



**PERSPECTIVES
THAT DRIVE
ENTERPRISE
SUCCESS**

SEPTEMBER 2019
Private Equity Outlook

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- Verus private equity philosophy
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Executive summary

Observations driving Verus outlook

Executive summary

The investment climate

- As companies remain private for longer and as investors increase emphasis on growth, startups are taking a strategic approach more commonly taken by public companies and looking externally to fuel expansion
- Amid heavy pressure to do deals, the PE industry observed another surge in investment value in 2018; competition and rising asset prices continued to constrain deal count worldwide
- While market conditions continue to provide opportunity to private equity buyers, the number of take-privates in Europe have swelled more than two-fold over a 12-month period
- Persistent excess return above public markets and increasingly borrower-friendly leveraged finance conditions are driving more capital into the asset class; however that capital is being raised by fewer, larger funds as investors are gravitating toward managers able to demonstrate a track record, can leverage immense scale and have a global footprint
- Against a backdrop of unprecedented growth, the secondary market continues to evolve and encompass increasingly complex transactions across both the sponsor-led and LP-led segments of the market. Transaction structures varied by sponsor with the three most common transaction structures; fund recapitalizations, tender offers and spin-outs. ‘Club-deals’ also became much more prevalent, particularly at the larger end of the market.
- A high level of investments and increasing valuations over the past several years have resulted in companies continuing to stay private longer. As a result, more LP capital in venture funds is locked up in unrealized gains which has led to overallocation issues for some LPs. Despite this trend, annual fundraising hit an all-time high in 2018 as distributions have been strong and as net cash flows from VC funds to LPs have been positive each year since 2012.

Summary of findings

				Outlook		
				Unattractive	Neutral	Attractive
						
Strategy	Geography		Commentary			
Buyout	U.S.	Small		U.S. economic growth still on track, somewhat more attractive entry pricing over the larger end of the market. However, decelerating U.S. growth projections, rising interest rates and a disruptive political environment pose future challenges.		
		Large		Although credit flows to the large end of the market continue to be robust; dry powder levels are still high, near peak level debt and purchase price multiples, equity market volatility and trade tensions are impacting certain sectors.		
	Europe	Small		ECB monetary stance is still expansionary, and more attractive pricing relative to the U.S. may benefit investors; continued demand for add-on acquisitions by larger European buyout firms		
		Large		Recovery of growth (slower pace) within the key EU Peripheral countries, "hard Brexit" risk increased substantially, decelerating European GDP growth (particularly in Germany), and continued political disruption across the Continent.		
Private Credit	U.S.			Credit agreements continue to become more borrower- and private equity firm-friendly-as covenant lite loans, which now comprise 85% of the broadly syndicated loan market; weakness in the fixed income market at the end of 2018, drove spreads above 6%.		
	Europe			With attention turning to a potential market correction/event and general market uncertainty there a growing interest in unitranche and senior debt at the expense of riskier investments		
Special Situations	Distressed Debt			Rising U.S. interest rates and normalizing of monetary policy, late cycle position of the U.S. economy and credit markets, more capital volatility as worries increase about debt levels and quality.		
	Secondaries			Record secondary deployment volumes, driven by both limited partner demand and GP-initiated transactions; returns enhanced by leverage. Barring major market disruption, lack of selling pressure with substantial dry powder; overall pricing for secondary interests remains robust.		
Venture Capital	Early Stage			Robust Investment activity; target rich environment across technology and healthcare; early stage looks more attractive on a relative basis		
	Late Stage			Heated pricing in later-stage, later cycle market dynamics in U.S, including higher equity market volatility; trade tensions with China may impact key venture sectors.		

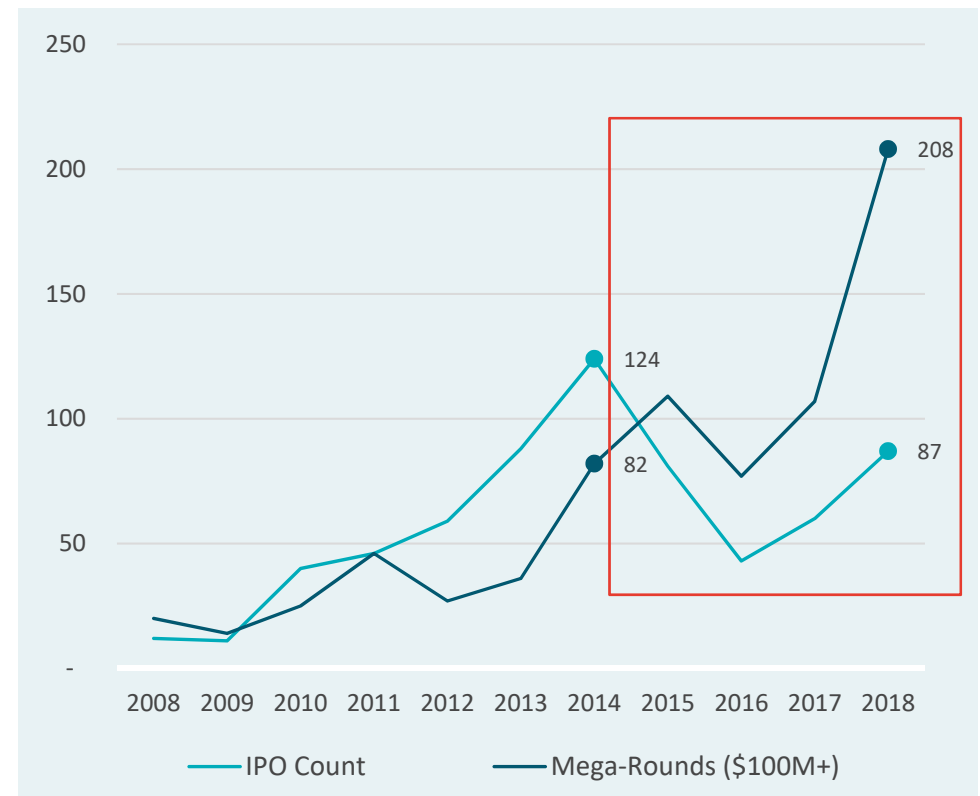
Topical focus

Topical focus

Venture backed companies remain private longer as investors increase emphasis on growth

- A surge of capital from both existing VCs and nontraditional participants has enabled companies to reach unprecedented sizes.
- Since 2014, the number of IPOs have dropped off noticeably, while the number of mega rounds has ballooned to well over a 100 a year. By raising these large private rounds, more companies can stay private longer, thereby avoiding the scrutiny and demands of being a public company.
- As companies are staying private longer, they are effectively shifting value creation from the public markets to the private markets.

RISE OF THE MEGA-ROUNDS



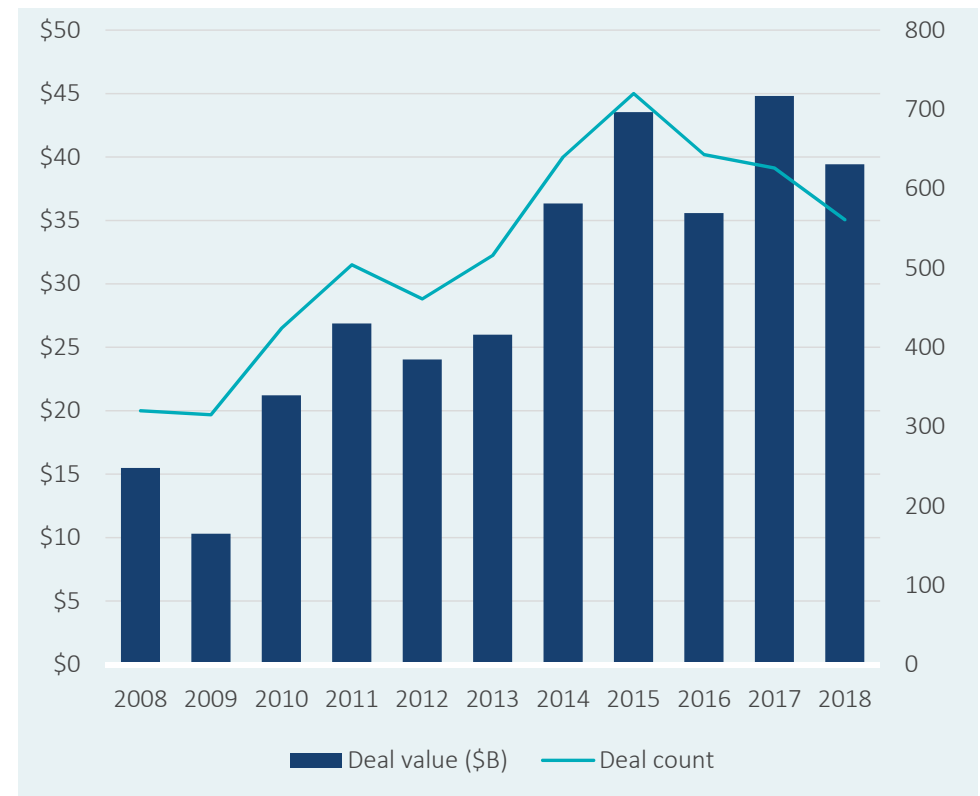
Source: PitchBook

Topical focus

M&A continues to fuel growth in venture backed companies

- With a flood of capital pouring into venture, many start-ups are stockpiling war chests beyond what is needed for operations and using capital to fund outward expansion through acquisition.
- M&A activity by VC-backed companies accelerated quickly leading up to 2015, coinciding with a surge in venture capital investment.
- Investors seeking growth opportunities have been driven to VC as returns from traditional asset classes struggled.

M&A ACTIVITY BY U.S. VC-BACKED COMPANIES



Source: PitchBook

Buyouts

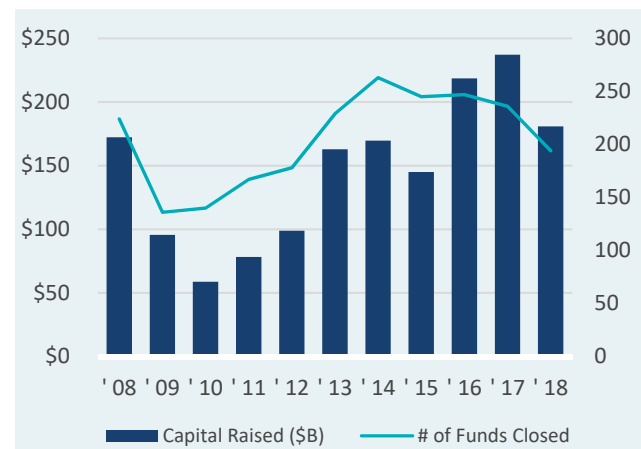
U.S. buyout

Buyout made another strong year in 2018

Trends

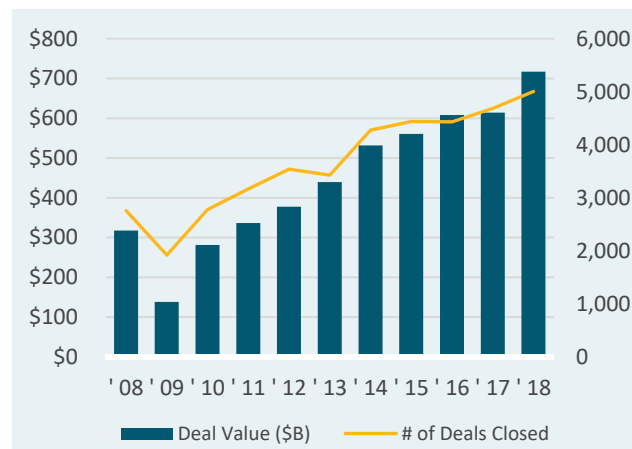
- Fundraising activity slowing down from the heights seen in 2017, funds of \$1 billion dollars or more in size secured 78% of total fundraising
- Continued the strong deal flow; surpassing the 2017 all-time record by 16.7% in total deal values and 6.9% in number of total deals
- Fund and deal sizes continue to inflate driving up purchase price multiples; particularly in technology
- Another strong year for M&A activity by strategic buyers in response to slowing global growth as company executives look to shore up profit margins amidst worries of an economic downturn
- PE firms continue strong activity buying companies via secondary buyouts (SBOs)

FUNDRAISING



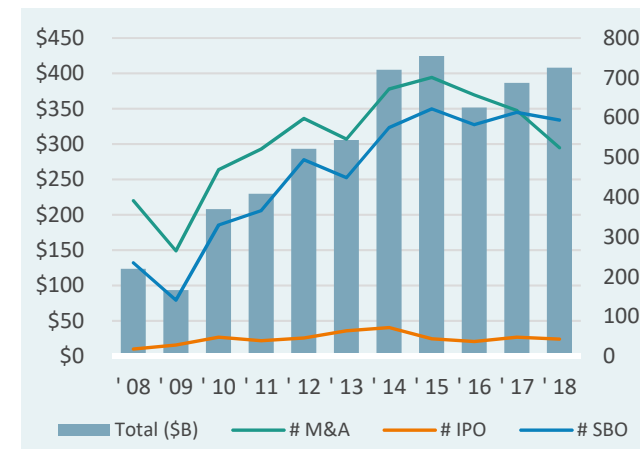
Source: PitchBook

DEAL FLOW



Source: PitchBook

EXITS BY TYPE



Source: PitchBook

U.S. buyout

Buyout purchase price multiples reach new high

2019 Environment

- Impact on valuations of U.S.-based companies due to uncertainty of trade war and tariffs, especially for the firms with revenues from China
- Partnering among fund managers on portfolio companies in order to create scale advantage and cost synergies
- Interest rates still low, but a shift to rising rates increases the cost of leverage; Significant rate moves may disrupt future buyout deal activity
- Continued potential for a strong exit environment primarily due to the recent tax reform in the U.S.

Outlook

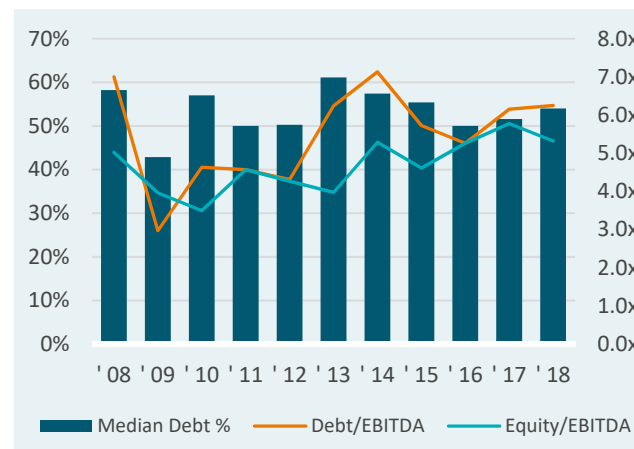
- Corporations with strong profits and a windfall from 2017 U.S. tax legislation are expected to continue driving growth through acquisitions
- More vertical add-ons expecting to share the capability and expand the pool to potential targets
- Small buyouts to continue offering more compelling supply-demand characteristics than larger and mega-buyouts
- Potential deal targets impacted by new tariffs targeting China and any failure of NAFTA negotiations resulting higher tariffs with Canada and Mexico

YIELDS ON LEVERAGED LOANS



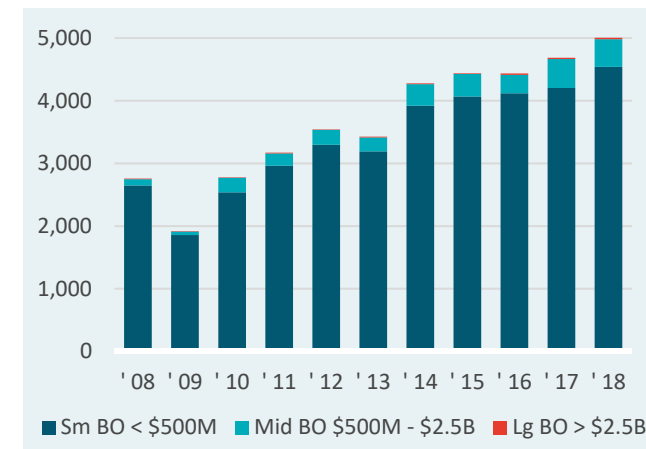
Source: S&P/LSTA U.S. Leveraged Loan 100 Index

PURCHASE MULTIPLES AND MEDIAN DEBT



Source: PitchBook

DEAL FLOW (#) BY SIZE



Source: PitchBook

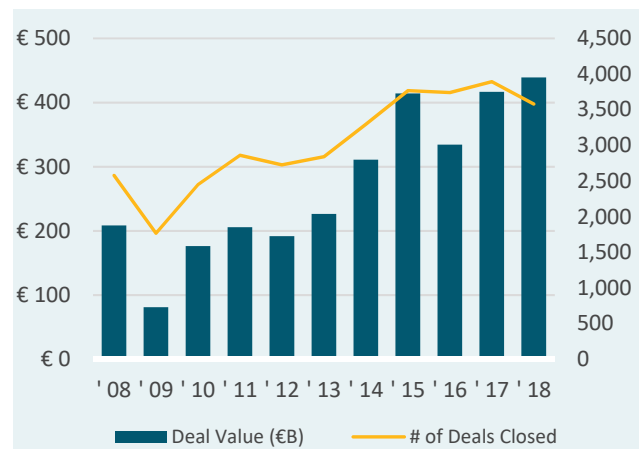
European buyout

Increase in net deployment pace, at higher purchase prices than the U.S.

Trends

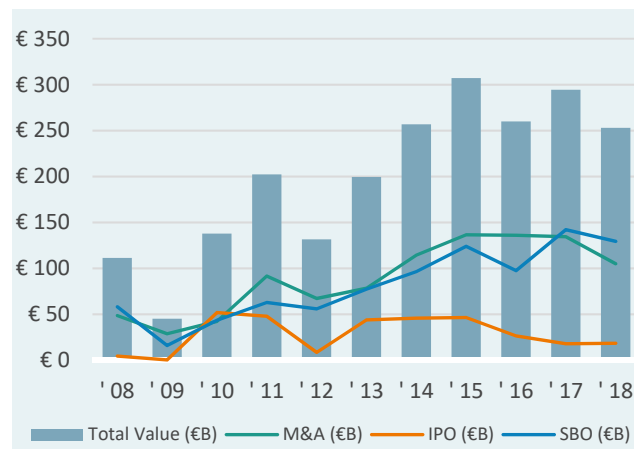
- Fundraising in the UK is prevalent despite uncertainty of political policies and lingering macroeconomic concerns; Mega-funds continue to reflect a significant share of the capital raised
- Deployment into new investments continue to surpass exits in Europe by almost 2x
- Investment activity similar as the trends seen in the U.S. with fewer, but larger deals closed
- Exit activities dropped 14.1%, representing the weakest exit activity since 2014.
- Secondary buyout activities still climbing, accounted for half the exit activity; corporate acquirers slowed M&A pace to incorporate recent purchases into existing operations.
- With an increase in the use of debt, median prices crept higher ending 2018 at a record 11.8x EBITDA; higher than the 11.6x purchase price multiples for U.S. buyouts.

DEAL FLOW



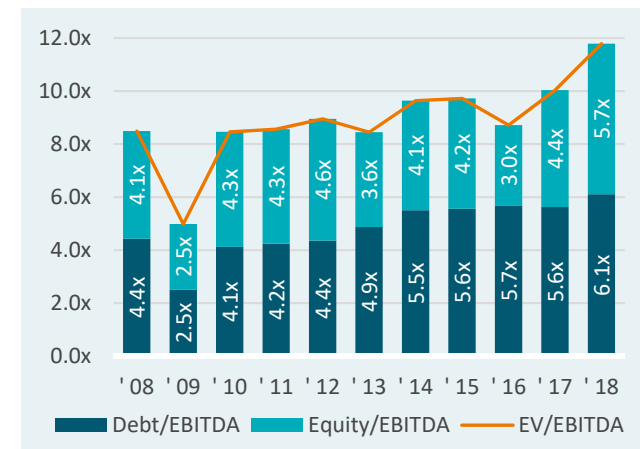
Source: PitchBook

EXITS BY TYPE



Source: PitchBook

PURCHASE MULTIPLES



Source: PitchBook

European buyout

Take-privates gaining an increasing share of deal value

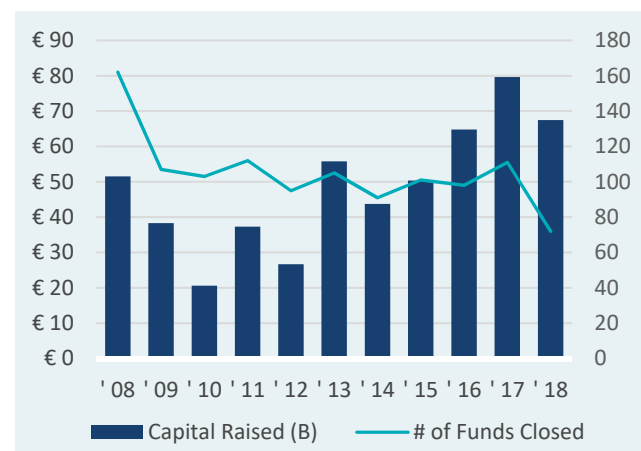
2019 Environment

- European economy appearing to be slowing down after Brexit; Germany and France are at the risk of entering recession
- More capital continues to flow into larger European buyout funds; funds greater than €5 billion in size accounted for over 44% of capital raised in 2018
- Non-European investors still showing interest in European businesses to expand their global footprint, as their participation accounted for 23.2% of total PE deals in 2018, increasing from 22.4% in 2017
- With money to deploy and a near saturated mid-market, private equity houses have more actively pursued listed companies; as stock markets move through a correctional phase, the public markets are fertile ground of discovered value

Outlook

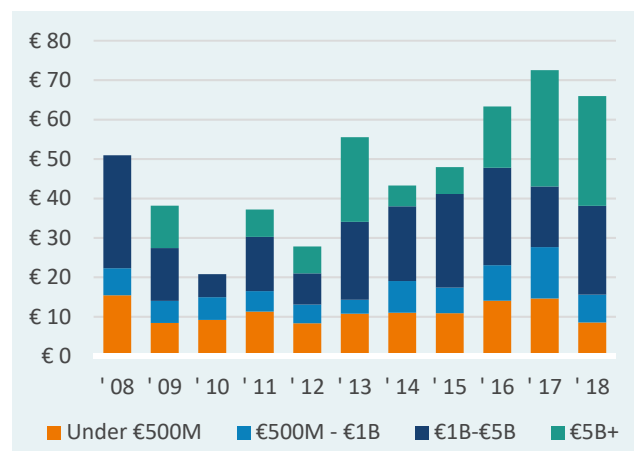
- Deal activity remains robust due to the historic levels of dry powder as both fundraising and exit activity are showing signs of slowing down
- Slowing growth in major Eurozone countries, and potential negative impact to investors' confidence and economic performance due to Brexit

FUNDRAISING



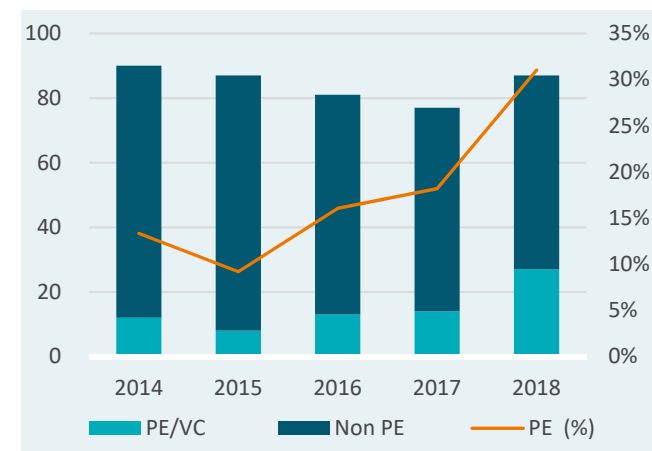
Source: PitchBook

FUNDRAISING (€) BY SIZE



Source: PitchBook

PUBLIC M&A DEALS(>€200M) PE VS. NON-PE



Source: Deal Reporter

Private credit

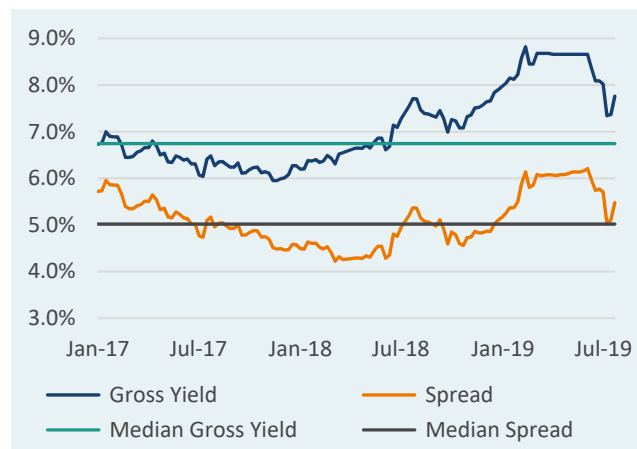
U.S. private credit

Is the mature direct lending market still attractive?

Trends

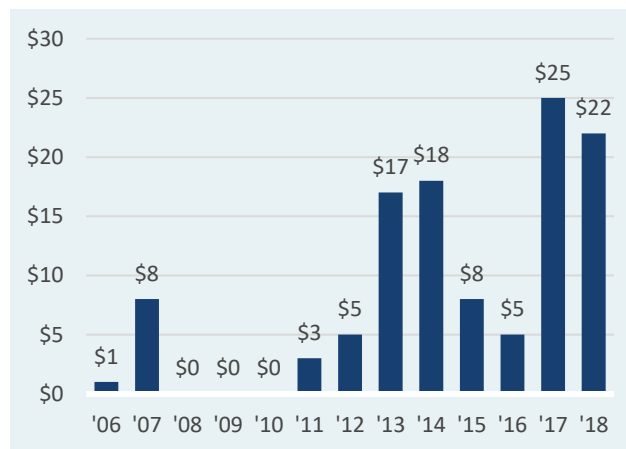
- In the 1st half of 2018 yields and spreads diverged, as higher LIBOR more than offset shrinking spreads (from 4.5% at the start of 2019 to 4.3% at the end of May 2018); Widening spreads in the 2nd half of 2018 exacerbated by weakness in the fixed income market in December drove spreads above 6% heading into 2019
- Covenant lite loans, which now comprise 85% of the broadly syndicated loan market, have become increasingly common in the direct lending market; Middle market covenant-lite deals totaled \$21.6BN in 2018 while down slightly from 2017, issuance represents a 350% increase from 2012's levels.
- Credit documentation quality: Credit agreements continue to become more borrower- and private equity firm-friendly as the average documentation score weakened from 3.22 in 2017 to 3.43 in 2018 (*Source: Covenant Review; scale: 1 is the strongest creditor protection; 5 is the weakest*)
- Fundraising in becoming harder with the 67 funds totaling \$45 billion raised in 2018 up 9.8% in funds and down 17.3% in commitments from 2017; Average size of direct lending fund in 2018 was \$671.6 million, down by 24.7% from \$891.8 million in 2017; Distressed debt in 2018 saw 25 funds secure \$23 billion versus a peak of \$45 billion in 2008—a record that has not been equaled

GROSS YIELD AND SPREADS (DEALS < \$200MM)



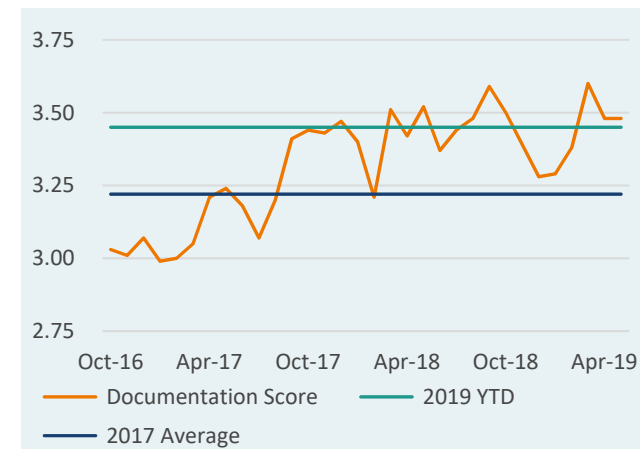
Source: The Lead Left

COVENANT-LITE ISSUANCE (\$BN)



Source: Thomson Reuters, LPC

LEVERAGED DEBT TRANSACTION SCORES



Source: Covenant Review

U.S. private credit

Challenges facing U.S. private credit investors in 2019

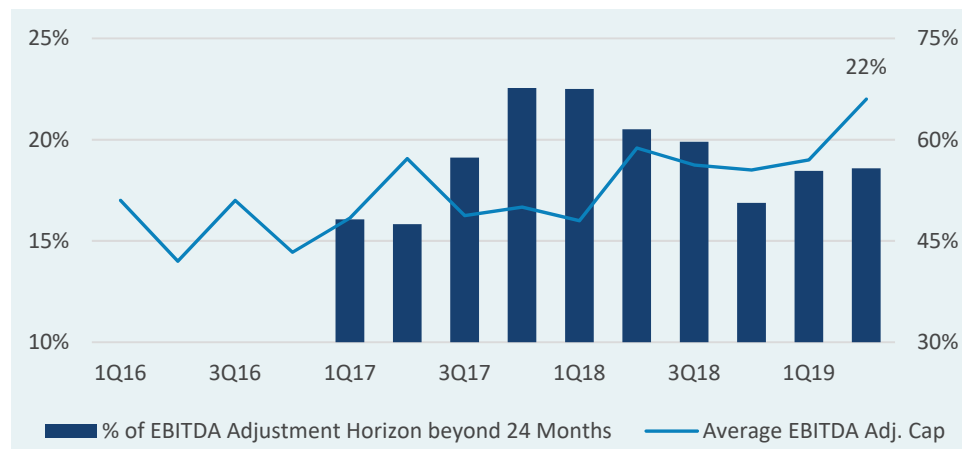
2019 Environment

- EBITDA quality has deteriorated since 2016; 35% of deals have uncapped EBITDA adjustments. For deals with caps, the maximum adjustment has risen to 22% of actual EBITDA. The timing of the adjustments has also been pushed out with 56% of recognized adjustments occurring after 24 months.
- LIBOR: loans are floating rate instruments. With LIBOR expected to decrease from 75 bp to 1.5% by the start of 2021, direct lenders should experience a parallel shift in unlevered gross yield absent spreads widening.

Outlook

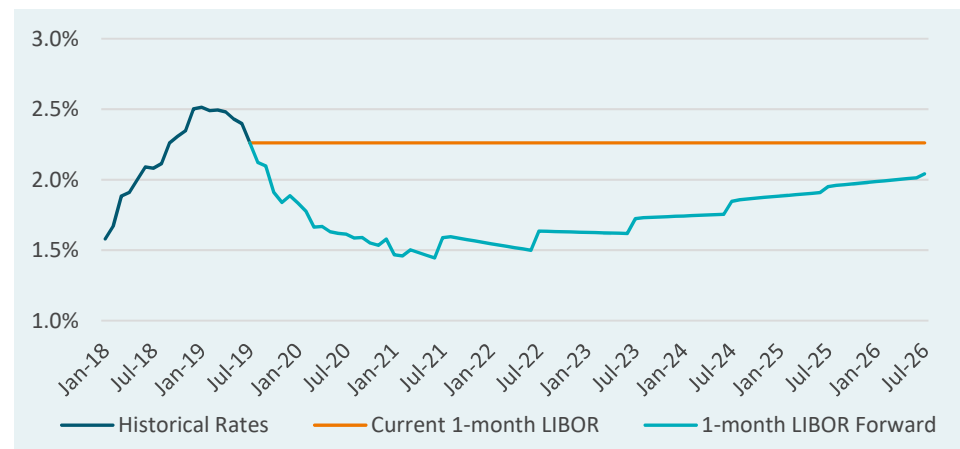
- Persistent excess return above public markets: more capital is being raised by fewer funds; investors are gravitating toward managers able to demonstrate a track record and leverage scale with a global footprint
- Yield compression: the low-interest-rate and default environment in the recent years has resulted in an increasingly borrower-friendly leveraged finance conditions as investors seek higher yield
- Asset managers are increasingly making sustainable investment decisions reflecting their corporate values, but are still under pressure to deliver competitive returns

EBITDA ADJUSTMENT CAPS AND HORIZONS



Source: Covenant Review

1-MONTH LIBOR - HISTORICAL, CURRENT & FORWARD



Source: Bloomberg

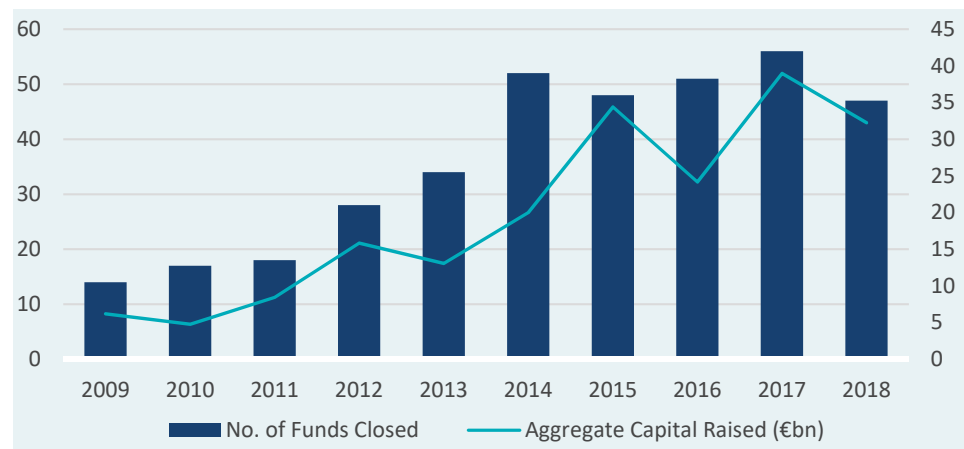
European private credit

Availability of private debt continues to expand in Europe

Trends

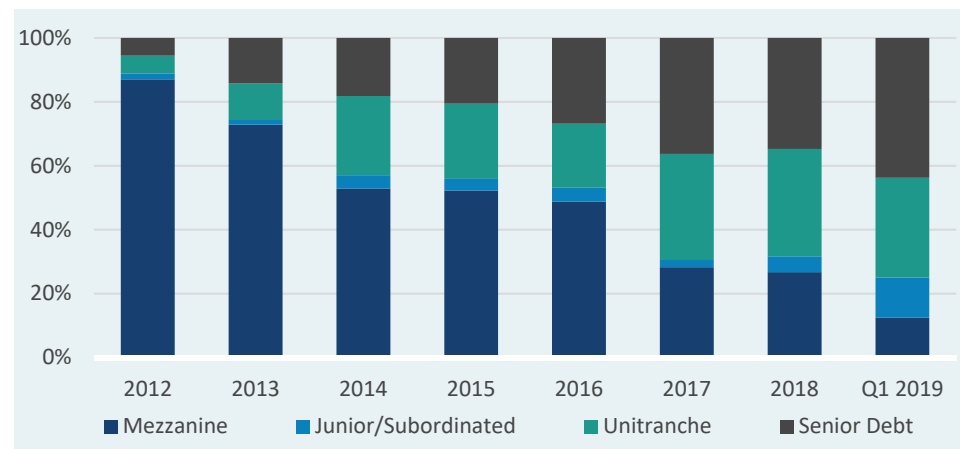
- As with other markets, European fundraising appears to have slowed when compared with a record 2017; appetite for the asset class remains strong in the region as LPs seek opportunities
- More and more capital in going into the hands of fewer managers, with some indications that fundraising will be challenging going forward
- With attention turning to a potential market correction coupled with general market uncertainty caused by events such as Brexit, there is growing interest in unitranche and senior debt at the expense of riskier investments like mezzanine

ANNUAL EUROPE-BASED PRIVATE DEBT FUNDRAISING (€BN)



Source: Preqin

PRIVATE DEBT-BACKED BUYOUT DEALS IN EUROPE BY DEBT TYPE



Source: Preqin

European private credit

When careful underwriting matters most, more capital to be deployed

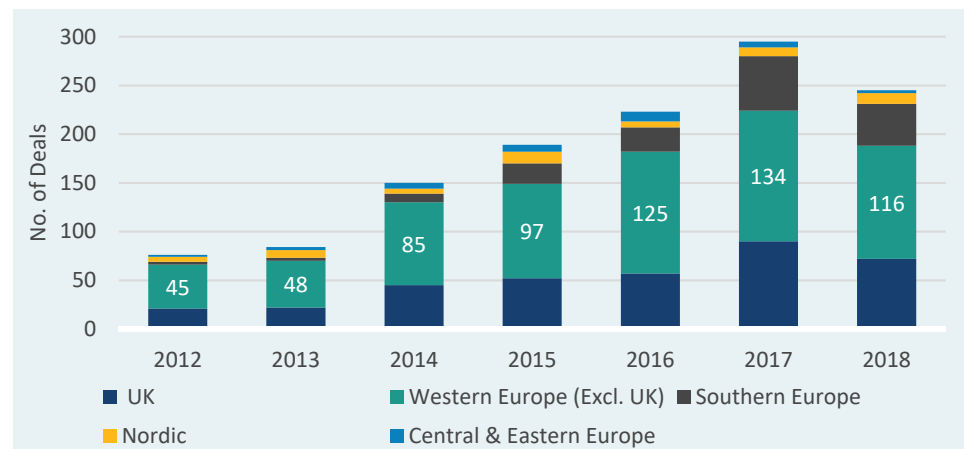
2019 Environment

- Debt markets outside the UK have seen the greatest drop in activity amid the challenging market conditions and political tension in Europe.
- By and large, continental Western Europe has been the largest market throughout the emergence of the private debt industry, recording the highest aggregate private debt-backed deal value each year from 2015 to 2017

Outlook

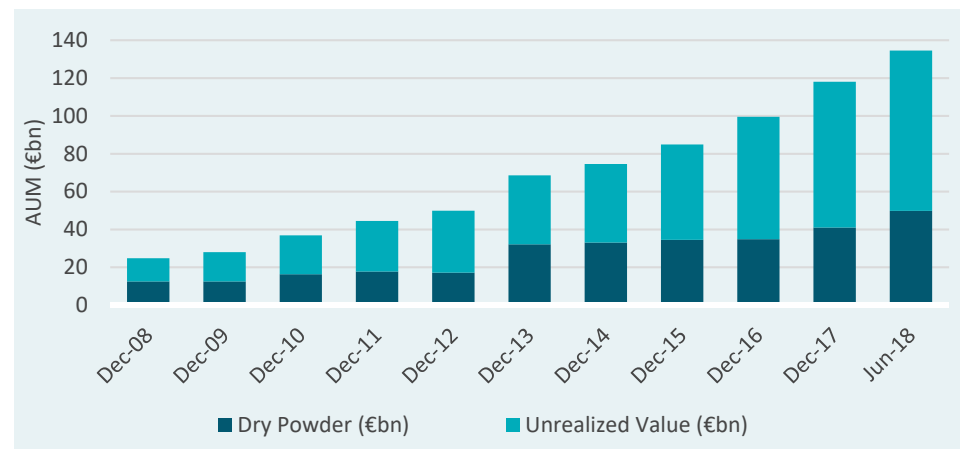
- Despite concerns around valuations and where we are in the market cycle, investors remain committed to the asset class and looking to increase their exposure
- Fragile investor confidence in the world's largest stock markets, increasing political uncertainty and the threat of tightening monetary policy all appear to support a view that it is likely to be more challenging than recent years for both corporates and investors.

PRIVATE DEBT-BACKED DEALS IN EUROPE BY LOCATION



Source: Preqin Pro

EUROPE-BASED PRIVATE DEBT ASSETS UNDER MANAGEMENT (€BN)



Source: Preqin Pro

Special situations

Global secondaries

Strong pricing, despite record deal flow

Trends

- Driven by generally stable market conditions and a supportive macro-economic environment 2018 marked another record year of transactions for the secondary market.
- Pricing remains at all-time highs, despite volatility in the public markets, the average across all funds was around 92% of NAV in 2018.
- The seller type remained balanced across a broad range of sellers taking advantage of the favorable dynamics. The universe became more diverse in 2018 driven primarily by sponsor-led transactions accounting for over 30% of the volume.
- Innovation within the secondary market has seen dramatic growth in the GP-led transactions such as fund recapitalizations, tender offers or whole/partial portfolio sales

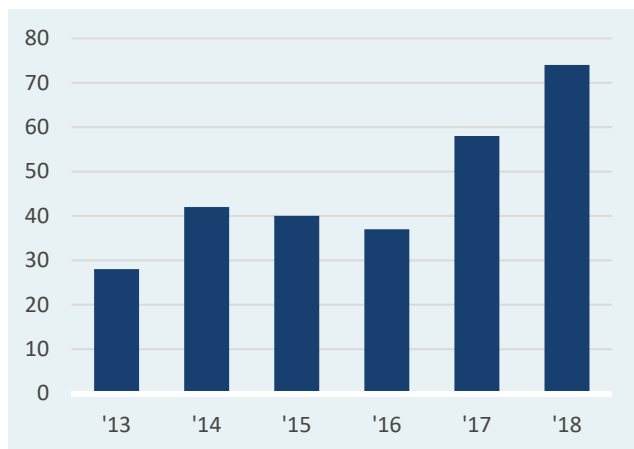
2019 Environment

- Further expansion of the secondary market will be driven by the evolution of sponsor-led transactions
- Asset specific sales expected to grow as GPs design structures to provide liquidity to one set of investors, while investing anew on behalf of others.

Outlook

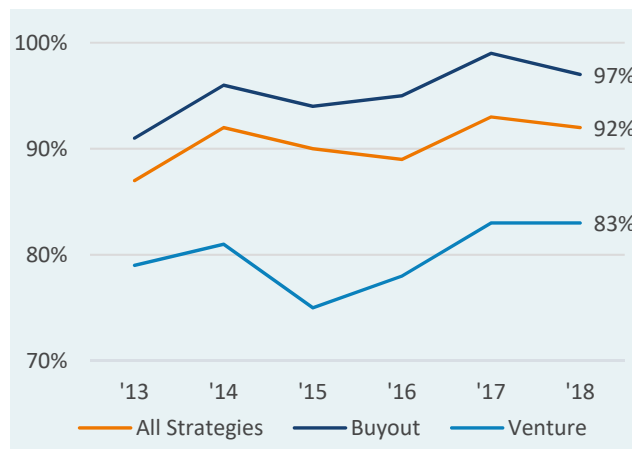
- Secondaries: a sellers' market into the foreseeable future.

AGGREGATE TRANSACTION VALUE (\$B)



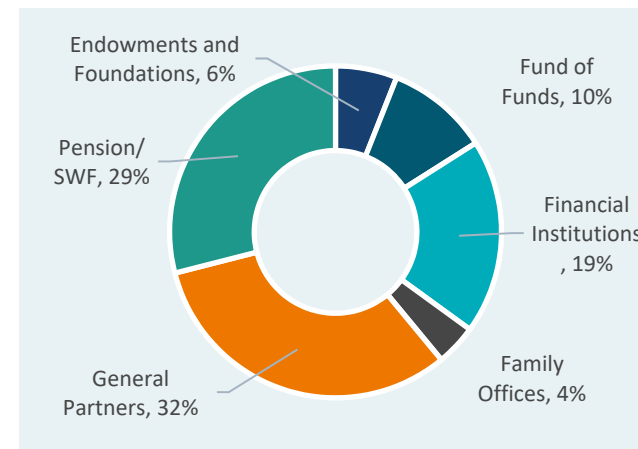
Source: Preqin

HISTORICAL PRICING (% OF NAV)



Source: Greenhill

MARKET COMPOSITION BY SELLER TYPE



Source: Greenhill

Venture capital

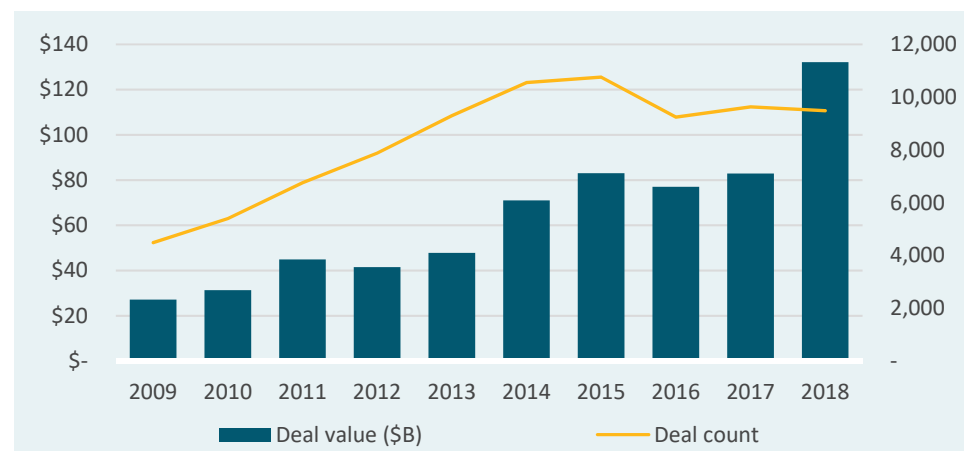
Venture capital

Capital investment into U.S. VC reaches all-time highs in 2018

Trends

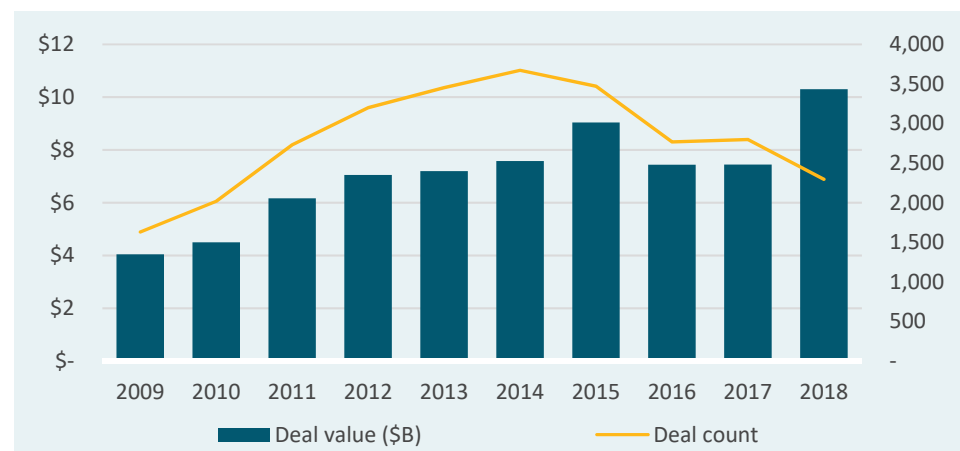
- U.S. VC deal value reached \$131 billion in 2018, a 59% increase from 2017 and an all time high
- Deal value has increased dramatically, while deal count remains tepid; the 9,487 VC deals in 2018 were valued at \$13.9 million while the 9,634 deals in 2017 were valued at \$8.6m suggesting a reallocation of capital and increased follow-on funding to higher conviction investments
- The trend is further exhibited in U.S. VC first financings as deal value increased from \$7.5b in 2017 to \$10.3 in 2018, while deal count decreased from 2,799 in 2017 to 2,295 in 2018

DEAL VALUATION AND DEAL COUNT



Source: PitchBook

U.S. VC FIRST FINANCINGS



Source: PitchBook

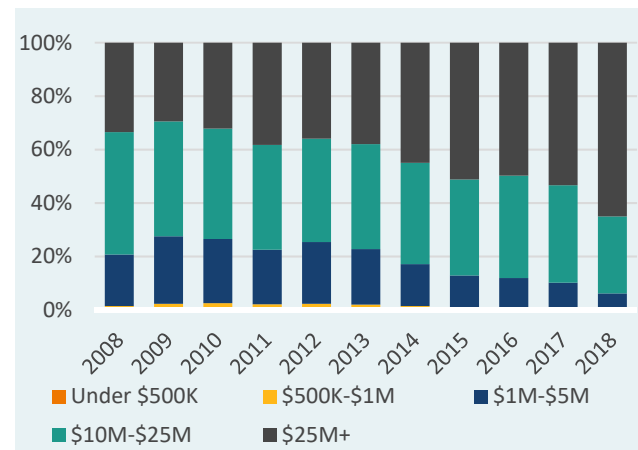
Venture capital

Larger sized deals continue to take larger share of the pie

Trends

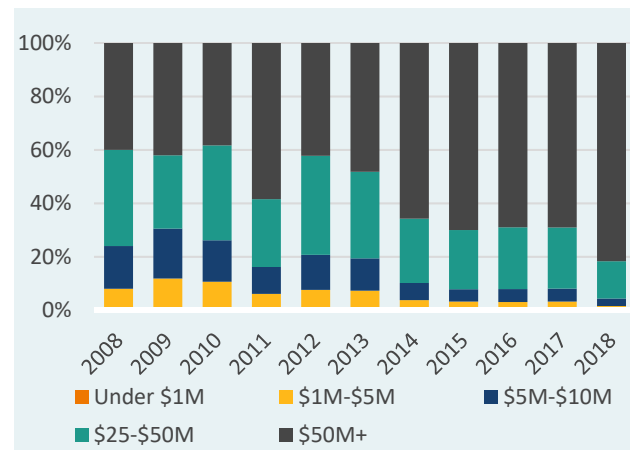
- Across all stages, larger deals continue to make up a bigger portion of respective deal value
- Early stage: Deals greater than \$25 million represent 58% of deal value in 2018, a considerable increase from 45% in 2017; a trend that has increased from 22% in 2009 and 37% in 2014
- Late stage: Deals greater than \$50 million represent 77% of deal in value in 2018, surging from 50% in 2017; drifting upward from 29% in 2009 and 45% in 2014
- 2018 ballooned in Unicorn valuation, a 199% increase from 2017, with a slight increase the number of deals closed; pre-money valuation for Series D+ rounds topped \$1 billion, giving credence to potential market frothiness

U.S. EARLY STAGE VC BY DEAL SIZE



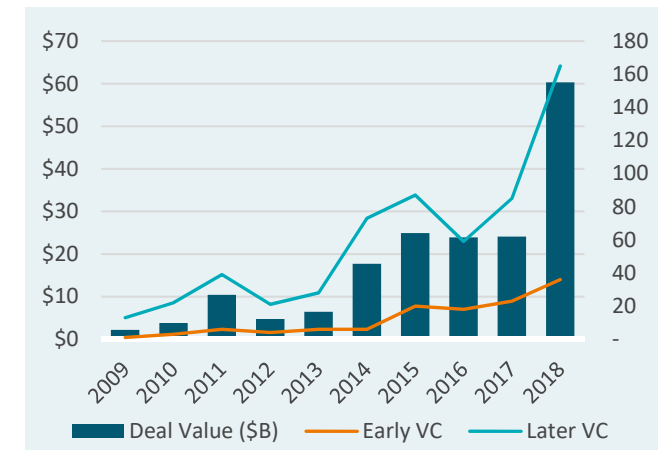
Source: PitchBook.

U.S. LATE STAGE VC BY DEAL SIZE



Source: PitchBook.

MEGA DEAL ACTIVITY



Source: PitchBook.

Venture capital

Too much dry powder fueling valuation growth

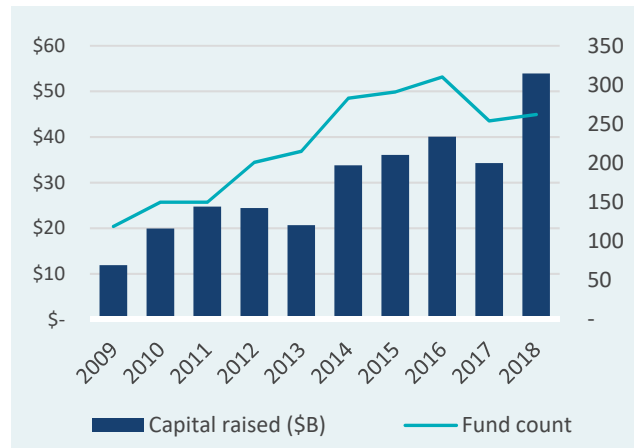
2019 Environment

- Despite the slight increase of the number of funds raised, commitments of over \$50 billion forged ahead of the \$34.4 billion raised in 2017, signifying increased fund sizes across the industry
- The number of companies valued at over \$1 billion continues to swell—as does their age— driving a need for liquidity. Recent public announcements of IPO plans from many notable VC-backed companies indicate that IPOs will make up a greater percentage of 2019 exits
- U.S. corporate venture capital ("CVC"), continues to play an ever-increasing role after nearly doubling its participation in 2018 for over \$70 billion in deal value; across all stages CVC represents a deal valuation increase of 2-3x over traditional venture capital financing

Outlook

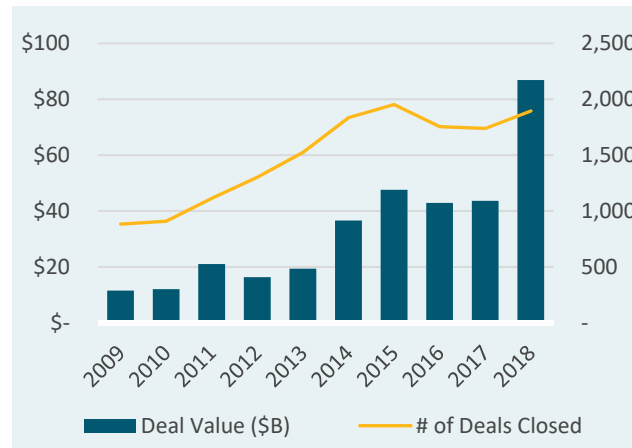
- Demand, capital investment, and price of late-stage deals will surge as corporate venture groups, sovereign wealth funds, mutual funds and hedge funds all compete; increasing valuations across all stages impact the ability to effectively assess venture portfolios
- With larger fund sizes and capital exposure, LPs become increasingly reliant on managers with discipline and experience to navigate the cycle

U.S. VC FUNDRAISING



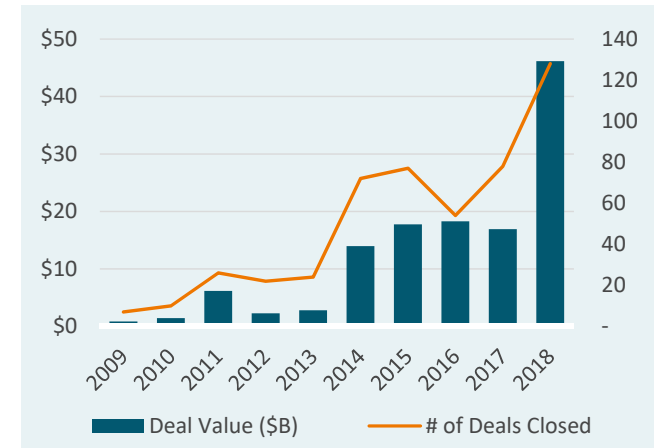
Source: PitchBook.

NON-TRADITIONAL INVESTOR ACTIVITY



Source: PitchBook.

UNICORN ACTIVITY



Source: PitchBook.

Appendix

Verus private equity philosophy

- Private equity is a long-term asset class:
 - Funds deploy capital into new investments over a three- to five-year period
 - After investment, portfolio companies are held for a period of four to seven years on average prior to exit
 - This typical investment course drives discrete fund lives to often last beyond 10 years, during which significant changes can occur
- To address this phenomenon, investors generally “average in” to the market by building portfolios of discrete private equity funds over multiple vintage years
- For these reasons, significant tactical shifts are not easily implemented in private markets portfolios
- Our top-down review of the asset class incorporates current trends, which if sustained, can potentially impact returns over the long term

We believe that careful manager selection is the primary driver of returns

That said, macro and top-down conditions have the potential to impact portfolio returns over the long term

Detailed returns by geography

Pooled Returns by Geography	1 Year	3 Year	5 Year	10 Year	20 Year	Fund Count	Total Capitalization (\$B)
U.S. All Private Equity *	12.9	13.1	12.8	14.9	12.9	3,418	2,210.1
Europe All Private Equity *	8.4	17.0	10.6	12.1	14.0	673	648.6
Asia All Private Equity *	8.1	11.1	13.5	14.9	11.7	608	306.4
LatAM All Private Equity *	(2.3)	5.9	0.4	4.0	3.0	64	28.3
Africa All Private Equity *	3.6	5.3	2.3	5.2	6.5	47	12.5
Middle East All Private Equity *	8.7	6.9	7.7	8.3	4.2	67	10.9

Public Index

Russell 3000	(5.2)	9.0	7.9	13.2	6.0		
MSCI Europe	(14.9)	2.1	(0.6)	6.1	3.2		
MSCI AC Asia Pacific	(13.5)	6.1	3.2	7.7	5.1		
MSCI EM Latin America	(6.6)	14.8	(1.7)	5.0	9.0		
MSCI FM Africa	(12.8)	0.8	(6.2)	2.9	-		
70% MSCI Arabian/ 30% MSCI Israel	8.6	3.5	2.3	6.3	-		

Outperformance vs. Public Index

U.S. All Private Equity *	18.1	4.1	4.9	1.7	6.9		
Europe All Private Equity *	23.3	14.9	11.2	6.0	10.8		
Asia All Private Equity *	21.6	5.0	10.3	7.2	6.6		
LatAM All Private Equity *	4.3	(8.9)	2.2	(1.0)	(6.0)		
Africa All Private Equity *	16.4	4.5	8.5	2.3	-		
Middle East All Private Equity *	0.1	3.4	5.4	2.0	-		

* All Private Equity excludes Natural Resource, Infrastructure, Real Estate, Fund of Funds and Secondary Funds.

Source: Thomson Reuters C/A as of December 31, 2018

Pooled returns by implementation approach

Pooled Returns by Implementation Approach	1 Year	3 Year	5 Year	10 Year	20 Year	Fund Count	Total Capitalization (\$B)
U.S. Pooled Returns							
U.S. All Private Equity Direct*	12.9	13.1	12.8	14.9	12.9	3,418	2,210.1
U.S. Fund of Funds	12.4	9.3	10.8	11.6	9.2	456	146.5
U.S. Secondary Funds	8.9	10.5	9.6	12.1	11.8	182	145.0
Europe Pooled Returns							
Europe All Private Equity Direct*	8.4	17.0	10.6	12.1	14.0	673	648.6
Europe Fund of Funds	6.1	11.0	7.2	8.8	8.4	71	30.1
Europe Secondary Funds	9.4	9.7	10.0	10.7	13.6	36	19.0
Asia Pooled Returns							
Asia All Private Equity	8.1	11.1	13.5	14.9	11.7	608	306.4
Asia Fund of Funds	10.9	10.1	13.6	11.7	10.0	57	19.3
Global Pooled Returns							
Global All Private Equity Direct**	2.6	10.1	7.5	12.6	10.0	189	251.7
Global Fund of Funds **	9.7	11.4	10.0	10.3	9.1	86	30.6
Global Secondary Funds **	13.0	16.3	17.4	13.2	-	18	28.1
All Region Pooled Returns							
All Regions Private Equity Direct*	10.6	13.0	11.8	14.0	12.6	5,110	3,477.6
All Regions Fund of Funds	11.3	9.9	10.5	11.0	9.2	678	227.5
All Regions Secondary Funds	9.7	11.3	10.6	12.1	12.3	242	192.9
Public Index							
Russell 3000	(5.2)	9.0	7.9	13.2	6.0		
MSCI Europe	(14.9)	2.1	(0.6)	6.1	3.2		
MSCI AC Asia Pacific	(13.5)	6.1	3.2	7.7	5.1		
MSCI ACWI	(9.4)	6.6	4.3	9.5	4.5		

* All Private Equity excludes Natural Resource, Infrastructure, Real Estate, Fund of Funds and Secondary Funds.

** Global Funds invest across the globe, without any targeted regions for investment.

Source: Thomson Reuters C/A as of December 31, 2018

Pooled returns outperformance

Outperformance vs. Public Index

U.S. Outperformance

U.S. All Private Equity Direct*	18.1	4.1	4.9	1.7	6.9
U.S. Fund of Funds	17.6	0.3	2.9	(1.6)	3.2
U.S. Secondary Funds	14.1	1.5	1.7	(1.1)	5.8

Europe Outperformance

Europe All Private Equity Direct*	23.3	14.9	11.2	6.0	10.8
Europe Fund of Funds	21.0	8.9	7.8	2.7	5.2
Europe Secondary Funds	24.3	7.6	10.6	4.6	10.4

Asia Outperformance

Asia All Private Equity *	21.6	5.0	10.3	7.2	6.6
Asia Fund of Funds	24.4	4.0	10.4	4.0	4.9

All Region Outperformance

All Regions Private Equity Direct*	20.0	6.4	7.5	4.5	8.1
All Regions Fund of Funds	20.7	3.3	6.2	1.5	4.7
All Regions Secondary Funds	19.1	4.7	6.3	2.6	7.8

* All Private Equity excludes Natural Resource, Infrastructure, Real Estate, Fund of Funds and Secondary Funds.

** Global Funds invest across the globe, without any targeted regions for investment.

Source: Thomson Reuters CJA as of December 31, 2018

U.S. returns

U.S. Pooled Returns	1 Year	3 Year	5 Year	10 Year	20 Year	Fund Count	Total Capitalization (\$B)
Private Equity Pooled Returns							
U.S. Venture Capital	18.1	9.5	12.9	12.8	21.4	1,858	402.2
U.S. Growth Equity	19.6	17.4	14.4	15.6	16.7	266	253.5
U.S. Buyouts	10.7	14.3	13.5	15.6	11.8	862	1,172.8
U.S. Debt-Related	6.0	10.4	8.3	14.3	9.9	432	381.6
U.S. All Private Equity *	12.9	13.1	12.8	14.9	12.9	3,418	2,210.1
Public Index							
S&P 500	(4.4)	9.3	8.5	13.1	5.6		
Russell 3000	(5.2)	9.0	7.9	13.2	6.0		
Barclay's Aggregate	0.0	2.1	2.5	3.5	4.5		
Outperformance							
All PE Outperformance*	18.1	4.1	4.9	1.7	6.9		
Debt-Related Outperformance	6.0	8.3	5.8	10.8	5.4		

* All Private Equity excludes Natural Resource, Infrastructure, Real Estate, Fund of Funds and Secondary Funds.

Source: Thomson Reuters C/A as of December 31, 2018

Europe returns

Europe Pooled Returns	1 Year	3 Year	5 Year	10 Year	20 Year	Fund Count	Total Capitalization (\$B)
Private Equity Pooled Returns							
Europe Venture	26.3	15.7	13.6	11.7	8.1	147	28.6
Europe Growth Equity	10.5	16.9	11.6	11.6	12.7	42	12.8
Europe Buyouts	7.6	17.9	10.6	12.4	14.8	428	541.2
Europe Debt-Related	3.5	12.0	8.2	8.3	8.9	56	66.1
Europe All Private Equity *	8.4	17.0	10.6	12.1	14.0	673	648.6
Public Index							
MSCI Europe	(14.9)	2.1	(0.6)	6.1	3.2		
Barclays Pan European Aggregate	0.1	0.7	3.3	4.5	4.3		
Outperformance							
All PE Outperformance*	23.3	14.9	11.2	6.0	10.8		
Debt-Related Outperformance	3.4	11.3	4.9	3.8	4.6		

* All Private Equity excludes Natural Resource, Infrastructure, Real Estate, Fund of Funds and Secondary Funds.

Source: Thomson Reuters C/A as of December 31, 2018

Asia, Latin America, Africa, Middle East returns

Asia, Latin America, Africa, Middle East	1 Year	3 Year	5 Year	10 Year	20 Year	Fund Count	Total Capitalization (\$B)
Private Equity Pooled Returns							
Asia All Private Equity *	8.1	11.1	13.5	14.9	11.7	608	306.4
LatAM All Private Equity *	(2.3)	5.9	0.4	4.0	3.0	64	28.3
Africa All Private Equity *	3.6	5.3	2.3	5.2	6.5	47	12.5
Middle East All Private Equity *	8.7	6.9	7.7	8.3	4.2	67	10.9
Public Index							
MSCI Emerging Markets	(14.6)	9.2	1.6	8.0	8.5		
MSCI AC Asia Pacific	(13.5)	6.1	3.2	7.7	5.1		
MSCI EM Latin America	(6.6)	14.8	(1.7)	5.0	9.0		
MSCI FM Africa	(12.8)	0.8	(6.2)	2.9	-		
70% MSCI Arabian/ 30% MSCI Israel	8.6	3.5	2.3	6.3	-		
Outperformance							
Asia All Private Equity *	21.6	5.0	10.3	7.2	6.6		
LatAM All Private Equity *	4.3	(8.9)	2.2	(1.0)	(6.0)		
Africa All Private Equity *	16.4	4.5	8.5	2.3	-		
Middle East All Private Equity *	0.1	3.4	5.4	2.0	-		

* All Private Equity excludes Natural Resource, Infrastructure, Real Estate, Fund of Funds and Secondary Funds.

Source: Thomson Reuters C/A as of December 31, 2018

Sub-asset class returns

U.S. Pooled Returns	1 Year	3 Year	5 Year	10 Year	20 Year	Fund Count	Total Capitalization (\$B)
Private Equity Pooled Returns							
U.S. Venture Capital	18.1	9.5	12.9	12.8	21.4	1,858	402.2
U.S. Growth Equity	19.6	17.4	14.4	15.6	16.7	266	253.5
U.S. Buyouts	10.7	14.3	13.5	15.6	11.8	862	1,172.8
U.S. Debt-Related	6.0	10.4	8.3	14.3	9.9	432	381.6
U.S. All Private Equity *	12.9	13.1	12.8	14.9	12.9	3,418	2,210.1

Europe Pooled Returns	1 Year	3 Year	5 Year	10 Year	20 Year	Fund Count	Total Capitalization (\$B)
Private Equity Pooled Returns							
Europe Venture	26.3	15.7	13.6	11.7	8.1	147	28.6
Europe Growth Equity	10.5	16.9	11.6	11.6	12.7	42	12.8
Europe Buyouts	7.6	17.9	10.6	12.4	14.8	428	541.2
Europe Debt-Related	3.5	12.0	8.2	8.3	8.9	56	66.1
Europe All Private Equity *	8.4	17.0	10.6	12.1	14.0	673	648.6

Asia, Latin America, Africa, Middle East	1 Year	3 Year	5 Year	10 Year	20 Year	Fund Count	Total Capitalization (\$B)
Private Equity Pooled Returns							
Asia All Private Equity *	8.1	11.1	13.5	14.9	11.7	608	306.4
LatAM All Private Equity *	(2.3)	5.9	0.4	4.0	3.0	64	28.3
Africa All Private Equity *	3.6	5.3	2.3	5.2	6.5	47	12.5
Middle East All Private Equity *	8.7	6.9	7.7	8.3	4.2	67	10.9

* All Private Equity excludes Natural Resource, Infrastructure, Real Estate, Fund of Funds and Secondary Funds.

Source: Thomson Reuters C/A as of December 31, 2018

Sub-asset class returns – Fund of funds

Fund of Funds by Geography	1 Year	3 Year	5 Year	10 Year	20 Year	Fund Count	Total Capitalization (\$B)
Private Equity Pooled Returns							
U.S. Fund of Funds	12.4	9.3	10.8	11.6	9.2	456	146.5
Europe Fund of Funds	6.1	11.0	7.2	8.8	8.4	71	30.1
Asia Fund of Funds	10.9	10.1	13.6	11.7	10.0	57	19.3
Global Fund of Funds **	9.7	11.4	10.0	10.3	9.1	86	30.6
All Fund of Funds	11.3	9.9	10.5	11.0	9.2	678	227.5
Public Index							
Russell 3000	(5.2)	9.0	7.9	13.2	6.0		
MSCI Europe	(14.9)	2.1	(0.6)	6.1	3.2		
MSCI AC Asia Pacific	(13.5)	6.1	3.2	7.7	5.1		
MSCI ACWI	(9.4)	6.6	4.3	9.5	4.5		
Outperformance							
U.S. Fund of Funds	17.6	0.3	2.9	(1.6)	3.2		
Europe Fund of Funds	19.6	4.9	4.0	1.1	3.3		
Asia Fund of Funds	20.3	3.5	9.3	2.2	5.5		
Global Fund of Funds **	9.7	11.4	10.0	10.3	9.1		

** Global Funds invest across the globe, without any targeted regions for investment.

Source: Thomson Reuters C/A as of December 31, 2018

Sub-asset class returns – Fund of funds (continued)

Fund of Funds by Sub Asset Class ⁽¹⁾	1 Year	3 Year	5 Year	10 Year	20 Year	Fund Count	Total Capitalization (\$B)
Private Equity Pooled Returns							
U.S. Buyout Fund of Funds	8.9	10.3	10.3	11.8	9.8	185	64.9
U.S. Venture Capital Fund of Funds	15.2	8.4	11.8	11.7	9.2	162	48.0
U.S. Venture Capital & Buyout Fund of Funds	12.8	9.4	9.8	10.8	8.2	109	33.6
U.S. Fund of Funds	12.4	9.3	10.8	11.6	9.2	456	146.5
Europe Buyout Fund of Funds	5.6	11.2	7.0	8.9	8.5	61	27.3
Europe VC & Buyout Fund of Funds	9.7	9.2	9.6	8.6	7.1	8	2.6
Europe Fund of Funds	6.1	11.0	7.2	8.8	8.4	71	30.1
Asia Buyout Fund of Funds	10.6	9.7	13.7	12.8	11.1	39	12.8
Asia VC & Buyout Fund of Funds	12.6	12.6	13.1	5.7	-	17	6.4
Asia Fund of Funds	10.9	10.1	13.6	11.7	10.0	57	19.3
Global Buyout Fund of Funds **	4.3	10.5	8.3	9.8	9.0	60	22.9
Global Venture Capital Fund of Funds **	24.1	16.1	19.7	15.5	-	12	4.1
Global VC & Buyout Fund of Funds **	10.9	8.9	9.2	9.3	-	14	3.6
Global Fund of Funds **	9.7	11.4	10.0	10.3	9.1	86	30.6

Fund of Funds by Sub Asset Class ⁽¹⁾	1 Year	3 Year	5 Year	10 Year	20 Year
Public Index					
Russell 3000	(5.2)	9.0	7.9	13.2	6.0
MSCI Europe	(14.9)	2.1	(0.6)	6.1	3.2
MSCI AC Asia Pacific	(13.5)	6.1	3.2	7.7	5.1
MSCI ACWI	(9.4)	6.6	4.3	9.5	4.5
Outperformance vs. Public Index					
U.S. Buyout Fund of Funds	14.1	1.3	2.4	(1.4)	3.8
U.S. Venture Capital Fund of Funds	20.4	(0.6)	3.9	(1.5)	3.2
U.S. Venture Capital & Buyout Fund of Funds	18.0	0.4	1.9	(2.4)	2.2
U.S. Fund of Funds	17.6	0.3	2.9	(1.6)	3.2
Europe Buyout Fund of Funds	20.5	9.1	7.6	2.8	5.3
Europe VC & Buyout Fund of Funds	24.6	7.1	10.2	2.5	3.9
Europe Fund of Funds	21.0	8.9	7.8	2.7	5.2
Asia Buyout Fund of Funds	24.1	3.6	10.5	5.1	6.0
Asia VC & Buyout Fund of Funds	26.1	6.5	9.9	(2.0)	-
Asia Fund of Funds	24.4	4.0	10.4	4.0	4.9
Global Buyout Fund of Funds **	13.7	3.9	4.0	0.3	4.5
Global Venture Capital Fund of Funds **	33.5	9.5	15.4	6.0	-
Global VC & Buyout Fund of Funds **	20.3	2.3	4.9	(0.2)	-
Global Fund of Funds **	19.1	4.8	5.7	0.8	4.6

** Global Funds invest across the globe, without any targeted regions for investment.

(1) All Fund of Funds may occasionally co-invest in private companies and/or invest in secondary transactions.

Europe and Asia Venture Capital Fund of Funds have less than 3 funds and therefore included in the All Europe and Asia FoF pooled returns.

Source: Thomson Reuters C/A as of December 31, 2018

Sub-asset class returns – Secondaries

Secondary Funds	1 Year	3 Year	5 Year	10 Year	20 Year	Fund Count	Total Capitalization (\$B)
Private Equity Pooled Returns							
U.S. Secondary Funds	8.9	10.5	9.6	12.1	11.8	182	145.0
Europe Secondary Funds	9.4	9.7	10.0	10.7	13.6	36	19.0
Global Secondary Funds **	13.0	16.3	17.4	13.2	-	18	28.1
All Secondary Funds ⁽¹⁾	9.7	11.3	10.6	12.1	12.3	242	192.9
Public Index							
Russell 3000	(5.2)	9.0	7.9	13.2	6.0		
MSCI ACWI	(9.4)	6.6	4.3	9.5	4.5		
MSCI ACWI	(9.4)	6.6	4.3	9.5	4.5		
Outperformance							
U.S. Secondary Funds	14.1	1.5	1.7	(1.1)	5.8		
Europe Secondary Funds	18.8	3.1	5.7	1.2	9.1		
Global Secondary Funds **	22.4	9.7	13.1	3.7	-		

** Global Funds invest across the globe, without any targeted regions for investment.

(2) Regions that have less than 3 funds are only included in the All Secondary Funds pooled returns.

Source: Thomson Reuters C/A as of December 31, 2018

Geography and approach

Pooled Returns by Geography	1 Year	3 Year	5 Year	10 Year	20 Year	Fund Count	Total Capitalization (\$B)
U.S. All Private Equity *	12.9	13.1	12.8	14.9	12.9	3,418	2,210.1
Europe All Private Equity *	8.4	17.0	10.6	12.1	14.0	673	648.6
Asia All Private Equity *	8.1	11.1	13.5	14.9	11.7	608	306.4
LatAM All Private Equity *	(2.3)	5.9	0.4	4.0	3.0	64	28.3
Africa All Private Equity *	3.6	5.3	2.3	5.2	6.5	47	12.5
Middle East All Private Equity *	8.7	6.9	7.7	8.3	4.2	67	10.9

Public Index

Russell 3000	(5.2)	9.0	7.9	13.2	6.0
MSCI Europe	(14.9)	2.1	(0.6)	6.1	3.2
MSCI AC Asia Pacific	(13.5)	6.1	3.2	7.7	5.1
MSCI EM Latin America	(6.6)	14.8	(1.7)	5.0	9.0
MSCI FM Africa	(12.8)	0.8	(6.2)	2.9	-
70% MSCI Arabian/ 30% MSCI Israel	8.6	3.5	2.3	6.3	-

Outperformance vs. Public Index

U.S. All Private Equity *	18.1	4.1	4.9	1.7	6.9
Europe All Private Equity *	23.3	14.9	11.2	6.0	10.8
Asia All Private Equity *	21.6	5.0	10.3	7.2	6.6
LatAM All Private Equity *	4.3	(8.9)	2.2	(1.0)	(6.0)
Africa All Private Equity *	16.4	4.5	8.5	2.3	-
Middle East All Private Equity *	0.1	3.4	5.4	2.0	-

Pooled Returns by Implementation Approach	1 Year	3 Year	5 Year	10 Year	20 Year	Fund Count	Total Capitalization (\$B)
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U.S. Pooled Returns

U.S. All Private Equity Direct*	12.9	13.1	12.8	14.9	12.9	3,418	2,210.1
U.S. Fund of Funds	12.4	9.3	10.8	11.6	9.2	456	146.5
U.S. Secondary Funds	8.9	10.5	9.6	12.1	11.8	182	145.0

Europe Pooled Returns

Europe All Private Equity Direct*	8.4	17.0	10.6	12.1	14.0	673	648.6
Europe Fund of Funds	6.1	11.0	7.2	8.8	8.4	71	30.1
Europe Secondary Funds	9.4	9.7	10.0	10.7	13.6	36	19.0

Asia Pooled Returns

Asia All Private Equity	8.1	11.1	13.5	14.9	11.7	608	306.4
Asia Fund of Funds	10.9	10.1	13.6	11.7	10.0	57	19.3

* All Private Equity excludes Natural Resource, Infrastructure, Real Estate, Fund of Funds and Secondary Funds.

Source: Thomson Reuters C/A as of December 31, 2018

Geography and approach (continued)

	1	3	5	10	20	Fund	Total
Global Pooled Returns	Year	Year	Year	Year	Year	Count	Capitalization (\$B)
Global All Private Equity Direct**	2.6	10.1	7.5	12.6	10.0	189	251.7
Global Fund of Funds **	9.7	11.4	10.0	10.3	9.1	86	30.6
Global Secondary Funds **	13.0	16.3	17.4	13.2	-	18	28.1
All Region Pooled Returns							
All Regions Private Equity Direct*	10.6	13.0	11.8	14.0	12.6	5,110	3,477.6
All Regions Fund of Funds	11.3	9.9	10.5	11.0	9.2	678	227.5
All Regions Secondary Funds	9.7	11.3	10.6	12.1	12.3	242	192.9
Public Index							
Russell 3000	(5.2)	9.0	7.9	13.2	6.0		
MSCI Europe	(14.9)	2.1	(0.6)	6.1	3.2		
MSCI AC Asia Pacific	(13.5)	6.1	3.2	7.7	5.1		
MSCI ACWI	(9.4)	6.6	4.3	9.5	4.5		

Outperformance vs. Public Index	1 Year	3 Year	5 Year	10 Year	20 Year
U.S. Outperformance					
U.S. All Private Equity Direct*	18.1	4.1	4.9	1.7	6.9
U.S. Fund of Funds	17.6	0.3	2.9	(1.6)	3.2
U.S. Secondary Funds	14.1	1.5	1.7	(1.1)	5.8
Europe Outperformance					
Europe All Private Equity Direct*	23.3	14.9	11.2	6.0	10.8
Europe Fund of Funds	21.0	8.9	7.8	2.7	5.2
Europe Secondary Funds	24.3	7.6	10.6	4.6	10.4
Asia Outperformance					
Asia All Private Equity *	21.6	5.0	10.3	7.2	6.6
Asia Fund of Funds	24.4	4.0	10.4	4.0	4.9
All Region Outperformance					
All Regions Private Equity Direct*	20.0	6.4	7.5	4.5	8.1
All Regions Fund of Funds	20.7	3.3	6.2	1.5	4.7
All Regions Secondary Funds	19.1	4.7	6.3	2.6	7.8

* All Private Equity excludes Natural Resource, Infrastructure, Real Estate, Fund of Funds and Secondary Funds.

** Global Funds invest across the globe, without any targeted regions for investment.

Source: Thomson Reuters C|A as of December 31, 2018

Geographies with outperformance

	1	3	5	10	20	Fund	Total
U.S. Pooled Returns	Year	Year	Year	Year	Year	Count	Capitalization (\$B)

Private Equity Pooled Returns

U.S. Venture Capital	18.1	9.5	12.9	12.8	21.4	1,858	402.2
U.S. Growth Equity	19.6	17.4	14.4	15.6	16.7	266	253.5
U.S. Buyouts	10.7	14.3	13.5	15.6	11.8	862	1,172.8
U.S. Debt-Related	6.0	10.4	8.3	14.3	9.9	432	381.6
U.S. All Private Equity *	12.9	13.1	12.8	14.9	12.9	3,418	2,210.1

Public Index

S&P 500	(4.4)	9.3	8.5	13.1	5.6
Russell 3000	(5.2)	9.0	7.9	13.2	6.0
Barclay's Aggregate	0.0	2.1	2.5	3.5	4.5

Outperformance

All PE Outperformance*	18.1	4.1	4.9	1.7	6.9
Debt-Related Outperformance	6.0	8.3	5.8	10.8	5.4

	3	5	10	20	Fund	Total
Europe Pooled Returns	1 Year	Year	Year	Year	Count	Capitalization (\$B)

Private Equity Pooled Returns

Europe Venture	26.3	15.7	13.6	11.7	8.1	147	28.6
Europe Growth Equity	10.5	16.9	11.6	11.6	12.7	42	12.8
Europe Buyouts	7.6	17.9	10.6	12.4	14.8	428	541.2
Europe Debt-Related	3.5	12.0	8.2	8.3	8.9	56	66.1
Europe All Private Equity *	8.4	17.0	10.6	12.1	14.0	673	648.6

Public Index

MSCI Europe	(14.9)	2.1	(0.6)	6.1	3.2
Barclays Pan European Aggregate	0.1	0.7	3.3	4.5	4.3

Outperformance

All PE Outperformance*	23.3	14.9	11.2	6.0	10.8
Debt-Related Outperformance	3.4	11.3	4.9	3.8	4.6

* All Private Equity excludes Natural Resource, Infrastructure, Real Estate, Fund of Funds and Secondary Funds.

Source: Thomson Reuters C/A as of December 31, 2018

	1	3	5	10	20	Fund	Total
Asia, Latin America, Africa, Middle East	Year	Year	Year	Year	Year	Count	Capitalization (\$B)

Private Equity Pooled Returns

Asia All Private Equity *	8.1	11.1	13.5	14.9	11.7	608	306.4
LatAM All Private Equity *	(2.3)	5.9	0.4	4.0	3.0	64	28.3
Africa All Private Equity *	3.6	5.3	2.3	5.2	6.5	47	12.5
Middle East All Private Equity *	8.7	6.9	7.7	8.3	4.2	67	10.9

Public Index

MSCI Emerging Markets	(14.6)	9.2	1.6	8.0	8.5
MSCI AC Asia Pacific	(13.5)	6.1	3.2	7.7	5.1
MSCI EM Latin America	(6.6)	14.8	(1.7)	5.0	9.0
MSCI FM Africa	(12.8)	0.8	(6.2)	2.9	-
70% MSCI Arabian/ 30% MSCI Israel	8.6	3.5	2.3	6.3	-

Outperformance

Asia All Private Equity *	21.6	5.0	10.3	7.2	6.6
LatAM All Private Equity *	4.3	(8.9)	2.2	(1.0)	(6.0)
Africa All Private Equity *	16.4	4.5	8.5	2.3	-
Middle East All Private Equity *	0.1	3.4	5.4	2.0	-

Geographies with sub-asset classes excluding outperformance

Pooled Returns by Geography	1 Year	3 Year	5 Year	10 Year	20 Year
U.S. All Private Equity *	12.9	13.1	12.8	14.9	12.9
Europe All Private Equity *	8.4	17.0	10.6	12.1	14.0
Asia All Private Equity *	8.1	11.1	13.5	14.9	11.7
LatAM All Private Equity *	(2.3)	5.9	0.4	4.0	3.0
Africa All Private Equity *	3.6	5.3	2.3	5.2	6.5
Middle East All Private Equity *	8.7	6.9	7.7	8.3	4.2

Europe Pooled Returns	1 Year	3 Year	5 Year	10 Year	20 Year
Private Equity Pooled Returns					
Europe Venture	26.3	15.7	13.6	11.7	8.1
Europe Growth Equity	10.5	16.9	11.6	11.6	12.7
Europe Buyouts	7.6	17.9	10.6	12.4	14.8
Europe Debt-Related	3.5	12.0	8.2	8.3	8.9
Europe All Private Equity *	8.4	17.0	10.6	12.1	14.0

U.S. Pooled Returns	1 Year	3 Year	5 Year	10 Year	20 Year
Private Equity Pooled Returns					
U.S. Venture Capital	18.1	9.5	12.9	12.8	21.4
U.S. Growth Equity	19.6	17.4	14.4	15.6	16.7
U.S. Buyouts	10.7	14.3	13.5	15.6	11.8
U.S. Debt-Related	6.0	10.4	8.3	14.3	9.9
U.S. All Private Equity *	12.9	13.1	12.8	14.9	12.9

Asia, Latin America, Africa, Middle East	1 Year	3 Year	5 Year	10 Year	20 Year
Private Equity Pooled Returns					
Asia All Private Equity *	8.1	11.1	13.5	14.9	11.7
LatAM All Private Equity *	(2.3)	5.9	0.4	4.0	3.0
Africa All Private Equity *	3.6	5.3	2.3	5.2	6.5
Middle East All Private Equity *	8.7	6.9	7.7	8.3	4.2

* All Private Equity excludes Natural Resource, Infrastructure, Real Estate, Fund of Funds and Secondary Funds.

Source: Thomson Reuters C/A as of December 31, 2018

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