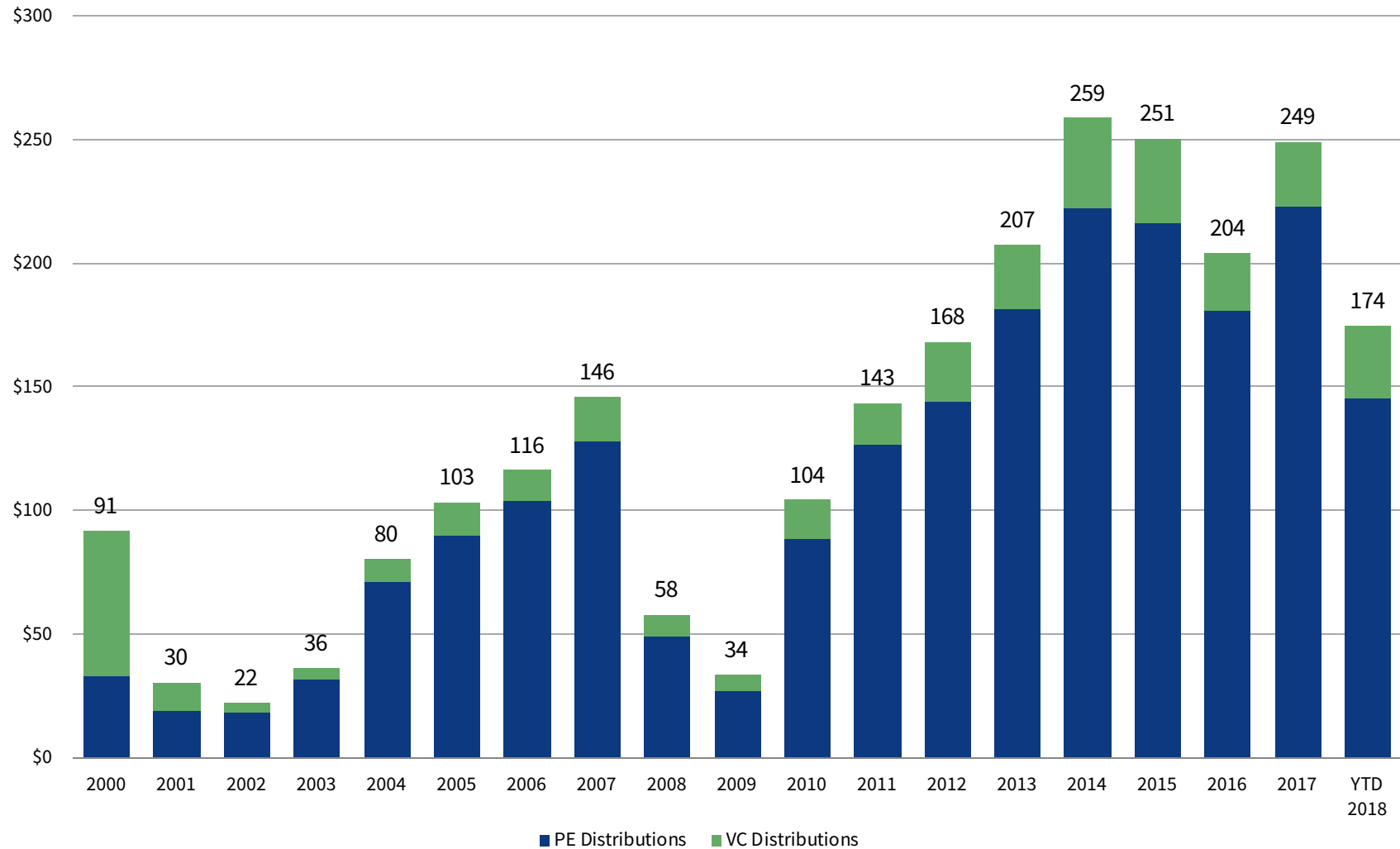


Sources: Cambridge Associates LLC, Dow Jones & Company, Inc., Standard & Poor's LCD and WSJ Pro.  
 Notes: Purchase price multiple is defined as enterprise value over EBITDA and leverage multiple is defined as net debt over EBITDA. Commitments 2002-2007 sourced from Dow Jones & Company, Inc. Commitments 2007-2018 sourced from WSJ Pro.

## Driven in part from strong liquidity for reinvesting

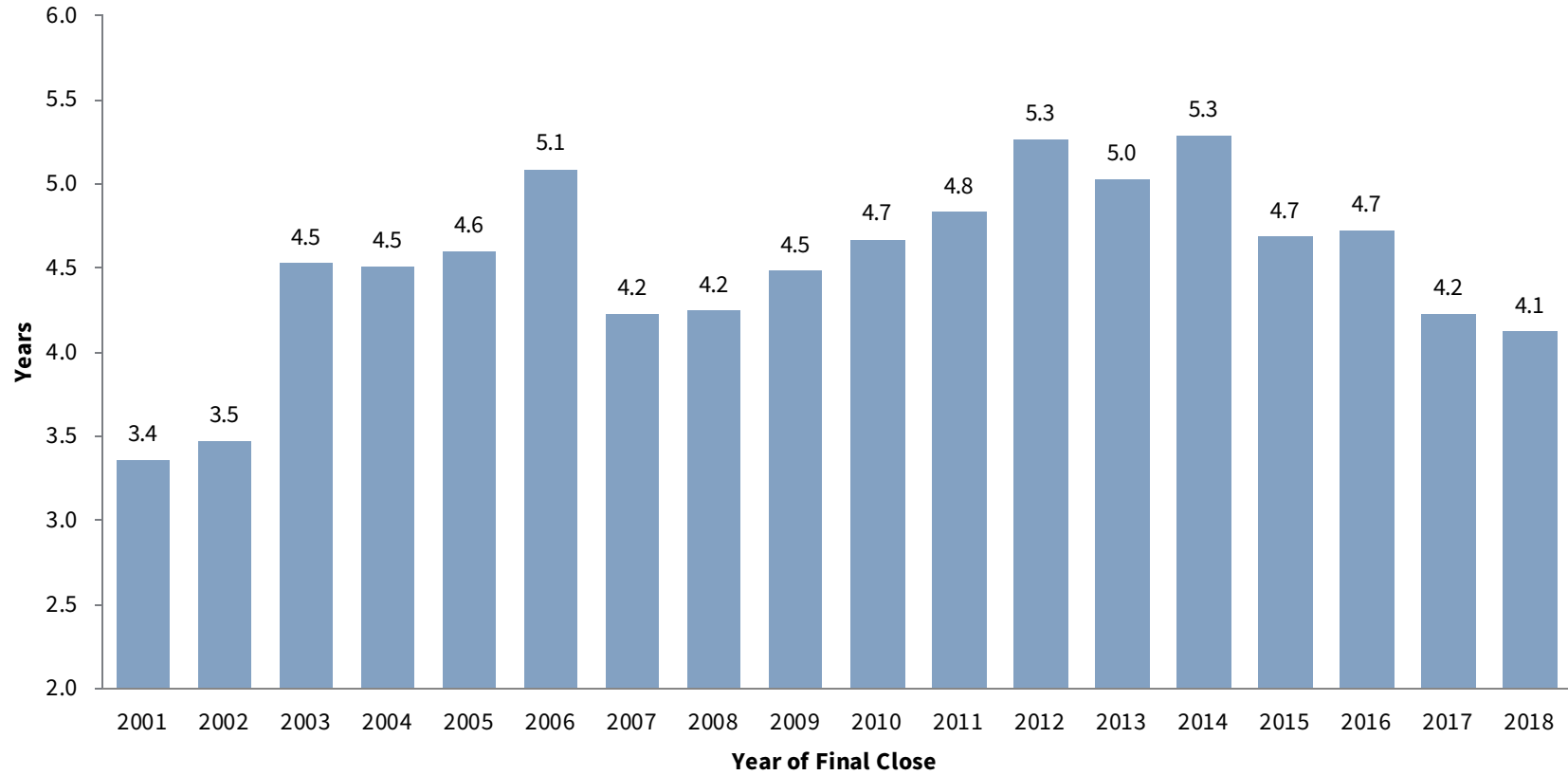
### GLOBAL DISTRIBUTIONS BY CALENDAR YEAR: PRIVATE EQUITY AND VENTURE CAPITAL

As of September 30, 2018 • US\$B



# Fundraising cycles are getting shorter

**AVERAGE TIME SINCE CLOSE OF PREDECESSOR FUND BY FINAL CLOSE YEAR**  
As of May 31, 2019



■ Average of Time Since Last Final Close (Years)



Sources: Cambridge Associates LLC Private Investments Database .

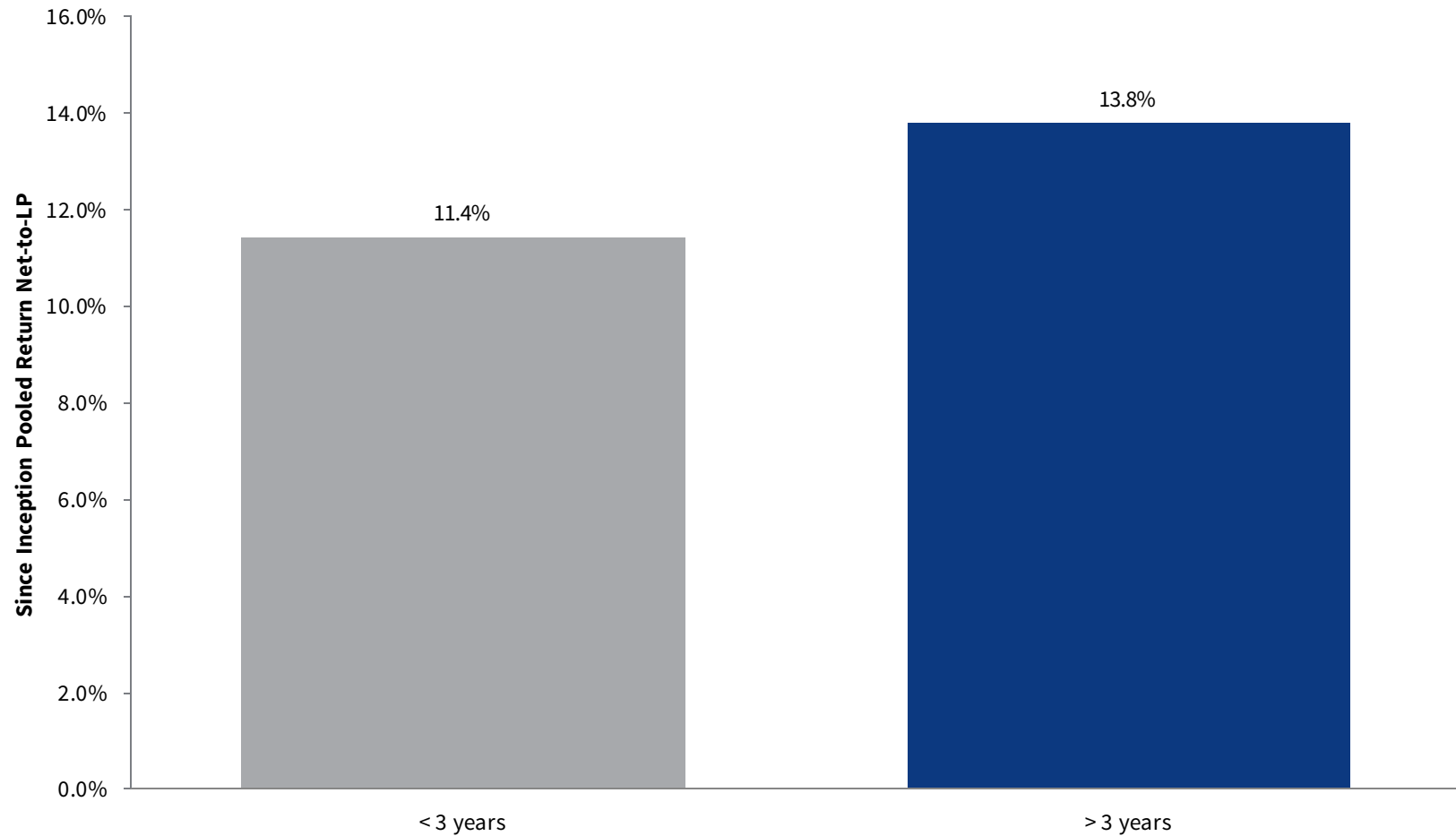
Notes: Includes U.S. buyout funds only. Year of final close represents the year in which the subsequent fund held its final close. Averages of time between predecessor and subsequent fund are taken for the fund immediately preceding the subsequent fund within the same strategy. Funds without a prior fund have been excluded.



# Shorter is not typically better

## POOLED RETURNS BY TIME SINCE CLOSE OF PREDECESSOR FUND

As of December 31, 2018

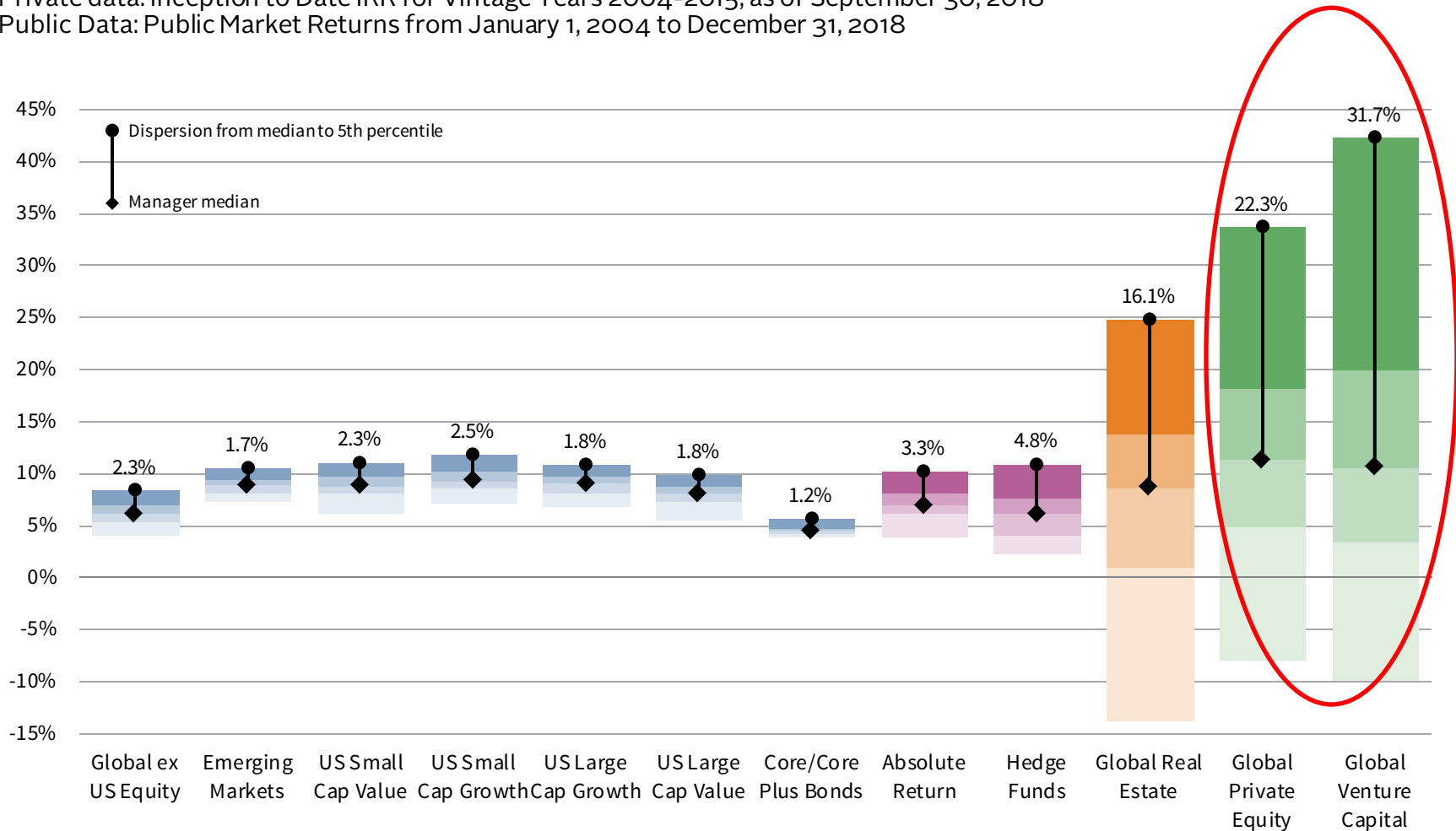


# If you want returns, you may want to look to alternative strategies

## AVERAGE ANNUAL MANAGER RETURNS BY ASSET CLASS

Private data: Inception to Date IRR for Vintage Years 2004-2015, as of September 30, 2018

Public Data: Public Market Returns from January 1, 2004 to December 31, 2018

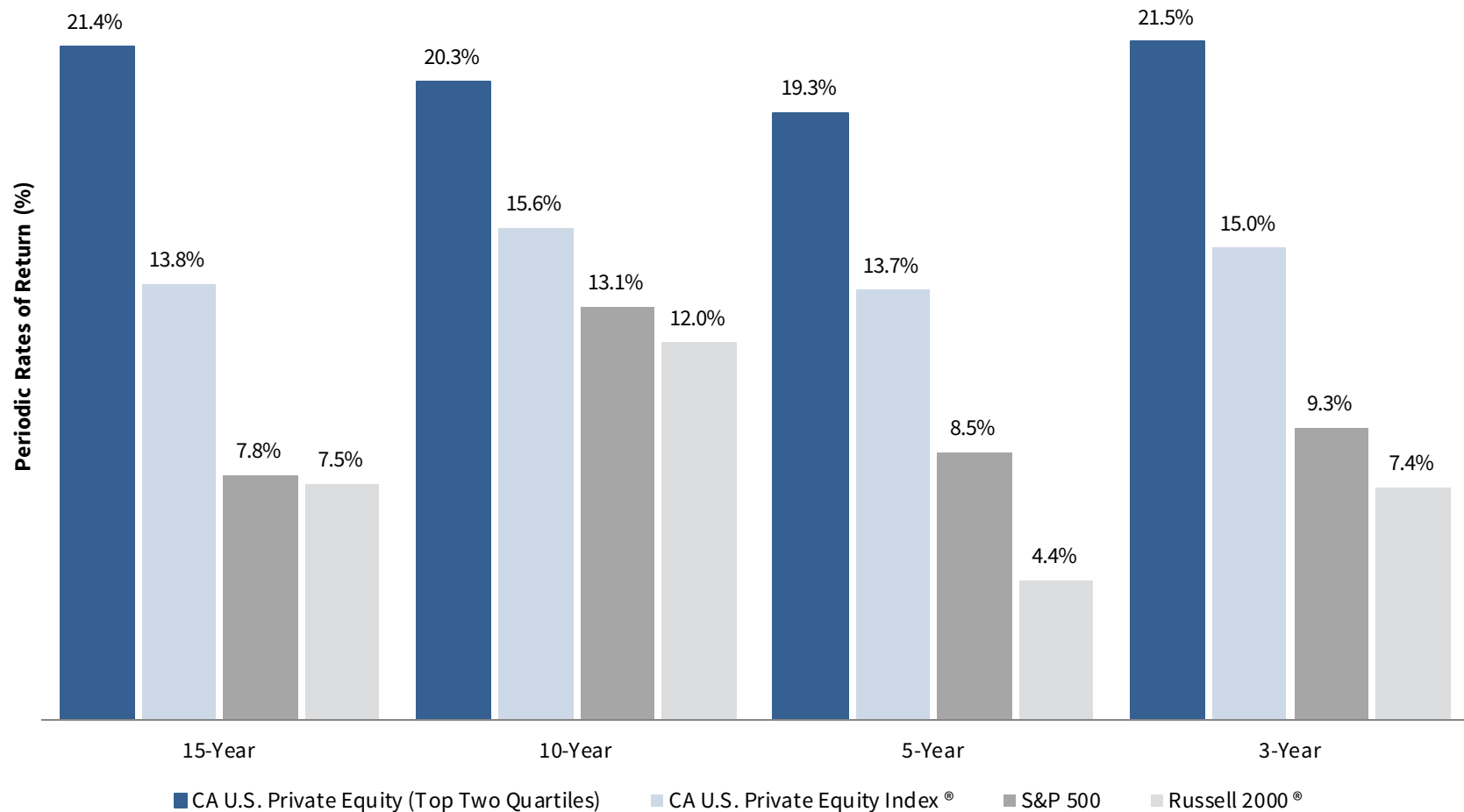


Source: Cambridge Associates LLC.

Notes: Returns for bond, equity, and hedge fund managers are average annual compound returns (AACRs) for the fifteen years ended December 31, 2018, and only managers with performance available for the entire period are included. Returns for private investment managers are horizon internal rates of return (IRR) calculated since inception to September 30, 2018. Time-weighted returns (AACRs) and money-weighted returns (IRRs) are not directly comparable. Cambridge Associates LLC's (CA) bond, equity, and hedge fund manager universe statistics are derived from CA's proprietary Investment Manager Database. Managers that do not report in US dollars, exclude cash reserves from reported total returns, or have less than \$50 million in product assets are excluded. Performance of bond and public equity managers is generally reported gross of investment management fees. Hedge fund managers generally report performance net of investment management fees and performance fees. CA derives its private benchmarks from the financial information contained in its proprietary database of private investment funds. The pooled returns represent the net end-to-end rates of return calculated on the aggregate of all cash flows and market values as reported to Cambridge Associates by the funds' general partners in their quarterly and annual audited financial reports. These returns are net of management fees, expenses, and performance fees that take the form of a carried interest.

# If you know where to look, private investments have outrun publics

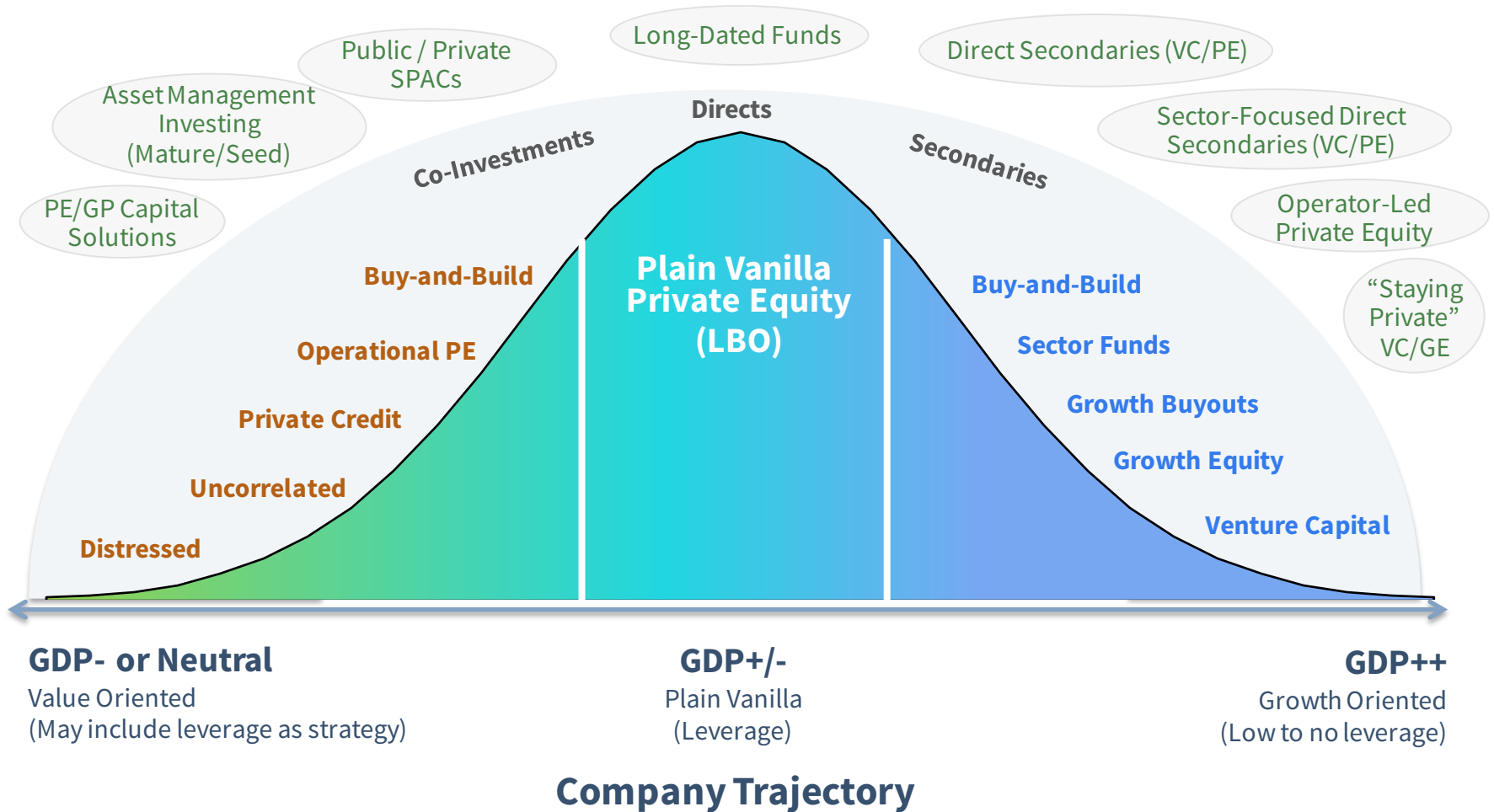
## U.S. BUYOUTS & GROWTH EQUITY: PERIODIC RATES OF RETURN As of December 31, 2018



Sources: Cambridge Associates LLC, Frank Russell Company, Standard & Poor's and Thomson Reuters Datastream.  
Notes: Pooled private investment periodic returns are net of fees, expenses and carried interest. Multi-Year Annualized Returns are generated for time periods ending December 31, 2018.

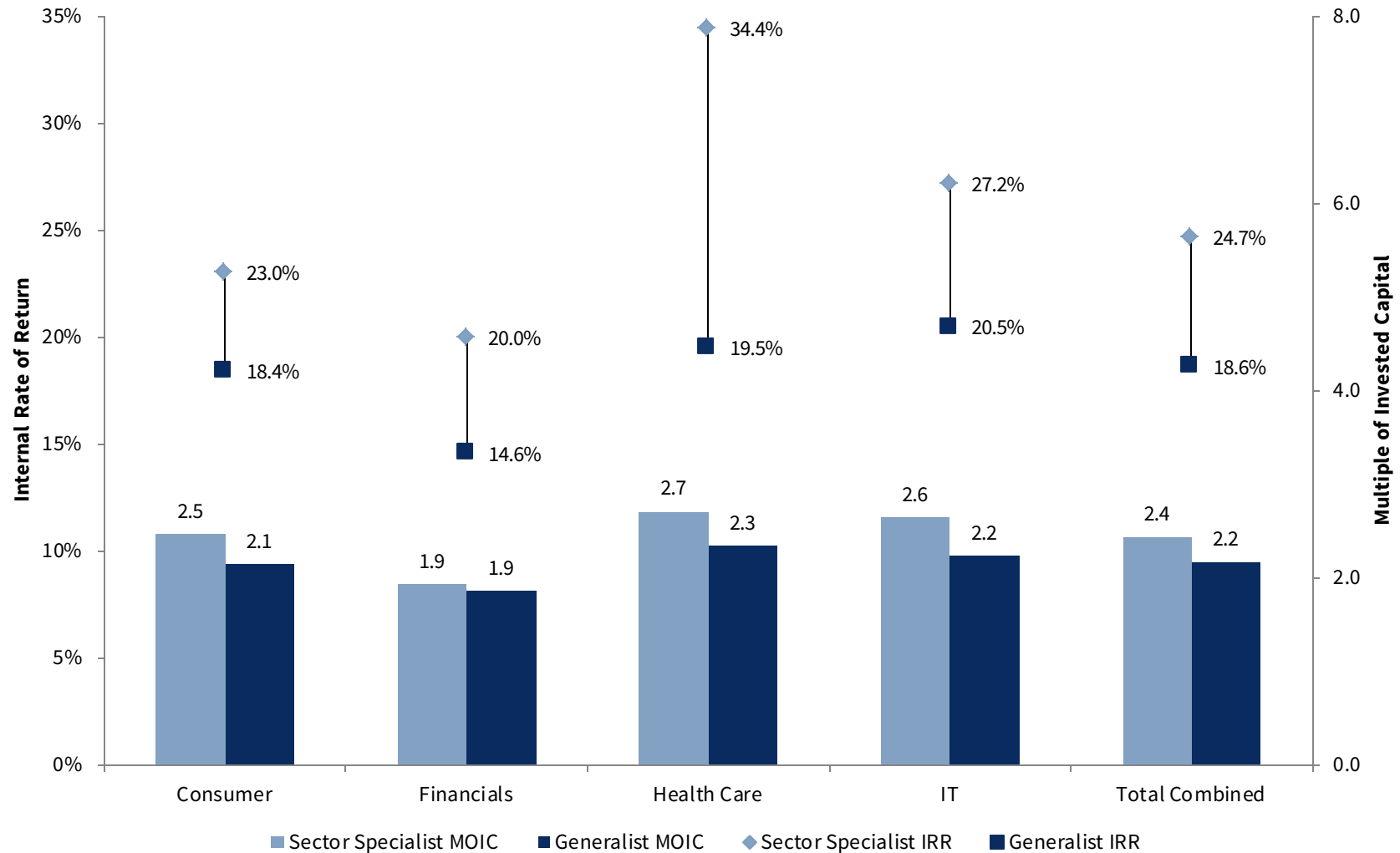
# Hunting ground has expanded significantly

**PRIVATE EQUITY 2.0 (2005–PRESENT)**  
 Capital Concentration Estimation – for illustration purposes only



# Let's look at one sliver: Sector focused funds

## SPECIALIST VS. GENERALIST: SINCE INCEPTION GROSS RETURN AND TVPI As of December 31, 2018

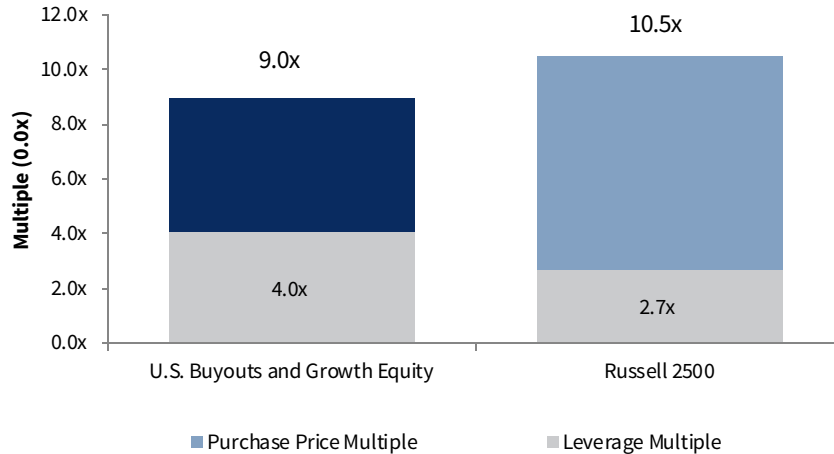


Source: Cambridge Associates LLC Private Investments Database.  
 Notes: Data represents realized and unrealized investments within the Cambridge Associates US Buyout and Growth Equity Benchmark initiated between 2001 and 2015. MOICs and IRRs are based on the aggregate performance of investments categorized as sector or generalist. All performance is gross of fees and expenses. Sectors represented include consumer, financials, health care, and technology.

# Operator-led private equity — Because we want more of this

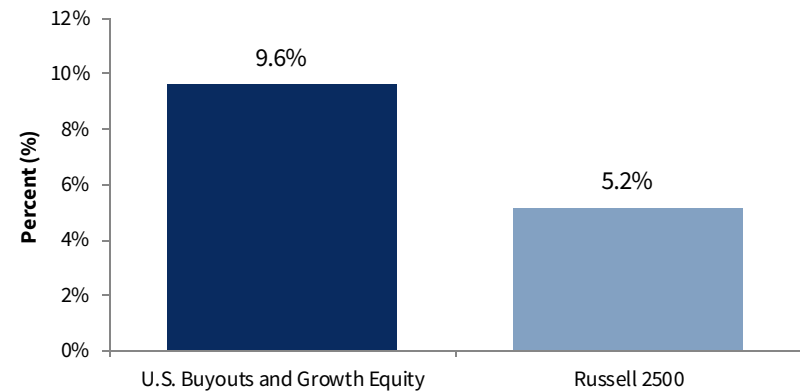
## AVERAGE EBITDA PURCHASE PRICE AND LEVERAGE MULTIPLE

As of December 31, 2017



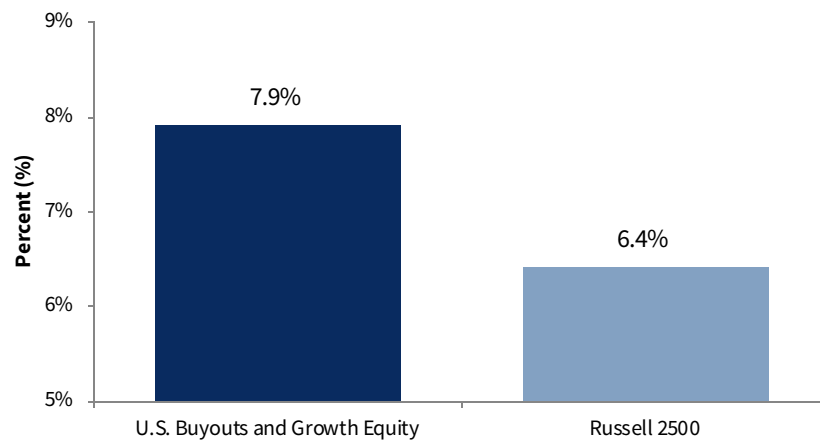
## AVERAGE ANNUAL REVENUE GROWTH

As of December 31, 2017



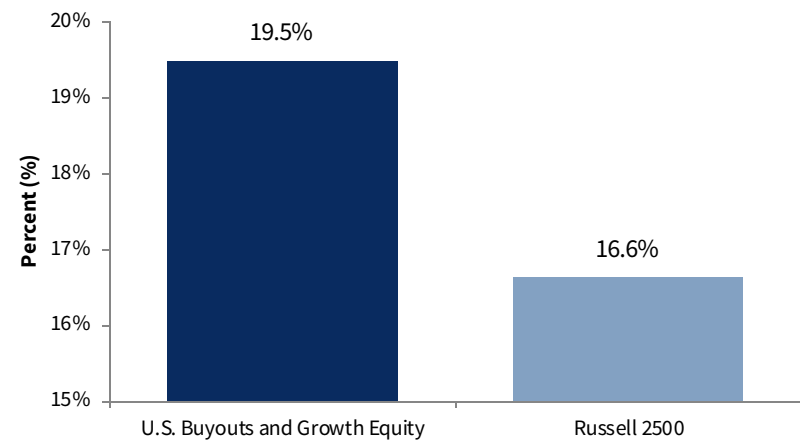
## AVERAGE ANNUAL EBITDA GROWTH

As of December 31, 2017



## AVERAGE ANNUAL EBITDA MARGIN

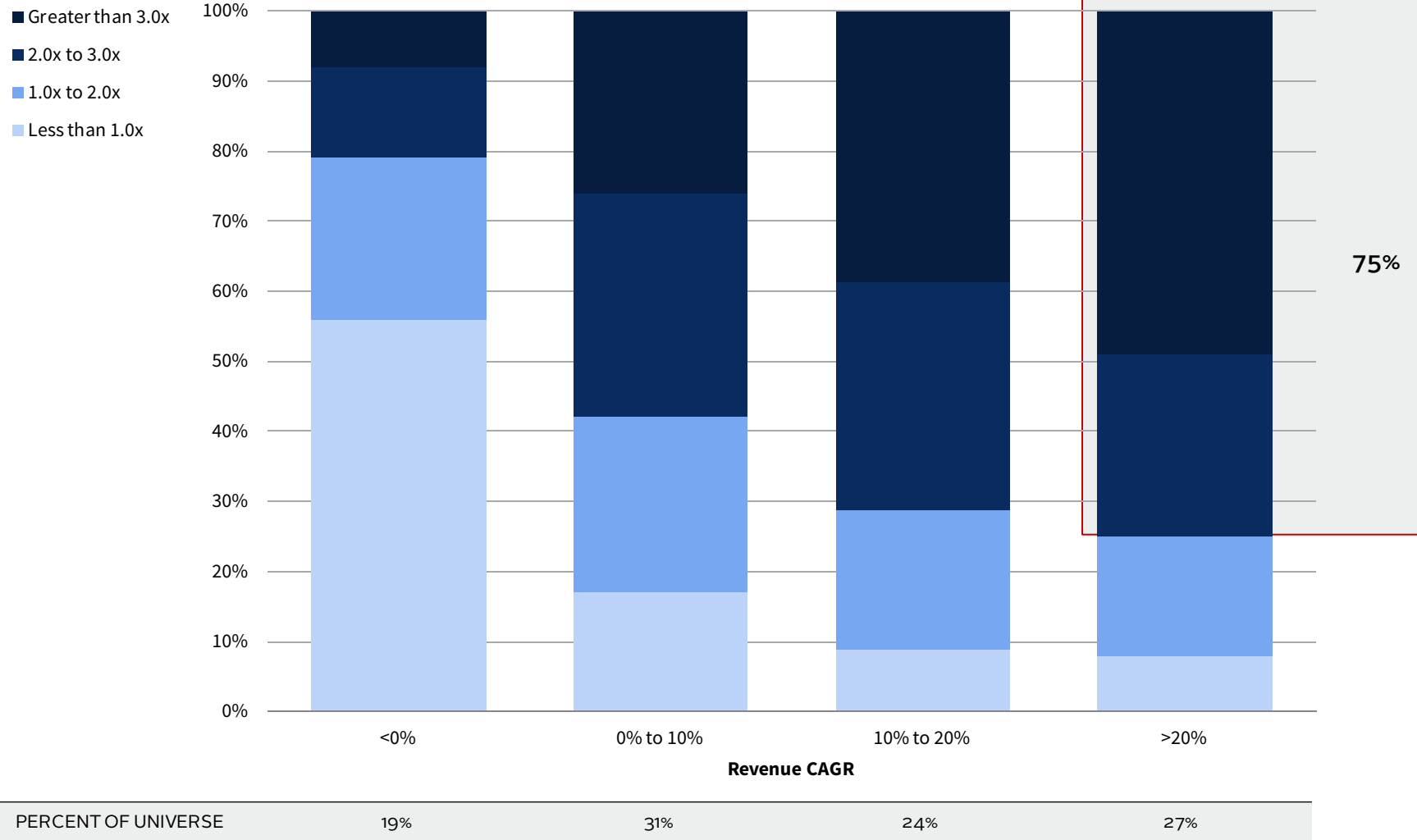
As of December 31, 2017



# Growth is expensive but adds value for investors

## US PRIVATE EQUITY: REALIZED INVESTMENT RETURN (MOIC) BY REVENUE CAGR

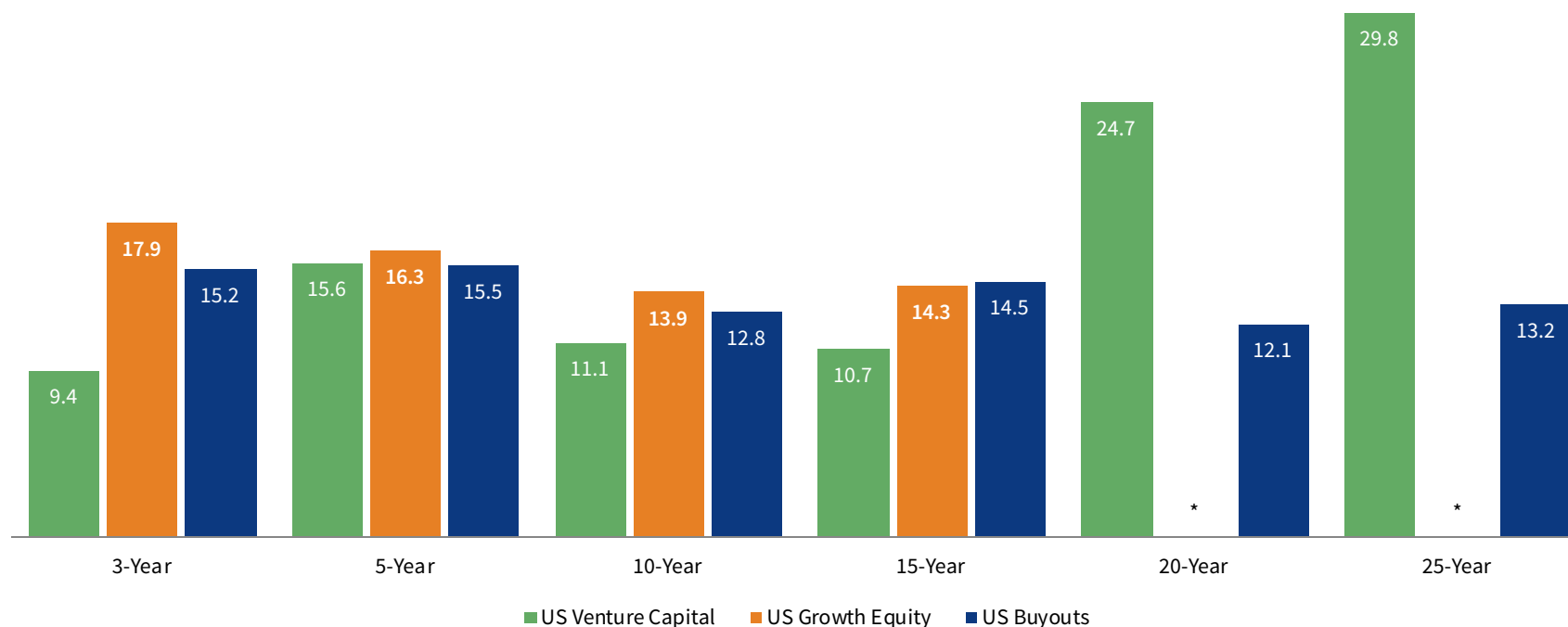
As of December 31, 2017



# Growth equity's compelling return profile

## PERIODIC RATES OF RETURN (%)

As of September 30, 2018



## AGGREGATE CAPITAL LOSS RATIOS

As of September 30, 2018

	US VENTURE CAPITAL	US GROWTH EQUITY	US BUYOUTS
Impairment Ratio	51.3%	29.1%	27.4%
Capital Loss Ratio	33.0%	13.9%	11.8%

Sources: Cambridge Associates LLC Private Investments Database (as reported by investment managers), FactSet Research Systems, and Frank Russell Company.  
 Notes: Periodic rates of return analysis includes 256 US growth equity funds, 849 US buyout funds, and 1,806 US venture capital funds. Periodic asset class returns are pooled returns for each asset class, net to LPs. \*The growth equity sample is too limited for 20- and 25-year analysis. Aggregate capital loss ratio analysis includes 4,248 growth equity investments, 36,274 venture capital investments, and 9,241 leveraged buyout investments made between 1990 and 2016. Growth equity deals are those completed by firms classified by Cambridge Associates as pursuing a growth equity investment strategy. Capital loss ratio is defined as the percentage of capital in deals realized below cost, net of any recovered proceeds, over total invested capital.



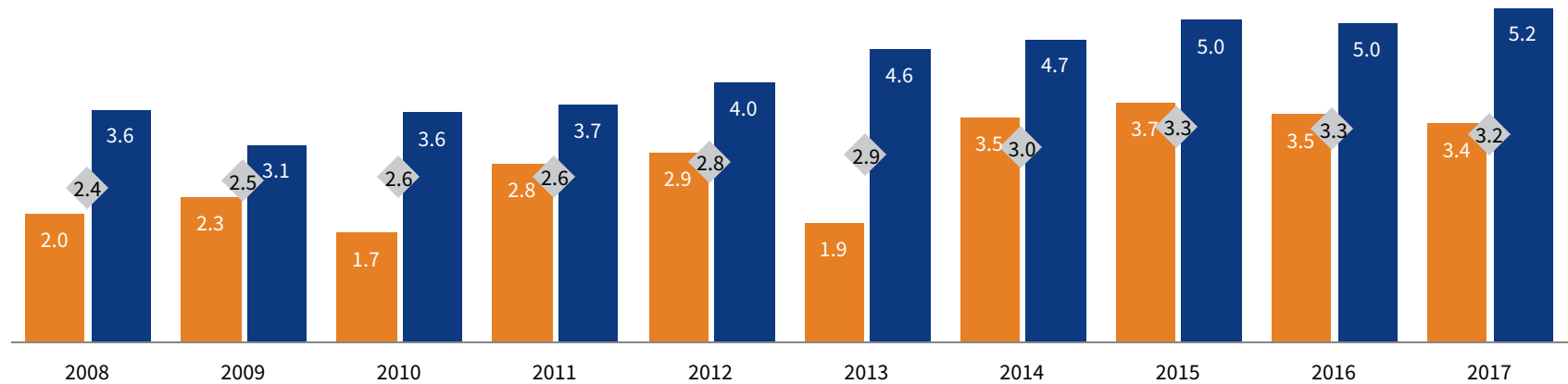
# Stronger growth, less leverage than buyouts

- PE-Owned Growth Equity Companies
- PE-Owned Buyout Companies
- ◆ Russell 2500™ Index

**AVERAGE ANNUAL REVENUE GROWTH RATE**  
As of December 31, 2017 • Percent (%)



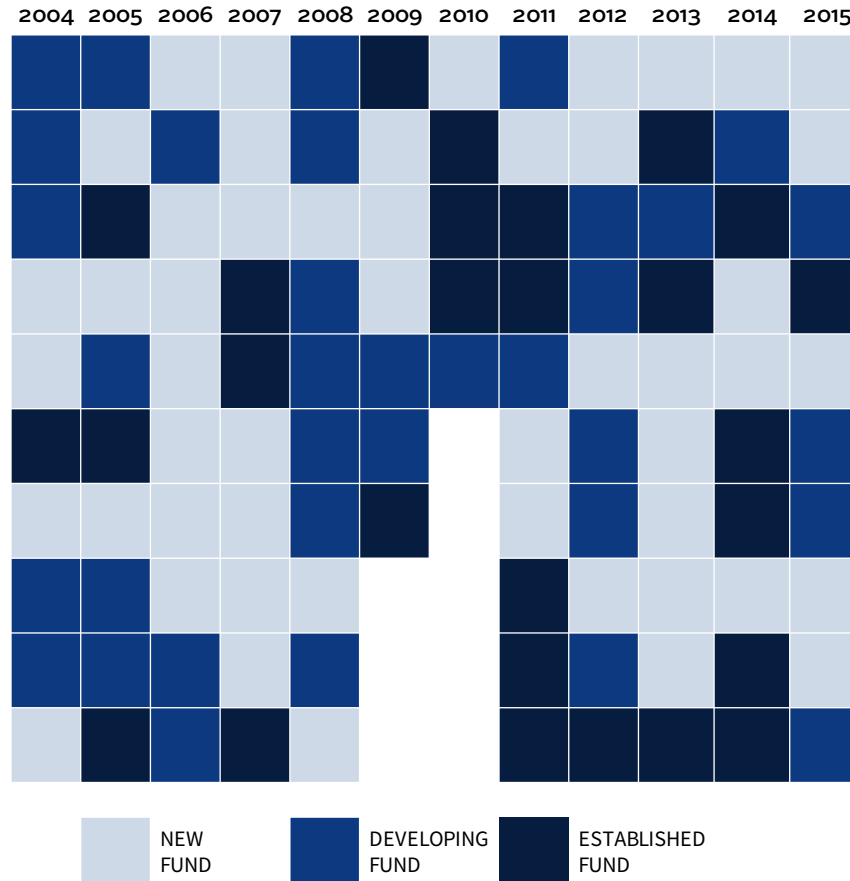
**AVERAGE EBITDA LEVERAGE MULTIPLE AT ACQUISITION**  
As of December 31, 2017 • Net Debt/EBITDA



# Emerging managers can serve as a source of attractive returns

## TOP 10 TOP QUARTILE US PRIVATE EQUITY FUNDS BY VINTAGE YEAR

Based on Net TVPI Multiple. As of September 30, 2018.

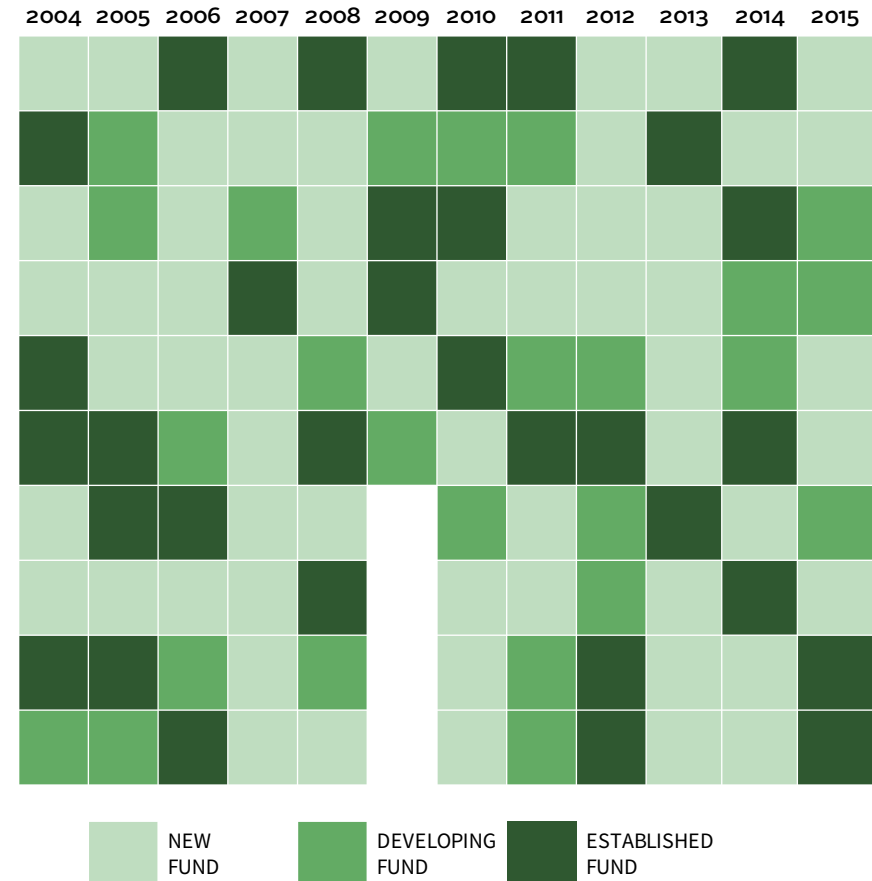


NUMBER OF FUNDS IN VINTAGE YEAR

55 76 60 75 50 26 20 55 37 50 58 53

## TOP 10 TOP QUARTILE US VENTURE CAPITAL FUNDS BY VINTAGE YEAR

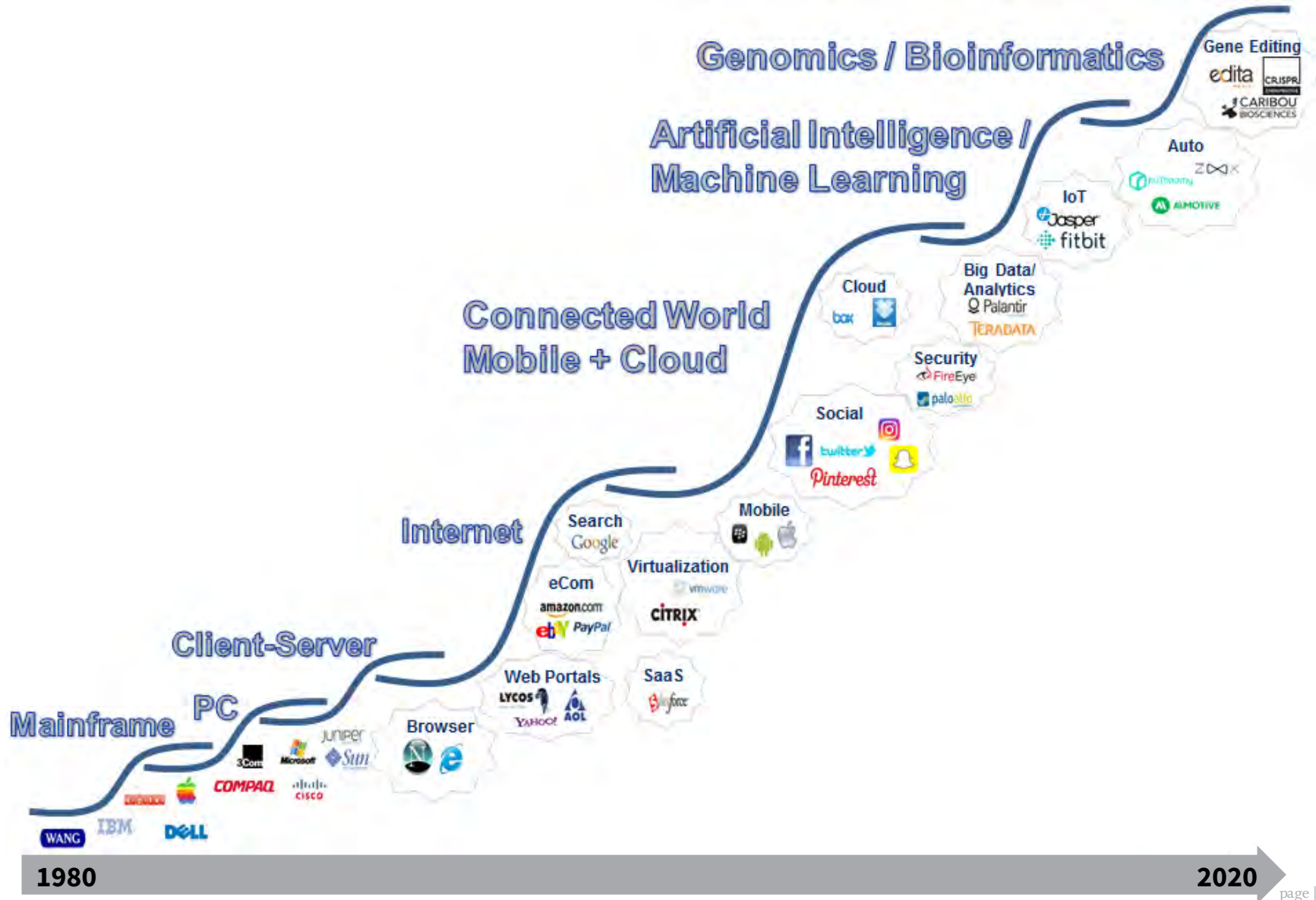
Based on Net TVPI Multiple. As of September 30, 2018.



NUMBER OF FUNDS IN VINTAGE YEAR

67 64 79 68 66 23 49 44 55 58 81 65

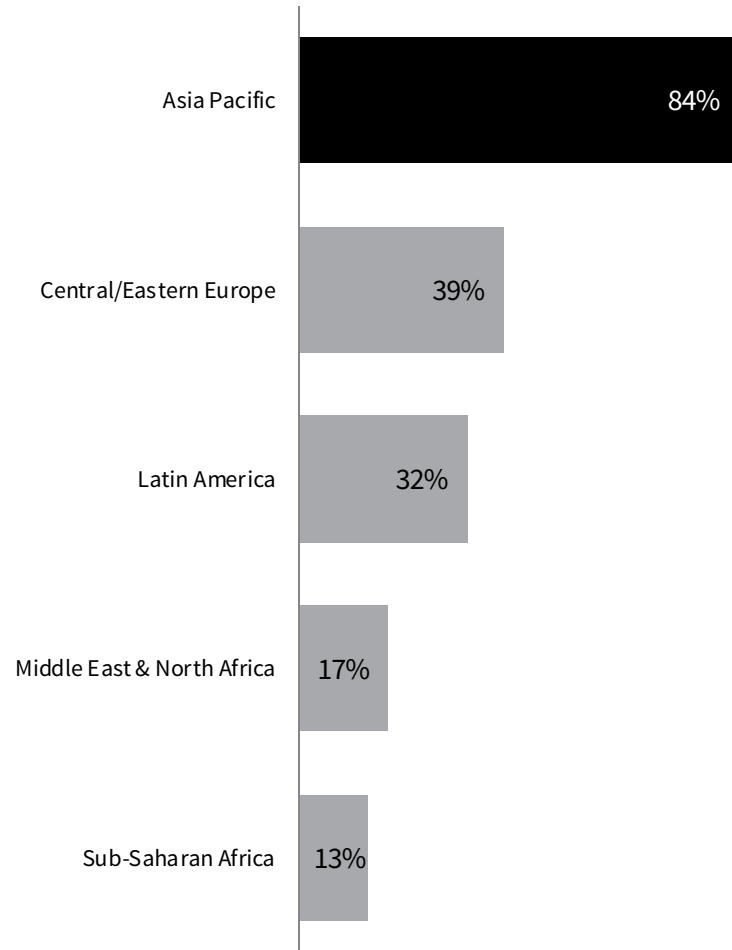
# Venture capital – The golden age of innovation is NOT over



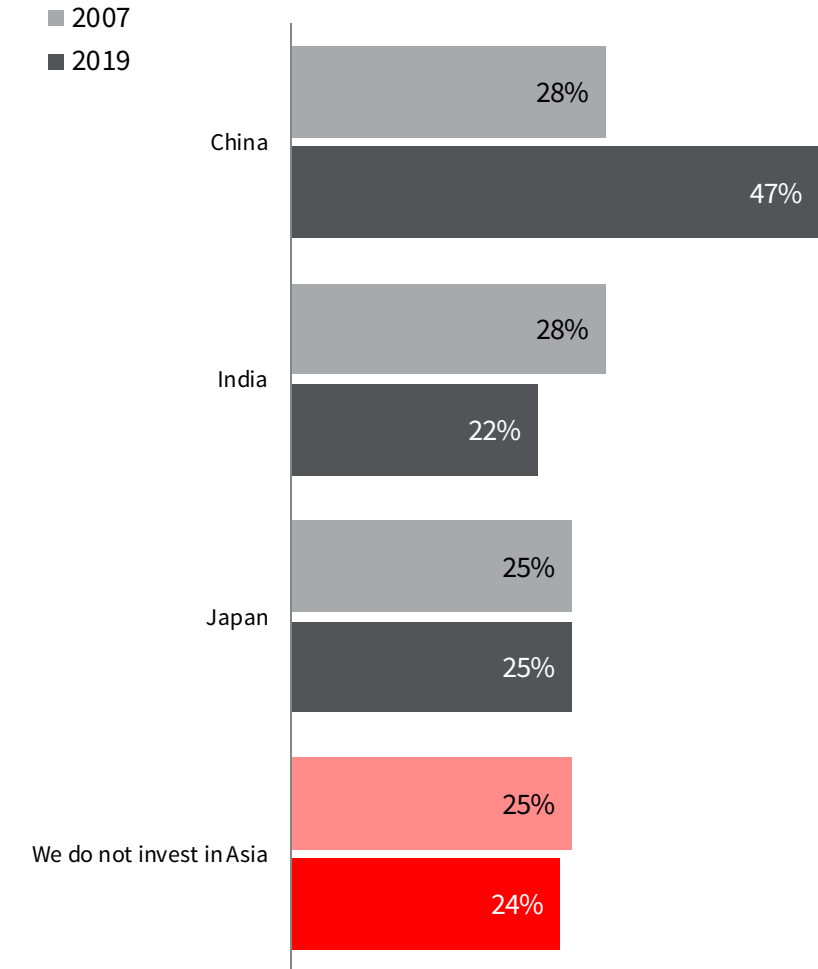
Sources: Cambridge Associates LLC.

# Investor interest in Asia is surging

**WHICH EMERGING MARKET GEOGRAPHIES WILL BE CONSIDERED FOR INVESTMENT OVER THE NEXT 12 MONTHS? [1]**  
 Percentage of respondents

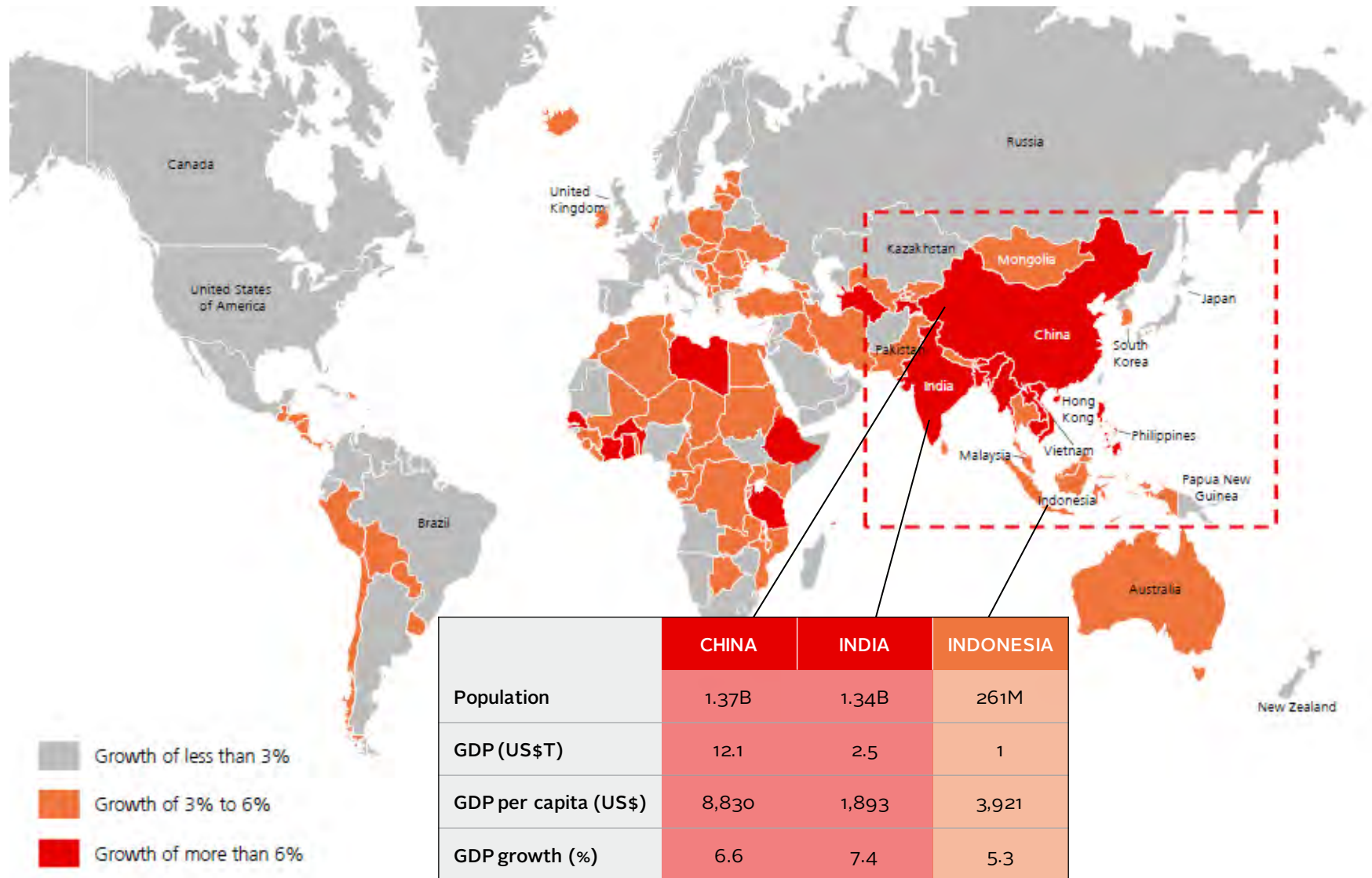


**WHICH GEOGRAPHIES IN ASIA ARE OF THE MOST INTEREST? [2]**  
 Percentage of respondents



## Much of the global growth story lies in Asia

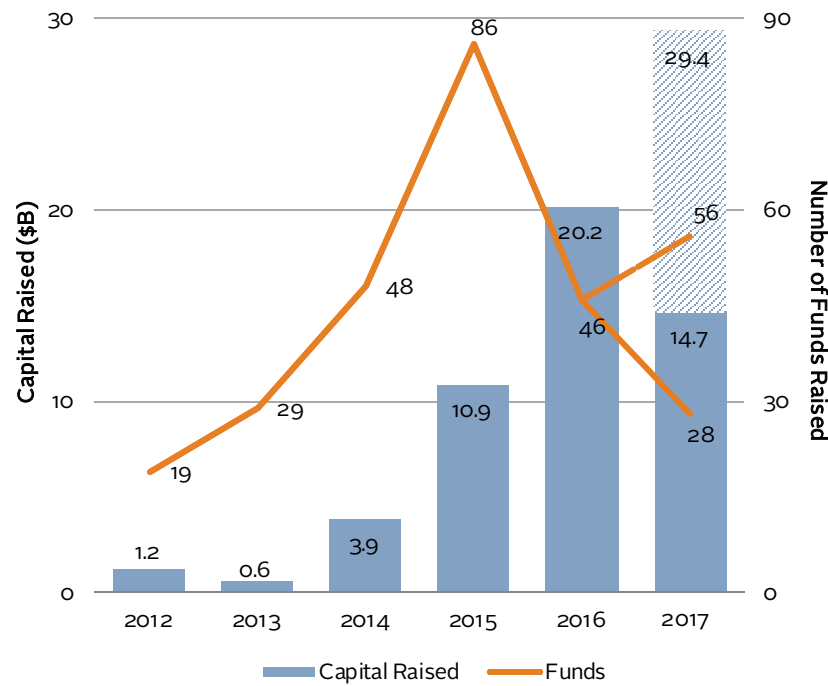
Amongst global growth markets, Asia's PE industry is the most mature. Positive demographic trends and significant market size offer tailwinds.



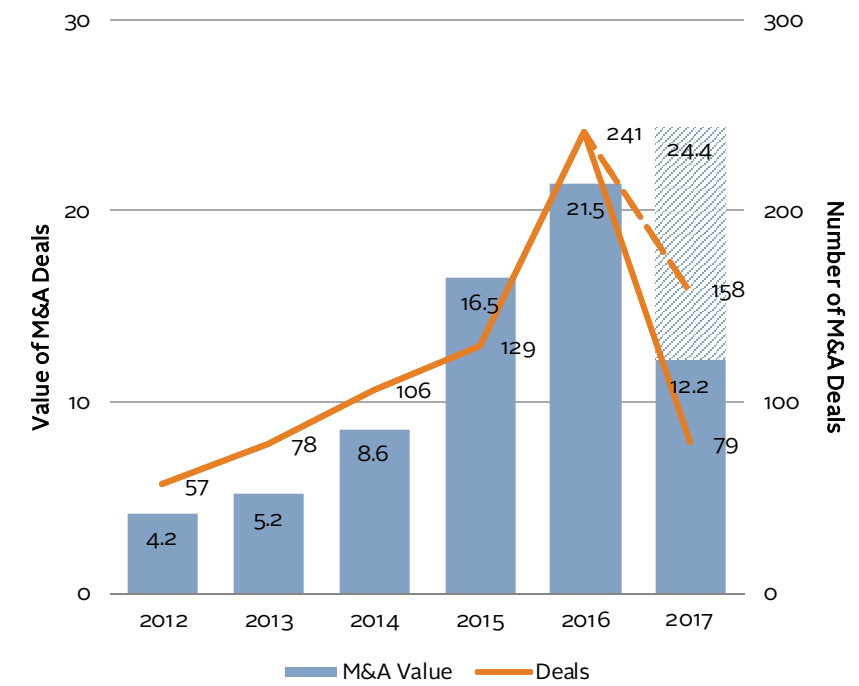
# Life sciences ecosystem boosted by a growing talent pool and universe of specialized managers

- Accelerating trend of scientific and management talent returning to China
  - Of the two million returnees from 2012–2017, it is estimated that 250,000 (12.5%) work in the life sciences industry
- Government support: Biomedical a “pillar” industry, \$40B non-dilutive funding per year
- China healthcare funds are estimated to have raised over \$60B between 2015–2017

FUNDS RAISED TARGETING CHINA HEALTHCARE

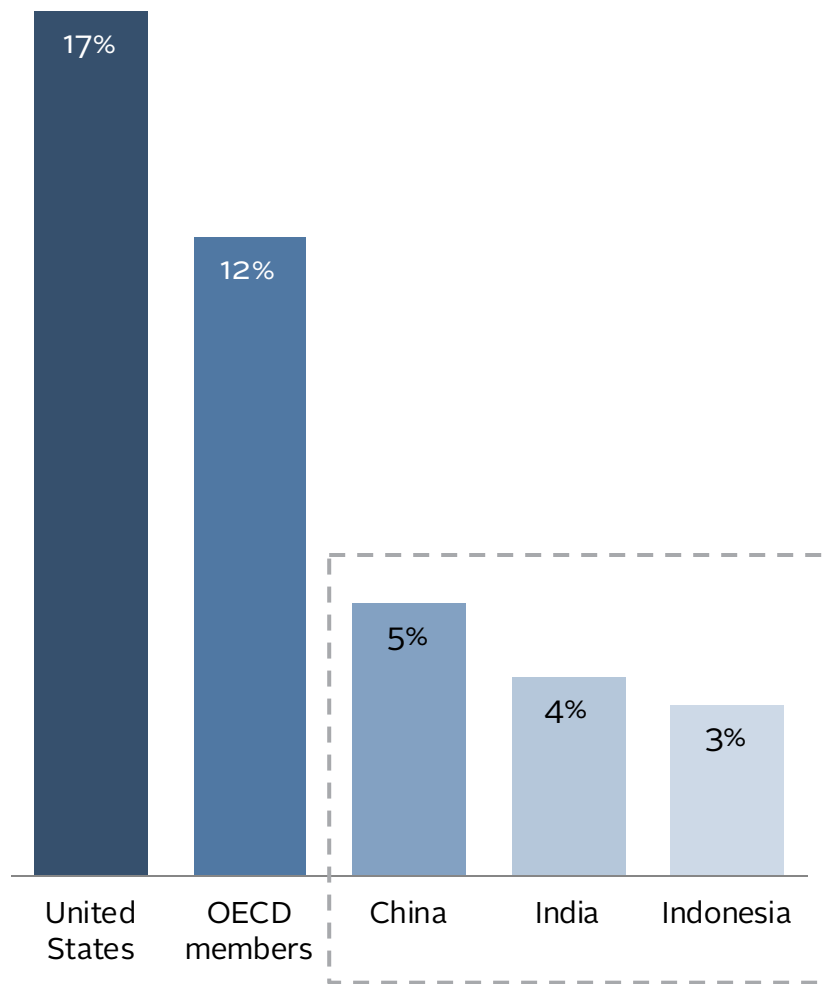


M&A ACTIVITY IN CHINA HEALTHCARE

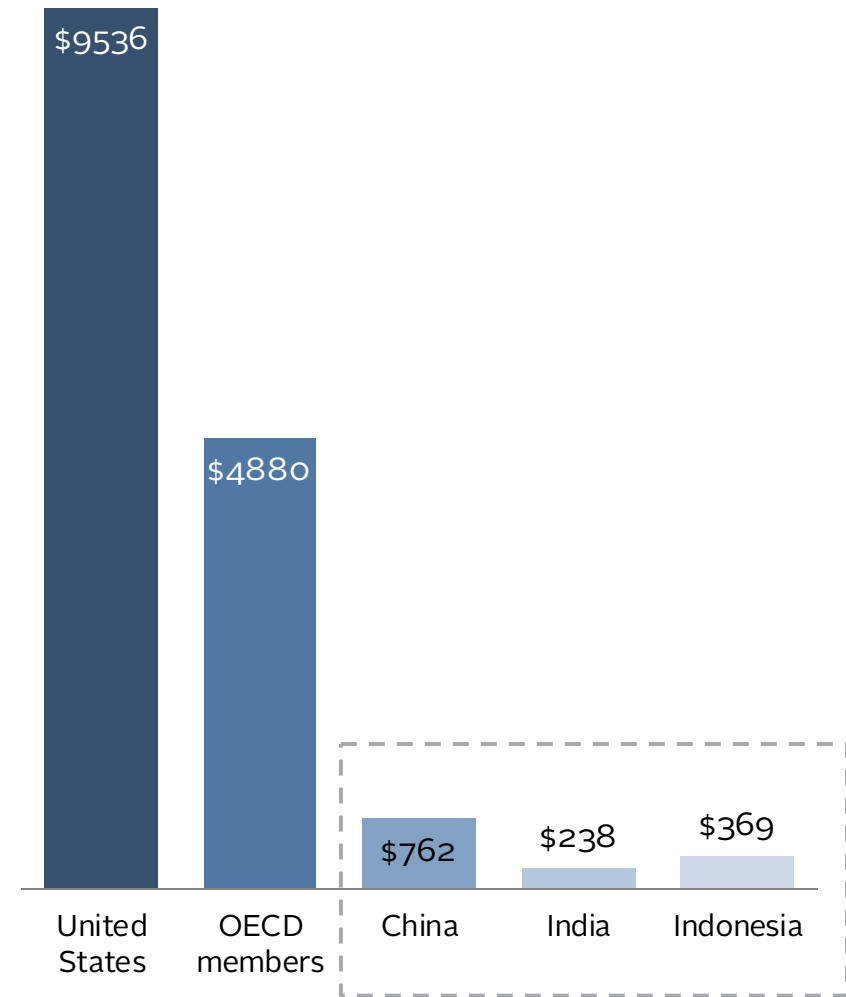


# Emerging Asian economies lag OECD countries on most healthcare metrics

HEALTHCARE EXPENDITURE AS A % OF GDP



HEALTH EXPENDITURE PER CAPITA



## Asia is a maturing PE market

The maturation of the Asian private market reflects similar trends that that we have observed in the US and Europe

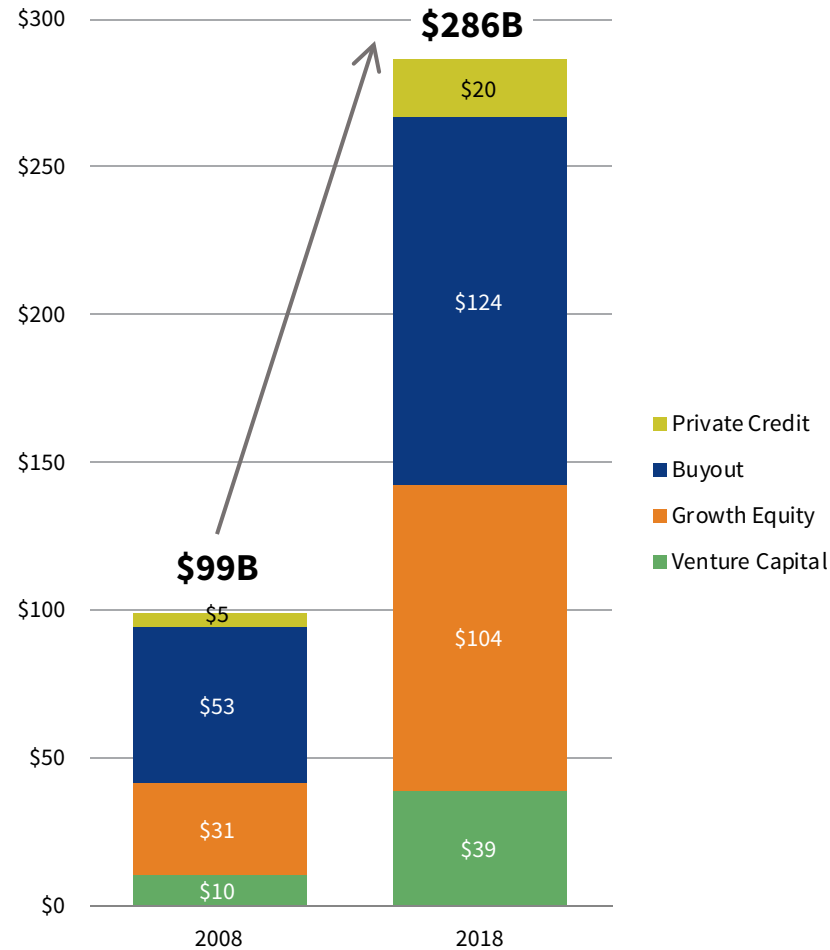
VALUE DRIVER	EARLY 2000s	TODAY
Market characteristics	<ul style="list-style-type: none"> <li>■ Nascent, shallow private market</li> <li>■ Mostly minority growth equity</li> <li>■ First wave of China VC</li> <li>■ Generalist managers</li> <li>■ International GPs setting up shop</li> </ul>	<ul style="list-style-type: none"> <li>■ Larger private opportunity set</li> <li>■ Control increasingly available</li> <li>■ China becomes 2nd largest global VC market</li> <li>■ Onset of specialization</li> <li>■ Localization, leveraging best practices from US</li> </ul>
GP track records	<ul style="list-style-type: none"> <li>■ Limited</li> </ul>	<ul style="list-style-type: none"> <li>■ More experienced GPs, verifiable track records</li> </ul>
Exit markets	<ul style="list-style-type: none"> <li>■ Immature exit markets</li> <li>■ Currency considerations</li> </ul>	<ul style="list-style-type: none"> <li>■ Increasing options for IPO and strategic exit</li> <li>■ Currency considerations remain</li> </ul>
Entry valuations	<ul style="list-style-type: none"> <li>■ Reasonable</li> </ul>	<ul style="list-style-type: none"> <li>■ Increasing, though pockets of value remain</li> </ul>
Leverage	<ul style="list-style-type: none"> <li>■ Limited availability and use of leverage</li> </ul>	<ul style="list-style-type: none"> <li>■ Leverage available, increasing use in buyouts</li> </ul>
Terms & access	<ul style="list-style-type: none"> <li>■ Generally standard fees, no access constraints</li> </ul>	<ul style="list-style-type: none"> <li>■ Increasing fees and access constraints for top tier firms</li> </ul>



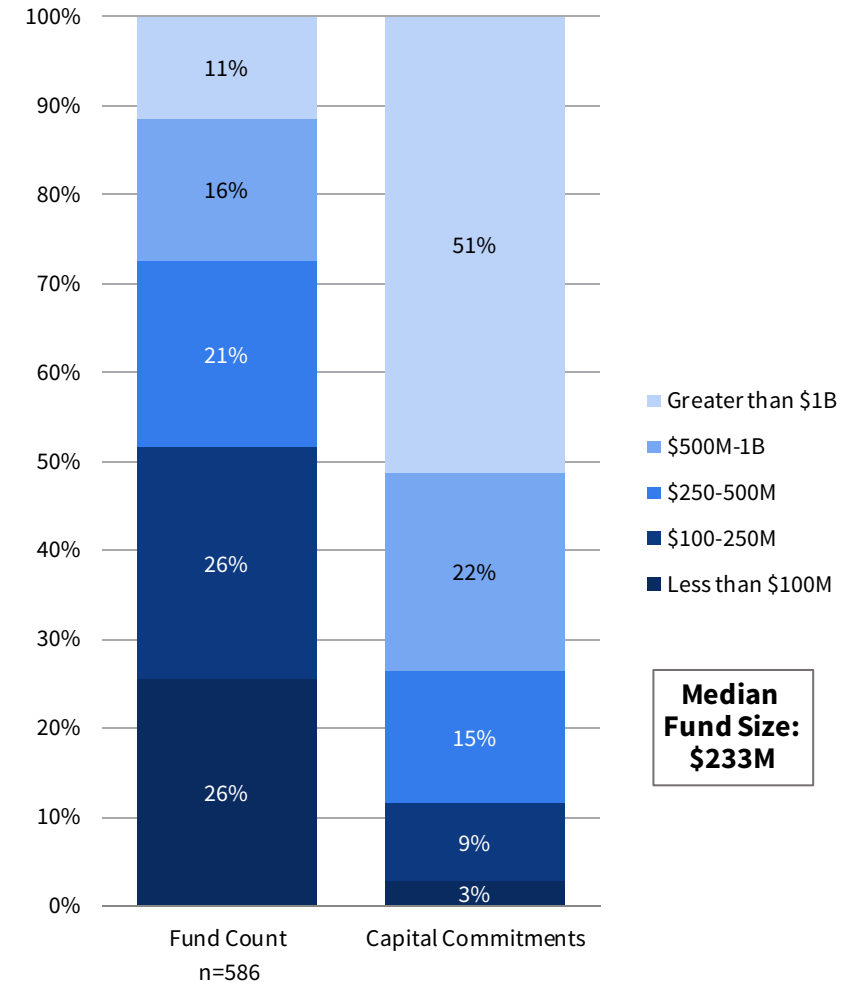
# Evolution of Asia PE/VC market over time

**ASIA PRIVATE EQUITY, VENTURE CAPITAL AND PRIVATE CREDIT INDEX BY FUND SIZE (COUNT & CAPITAL COMMITMENTS)**  
As of September 30, 2018 • USD

**TOTAL COMMITMENTS (USD BILLIONS)**



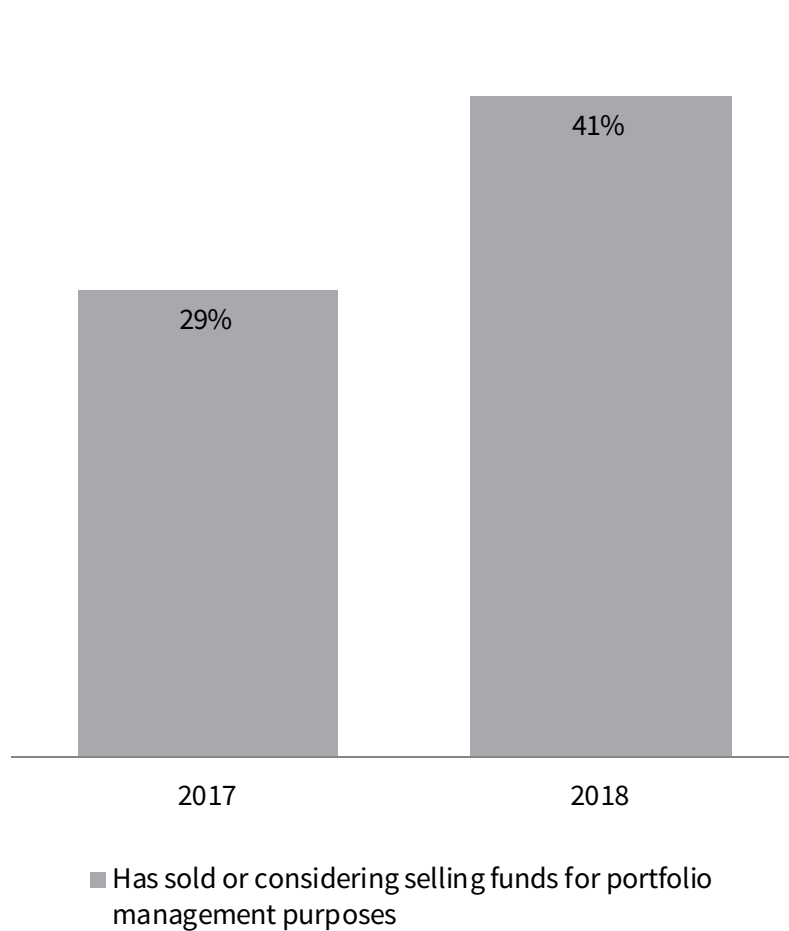
**BREAKDOWN BY FUND SIZE**



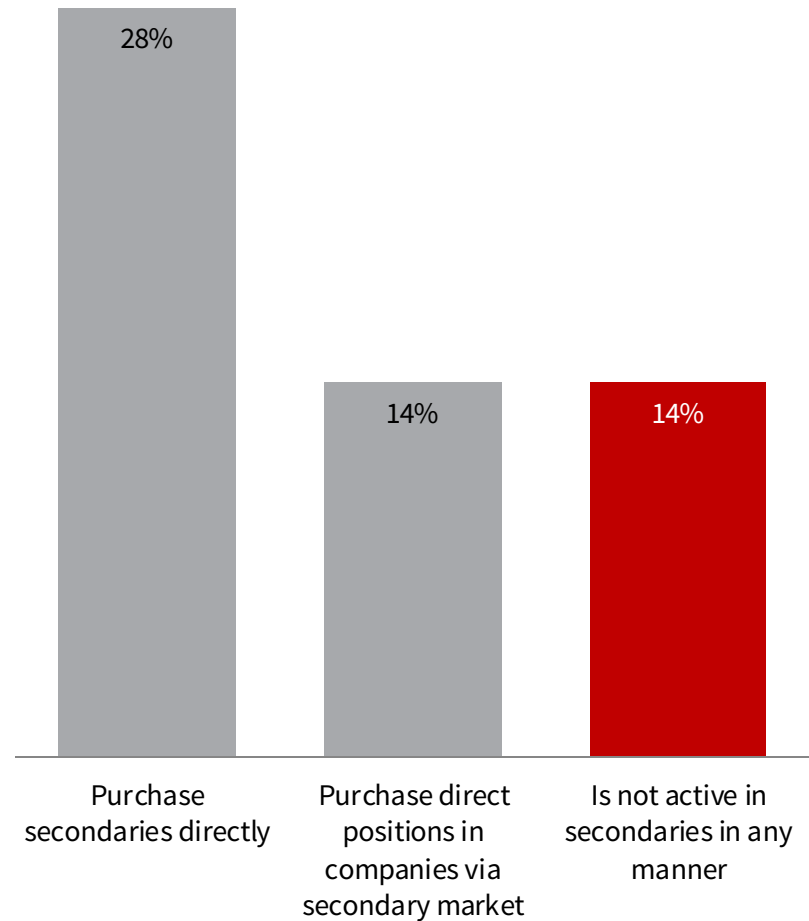
**Median Fund Size: \$233M**

# Secondaries increasingly used as portfolio management tool

**INTEND TO SELL FUNDS VIA SECONDARY**  
Percentage of respondents

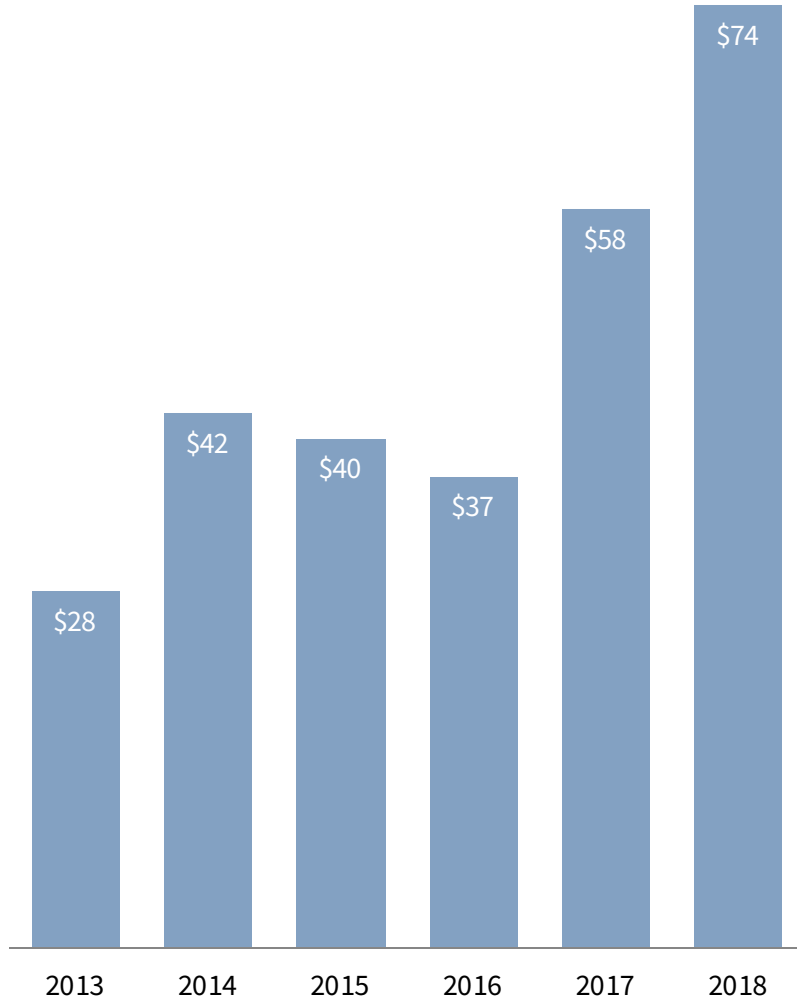


**SECONDARIES MARKET PREFERENCES**  
Percentage of respondents

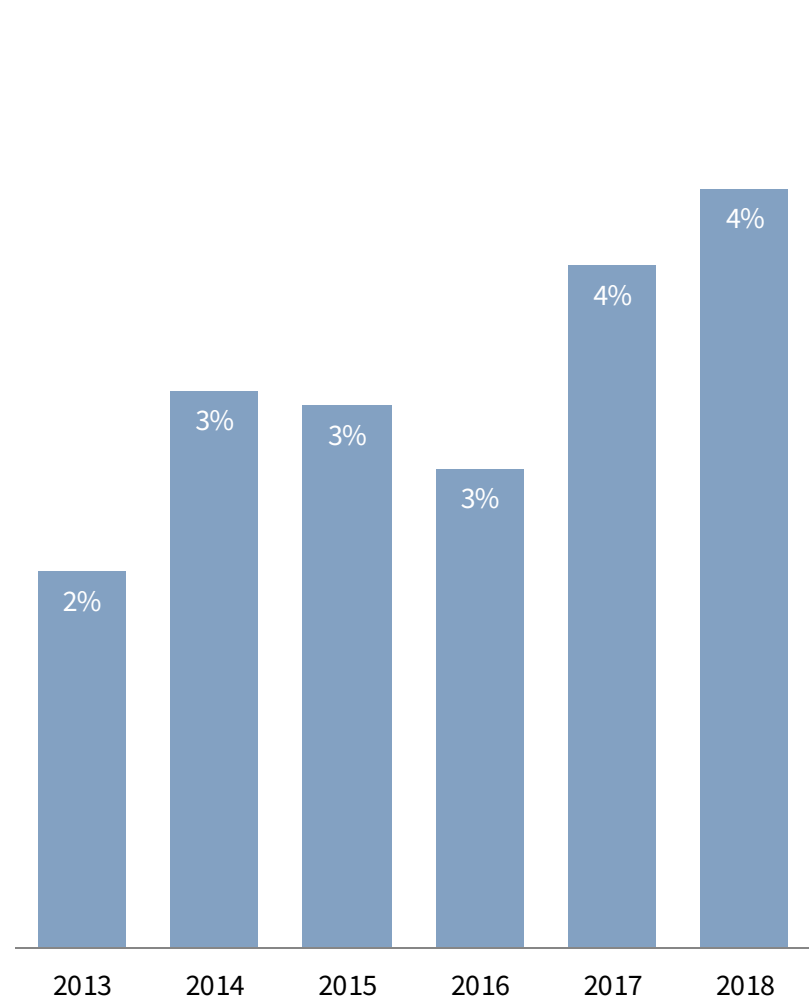


# Secondaries activity likely to increase

**GLOBAL SECONDARY TRANSACTION VOLUME**  
US\$ Billions



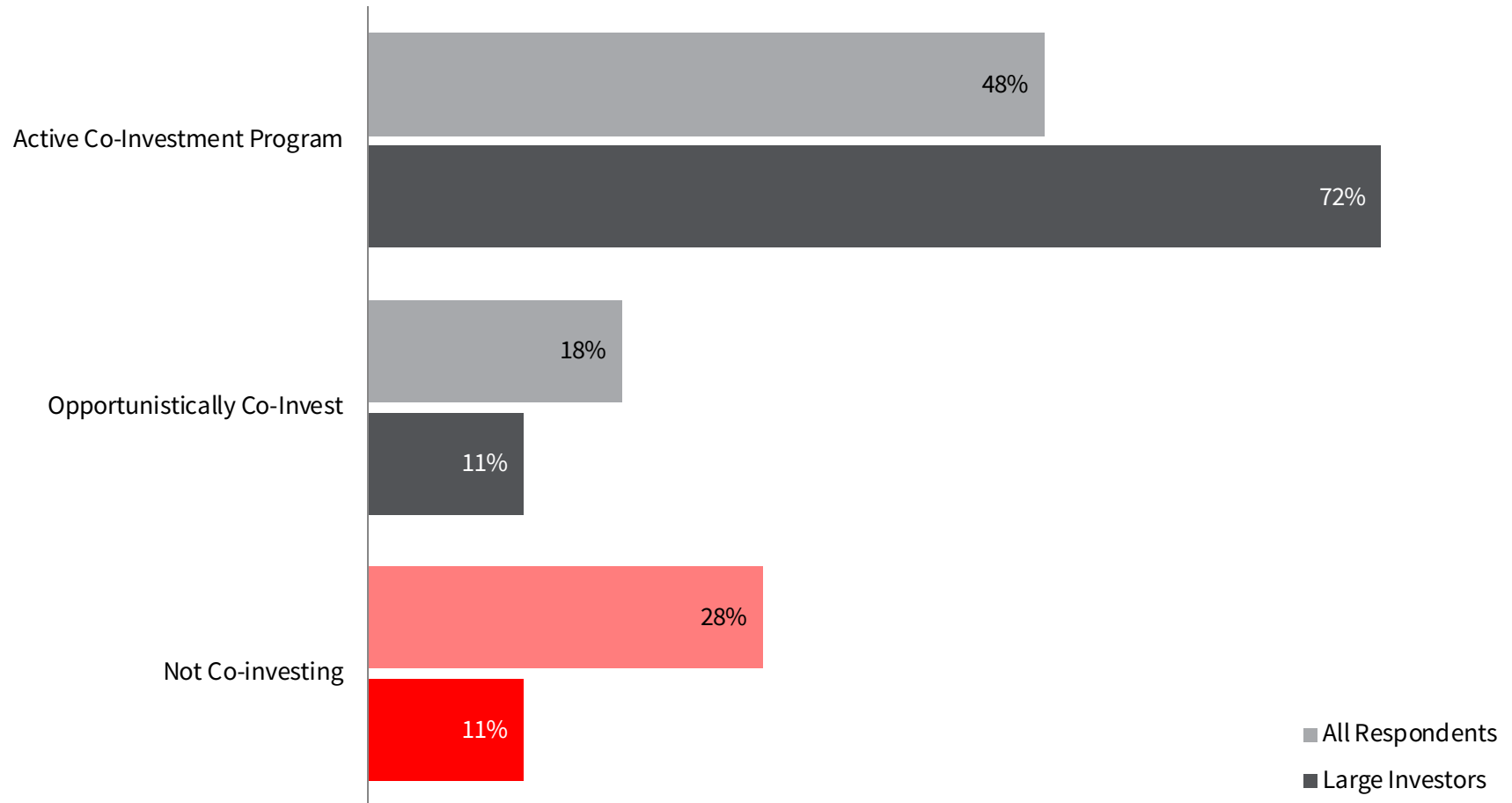
**SECONDARY VOLUME AS A PERCENTAGE OF GLOBAL PI NAV [1]**  
Years ending 12/31



# Co-investing is fast becoming a staple in private investing

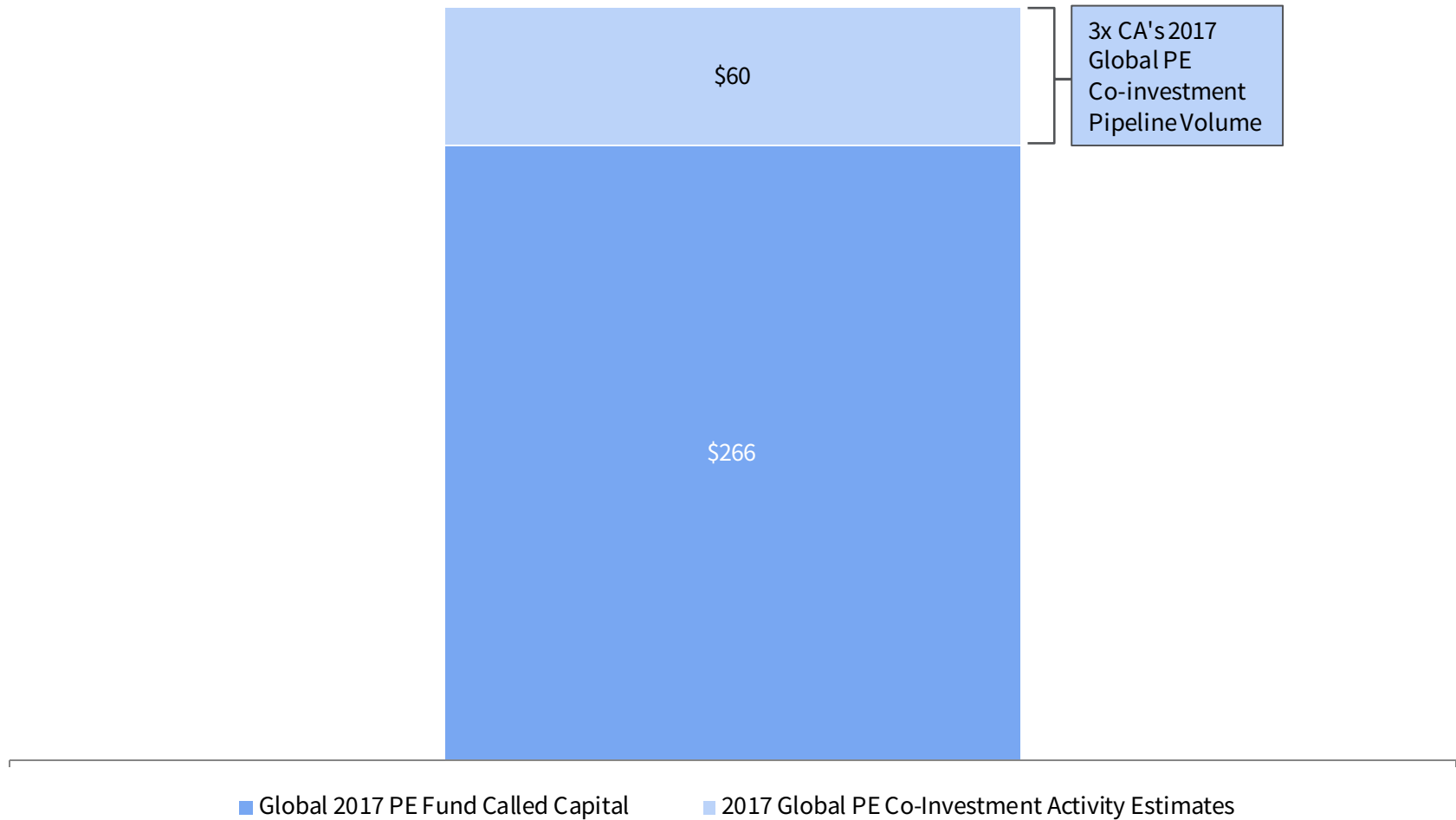
## CO-INVESTMENT INTENTIONS Percentage of respondents

DO YOU PLAN ON INVESTING IN CO-INVESTMENT OPPORTUNITIES  
IN PRIVATE EQUITY OVER THE NEXT 12 MONTHS?



# Co-investment activity estimated to be nearly 20% of global PE market

2017 GLOBAL CO-INVESTMENT ESTIMATE  
US\$ Billions



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## Summary

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- Despite a maturing market which is flooded with capital, investors' strong appetite for private investments persists
  
- From an allocation perspective, consider
  - Sector focused managers
  - Growth oriented strategies
  - Emerging managers
  - Early stage venture capital
  - Asian growth strategies
  
- Secondaries and Co-Investments can be effective portfolio management tools



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