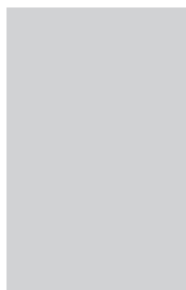
PRIVATE CAPITAL QUARTERLY

FOURTH QUARTER 2018



INSIDE THIS ISSUE

Introduction **1**
Private Equity **3**
Venture Capital 3
Buyouts 5
Private Debt **7**
Private Real Estate **9**
Natural Resources **11**
Disclosures **13**
Research and Portfolio Management Team **15**

BLUE SKIES AHEAD OF WINTER TURBULENCE

FEG® investment advisors

INTRODUCTION

As of late September 2018, oil prices were on their way to $75 per barrel (WTI), and the S&P 500 was closing in on 3000.[1] Most of the performance data in this report is through September 30, the most recent available, when "blue skies" prevailed. By year-end, however, sentiment had shifted dramatically. Notably, oil prices dropped to $45, and public stocks lost 13.4% for the quarter, resulting in an 8.7% loss for the full year.[2] As such, private fund investors should anticipate some degradation in valuations in fourth quarter reports, particularly in holdings that are energy-related, credit-related, or valued based on public market comparisons—real estate and infrastructure generally excluded.

LP NET INTERNAL RATE OF RETURN

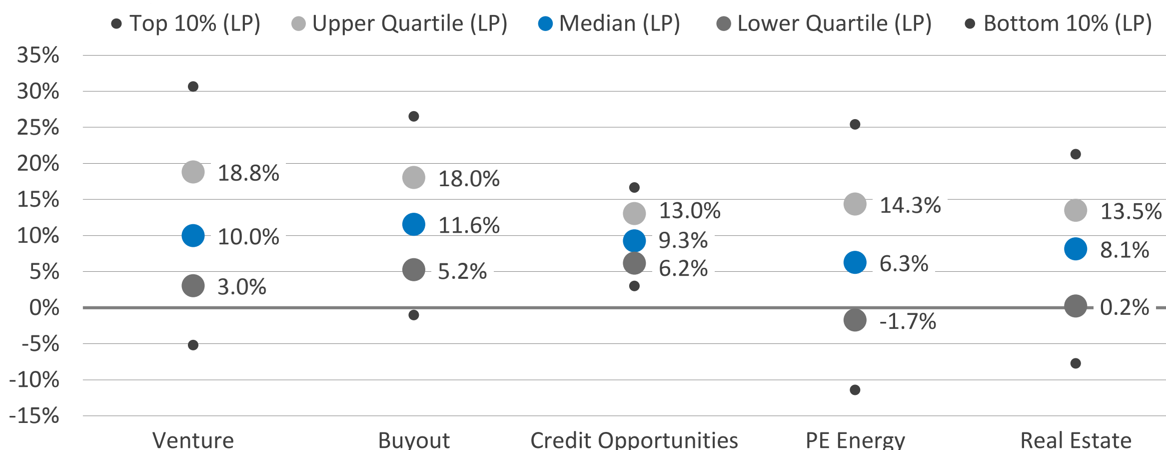
Asset Class	3Q 2018 (LP)	YTD 2018 (LP)	ONE-YEAR (LP)
Venture	5%	17%	22%
Buyout	3%	10%	16%
Credit Opportunities	2%	7%	10%
PE Energy	2%	7%	11%
Real Estate	1%	6%	10%

Data source: Thomson One, Horizon Summary Report; data as of September 30, 2018.

The negative sentiment of late 2018 lifted quickly in early 2019, which may moderate some year-end marks. We have seen this happen in prior, short-lived corrections. Multiple factors can affect valuations.

Through the third quarter, private markets were positive across the board and materially so in the venture and buyout sectors. Credit strategies, energy, and real estate remained attractive as well. However, as seen in the 10-year return chart, dispersion remained high.[3]

10-YEAR PRIVATE CAPITAL RETURNS (NET IRR)



Data sources: Thomson One, as of September 30, 2018; Vintage 2004-2014 funds. More recent vintage years are not mature.

LOOKING FORWARD

Capital in all forms remains abundant, and the Fed appears ready to remain sensitive to market levels as it seeks to incrementally raise rates and shrink its balance sheet. As such, risk takers have support. Nonetheless, there is no shortage of concern about the state of public and private markets. Valuations and debt levels have been reaching for higher territory for several years supported by low interest rates, a positive economic backdrop, and, in some cases, creative adjustments to earnings.

 © 2019 Fund Evaluation Group, LLC

At times like these, it's nice to tap into a market sage like Byron Wien. His legendary "Top 10 surprises" for 2019 consider a number of very 'blue sky' like possibilities including: the Fed will not raise rates in all of 2019, the stock market will rise 15% (meaning PE ratios of ~17x by yearend), and the U.S. economy will grow at about 2.5% real. Wien also included that emerging markets will advance, with Shanghai up by 25%, and growth strategies will continue to beat value.[4] These possibilities are meant to be surprises—not generally expected—that have a greater than 50% probability of occurring.

There is a tricky balance between caution and opportunity, but if the general backdrop remains accommodative, more years of blue skies are possible. Thus, FEG remains cautiously optimistic as we continue to place capital in private investments but favor low leverage and cycle-tested managers as we do so.

FOOTNOTES

[1] Byron Wien's February 2019 Commentary, "Recovery or Recession," Blackstone Advisory Services L.P., received January 24, 2019.

[2] FEG internal reports as of December 31, 2018; oil prices measured using WTI and public stocks measured using MSCI World Index.

[3] Thomson One, data as of September 30, 2018; includes funds through the 2014 vintage, as those created in more recent periods are deemed too young to provide meaningful performance comparisons.

[4] Byron Wien's February 2019 Commentary, "Recovery or Recession," Blackstone Advisory Services l.P., received January 24, 2019.

© 2019 Fund Evaluation Group, LLC

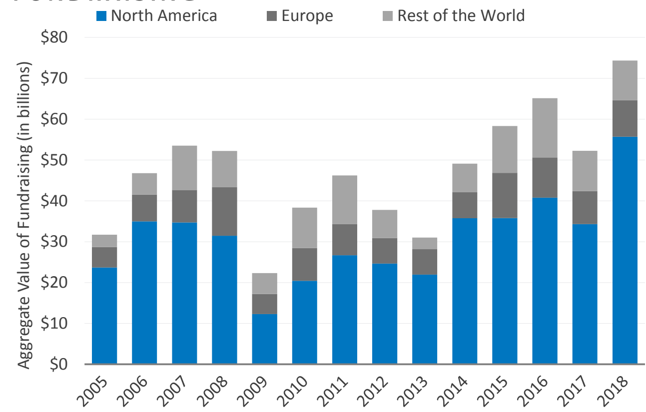
PRIVATE EQUITY

Venture Capital

FUNDRAISING AND INVESTING

- Globally, venture funds raised nearly $75 billion in commitments in 2018.[1] This figure represents the most raised since the peak of the technology bubble at the turn of the century and the fourth consecutive year that commitments to venture funds exceeded $50 billion. Funds at the large end of the market drove this advance. There were a record 11 U.S. venture funds that raised $1.0 billion or more each in 2018. The percentage of U.S. venture funds under $250 million was at a 10-year low in 2018.[2]

FUNDRAISING

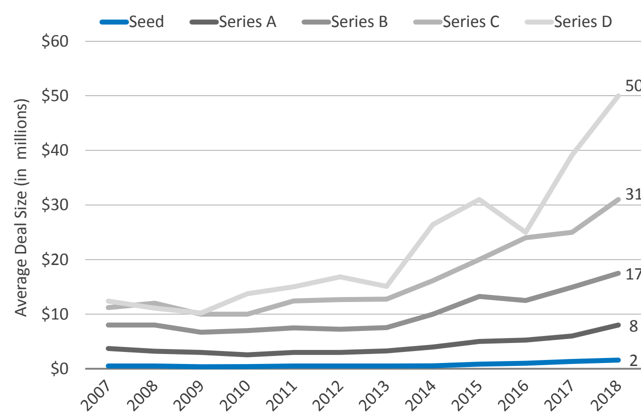


Data source: Pitchbook; data as of December 31, 2018

INVESTMENT ACTIVITY

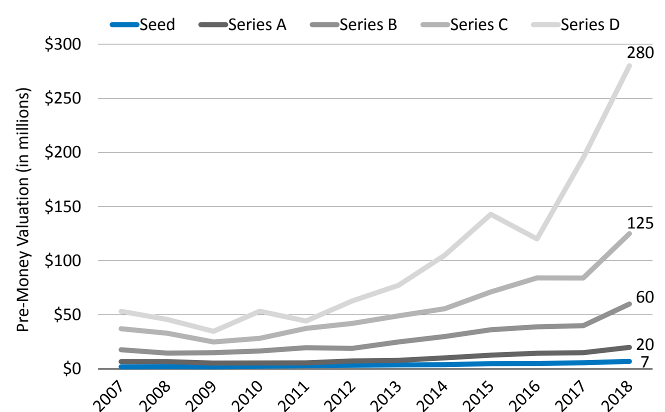
- Reflective of the fundraising environment, median deal sizes continued to increase in 2018, with late-stage financing rounds (Series C and Series D) significantly greater than in 2017. Notably, venture-backed companies remained private for longer. As a result, these larger companies pushed up the size of the average investment in late stage deals.[3]
- Series A and Series B rounds are also trending higher, as funds deploy more capital into these transactions. Anecdotally, venture managers indicate companies are able to achieve greater scale before raising venture capital, which results in larger companies at each stage.
- Pre-money valuations of venture-backed companies continued to increase across both early- and later-stage companies. The median pre-money valuations for venture-backed companies rose between 33% and 50% in 2018, compared to last year's level.

MEDIAN DEAL SIZE BY FINANCING ROUND



Data source: Pitchbook; data as of December 31, 2018

MEDIAN PRE-MONEY VALUATION BY FINANCING

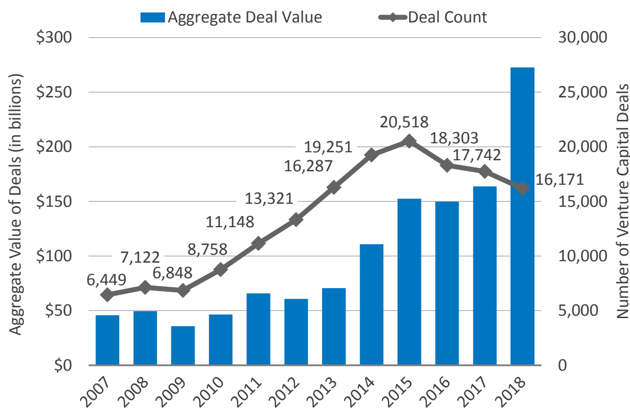


Data source: Pitchbook; data as of December 31, 2018

- Venture-backed companies received over $270 billion of funding in 2018, an unprecedented amount. This total far exceeds the amount of capital raised by venture funds. The emergence of mutual and hedge funds drove the increased amount of capital from 2014 to 2017. More recently, Softbank, family offices, and corporates have also pushed capital to companies. The number of companies receiving funding decreased, as more capital flows into fewer deals.

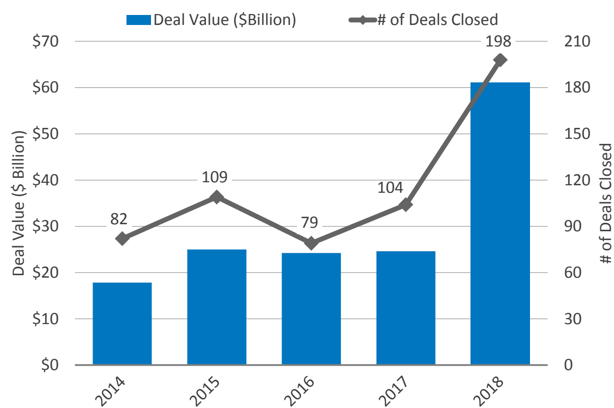
© 2019 Fund Evaluation Group, LLC

VENTURE CAPITAL INVESTMENT ACTIVITY



Data source: Pitchbook; data as of December 31, 2018

U.S. VENTURE CAPITAL MEGA-DEAL ACTIVITY



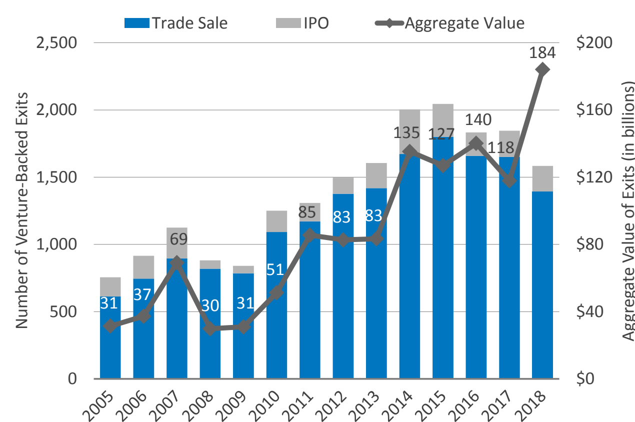
Data source: Pitchbook; data as of December 31, 2018

- The number of mega rounds, those financing rounds of $100 million or more, rose dramatically in 2018, totaling 198 deals and nearly doubling last year's total. However, whether this increase is a long-term shift—as companies stay private longer—or the result of a long bull market in the technology sector remains to be seen.

EXIT ENVIRONMENT

- Exit activity of venture-backed companies slowed in 2018 relative to last year with respect to the overall number of exits, though the aggregate value rose. The number of acquisitions (trade sales) fell and represents the lowest level since 2012. Furthermore, the number of initial public offerings (IPOs) in 2018 was similar to last year's level. The aggregate value of those exits in 2018 exceeds that of 2017, suggesting strong outcomes for early investors in these companies.

EXIT ACTIVITY

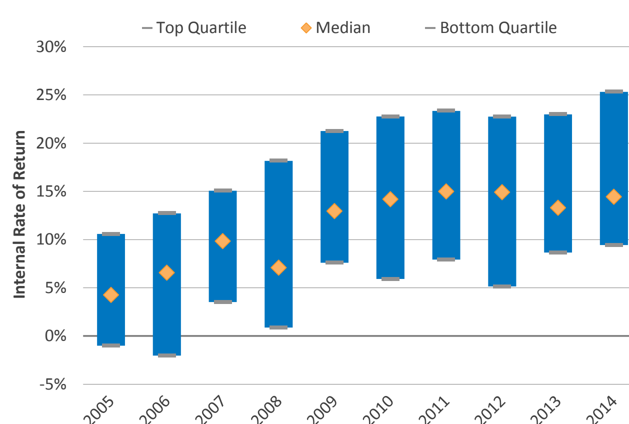


Data source: Thomson One; data as of December 31, 2018

PERFORMANCE

- Venture fund performance by vintage year rose steadily from 2005 to 2014. Recent vintages are not fully realized, and the most recent vintages are not fully deployed. Funds able to achieve early exits or sizeable financing rounds likely experienced a boost in performance.

VENTURE CAPITAL PERFORMANCE



Data source: Thomson One; data as of September 30, 2018

CONCLUSION

- FEG remains skeptical of abundant cash flowing into venture funds and venture-backed companies. Certain structural changes to the market are influencing the data, including companies staying private longer, non-traditional sources of capital such as public cross-over funds or larger corporate investing, and the falling cost of scaling businesses. Performance has been strong but remains meaningfully unrealized for more recent years as exit activity has declined.

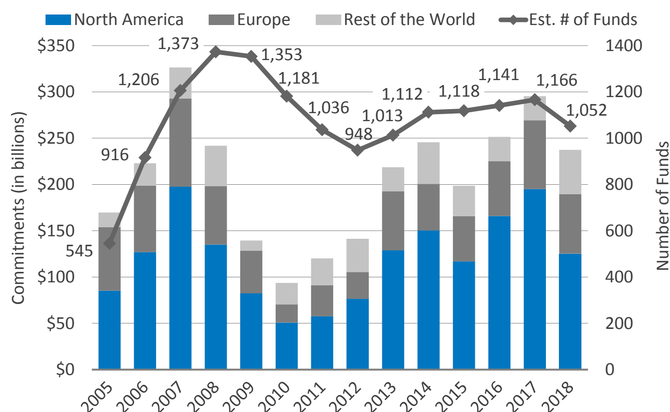
© 2019 Fund Evaluation Group, LLC

Buyouts

FUNDRAISING AND INVESTING

- 2018 was a healthy fundraising year for global leveraged buyout funds. During the year, 190 global leveraged buyout funds raised roughly $237 billion of aggregate capital commitments.[4]
- Approximately $125 billion, or 53% of the capital, was raised by North American-focused buyout funds. Another $64 billion, or 27% of the capital was raised for European-focused funds. The rest of the world represented approximately 20% of aggregate capital commitments raised. This is not surprising given control equity transactions are more common in North America and Europe.[5]
- Over the last ten years, capital commitments have become more concentrated in the largest funds, and since 2008, the average global buyout fund raised has grown from roughly $700 million to more than $1.2 billion.[6]

FUNDRAISING AND ESTIMATED NUMBER OF ACTIVE FUNDS

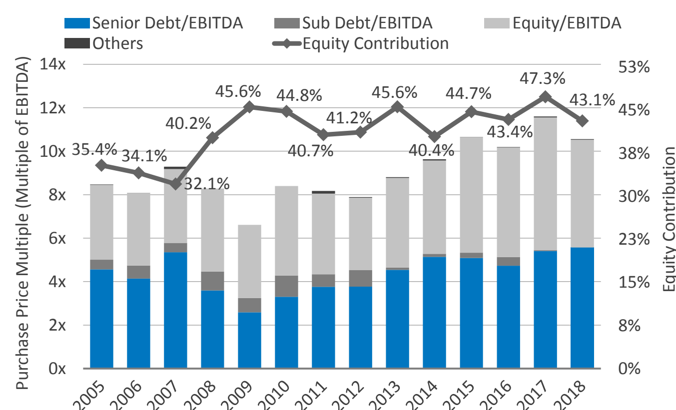


Data source: Pitchbook; data reflects the number of global buyout funds with a final closing in the current vintage year plus the prior three vintage years; data as of December 31, 2018

INVESTMENT ACTIVITY

- The average purchase price multiple for middle-market buyout transactions was 10.6x earnings before interest, taxes, depreciation, and amortization (EBITDA) during 2018. Leverage ratios remained relatively constant. According to S&P Capital IQ, the average debt multiple for middle market LBOs was roughly 5.6x EBITDA, slightly below the 2007 peak of 5.9x EBITDA.[7]
- Equity support in large buyout transactions remained steady at 40% - the peak was 46% in 2009, when financing was scarce, and the low point was in 2007, when the ratio dipped below 30% - however equity contributions in middle market transactions fell from 47% to 43%.[8]

AVERAGE PURCHASE PRICE MULTIPLES AND EQUITY CONTRIBUTION



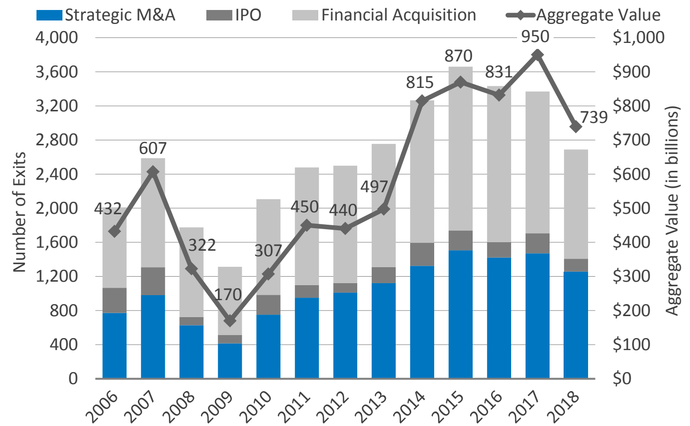
Data source: S&P Leverage Buyout Review; data as of December 31, 2018

© 2019 Fund Evaluation Group, LLC

EXIT ACTIVITY

- Approximately $739 billion of value was generated by 2,688 private equity-backed exits during 2018. Despite a much slower exit market than in recent years, activity is still on par with the 10-year average. According to Pitchbook, one reason for the decline is that private equity sponsors are struggling to find strategic acquirers for portfolio companies.[9]
- Trade sales to strategic or financial acquirers represented the majority of global buyout-backed exits, while initial public offerings (IPO) accounted for only 6% of the aggregate number of exits.[10]
- Since the global financial crisis, median hold periods of private equity investments increased from roughly three years to five years. Longer hold periods are likely due to private equity firms' increased emphasis on add-ons and operational improvements to drive value creation.[11]

BUYOUT EXIT ACTIVITY

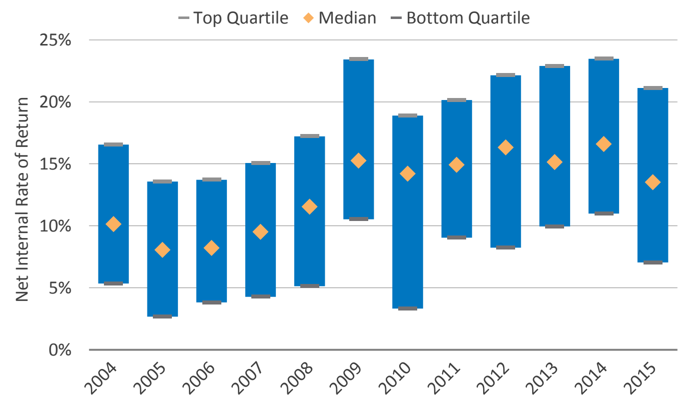


Data source: Pitchbook; Financial Acquisition includes secondary buyout and buyout by management; data as of December 31, 2018

PERFORMANCE

- Performance has been strong on a 1-, 3-, 5-, and 10-year basis, with time-weighted returns of 17.1%, 15.5%, 14.1%, and 11.6%, respectively.[12]
- The dispersion of returns between top- and lower-quartile funds has consistently been over 800 basis points, demonstrating the importance of manager selection.

BUYOUT PERFORMANCE BY VINTAGE YEAR



Data source: Thomson One; data as of September 30, 2018

CONCLUSION

- Near record levels of available capital (i.e., dry powder) combined with elevated purchase price multiples are reasons for concern within the buyout strategy. While funds are larger, fewer general partners (GP) are raising funds compared to recent years, leading to a concentration of capital. Investors should remain cautious and continue to look for managers with clear competitive advantages and investment philosophies built on fundamental value.

FOOTNOTES

[1] Pitchbook, data as of December 31, 2018.
[2] Pitchbook, NVCA Monitor 4Q 2018.
[3–6] Pitchbook, data as of December 31, 2018.
[7, 8] S&P Leveraged Buyout Review–4Q 2018. *Note: The S&P Capital IQ data only represents a sample set of leverage buyout transactions executed during a given time period.*
[9–11] Pitchbook, data as of December 31, 2018.
[12] Thomson One – Horizon Summary Report as of September 30, 2018.

© 2019 Fund Evaluation Group, LLC

PRIVATE DEBT

FUNDRAISING

- 2018 marked the fourth consecutive year in which funds raised more than $100 billion, with a total of 163 funds raising $110 billion. Despite the headlines, these figures were down from 2017, which saw 189 funds raise $129 billion.[1]
- Funds raised for both direct lending and distressed debt declined in 2018 while funds raised for mezzanine debt increased. Direct lending funds raised $45 billion, a drop of $23 billion year over year; distressed debt funds raised $21 billion in 2018, down from $33 billion in 2017. Mezzanine debt fundraising surged from $12 billion in 2017 to $31 billion.[2]
- The amount of capital being raised for direct lending strategies has been reflective of capital raised for private equity investing as these loans typically support private equity transactions.

FUNDAMENTALS AND ACTIVITY

- Fundamentals in the middle market lending remain stable, evidenced by debt multiples (debt/EBITDA) well below 6x, with solid equity contributions and earnings (pro forma EBITDA). At the same time looser covenants and an increase in the amount of 'adjustments' to earnings have been highlighted as concerns.
- Purchase price multiples for middle market leveraged buyouts dipped from the peak of 11.6x in 2017 but remain elevated versus the prior peak in 2007.
- Transaction volume in the U.S. middle market declined in 2018 to $10.7 billion from $13.7 billion in 2017.[3] Volume in general remains soft versus the peak years of 2004 to 2007, due primarily to rich purchase price multiples.

	2007	2018
Debt/EBITDA Multiples	5.6x	5.6x
Equity Contribution	32%	40%
Purchase Price Multiple	9.3x	1.0.6x
Pro Forma EBITDA	$29.0M	$43.4M

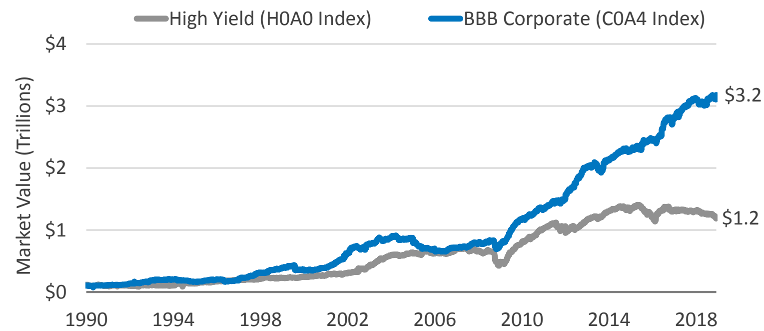
Data sources: S&P Leverage Buyout Review 4Q2018, S&P Global Market Intelligence High-End Middle Market Leading Review 4Q2018

DISTRESSED UPDATE

- December's volatility in risk assets encouraged those who have been calling for the next turn in the cycle, although the Federal Reserve and other financial institutions are generally predicting a slowdown in economic activity as opposed to an outright recession. A recession could trigger an up-tick in credit defaults and the next distressed cycle.
- One of the key areas of risk in the public credit markets—and potentially an opportunity for distressed investors—is the recent growth of BBB-rated corporate bonds relative to high yield bonds, as shown below. The BBB-rated market is now more than 2.5 times the size of the high yield market, leading investors to believe that "fallen angel" opportunities could develop in the next downturn overwhelming the high yield market.
- The distressed opportunity set in Europe has been muted of late, although the lingering concern over "Brexit" weighed somewhat on prices of European risk assets. FEG continues to monitor the situation in Europe with an eye for potential opportunities.

© 2019 Fund Evaluation Group, LLC

RELATIVE MARKET SIZE: BBB vs. HY CORPORATE



Data sources: ICE BofAML, Bloomberg, L.P.; data as of December 4, 2018

CONCLUSION

- Demand for private lending strategies softened in 2018 but remains robust. Investors continue to embrace the yield premium available in the private credit markets relative to public credit markets. This premium is likely to stay in place until public credit spreads widen meaningfully.
- Middle market fundamentals remain reasonably healthy, although purchase price multiples remain elevated. Transaction volume in the middle market remains well below peak relative to the pre-recession years, due primarily to high purchase price multiples.
- Distressed investment opportunities, fundraising was soft year-over-year, and both U.S. and Europe remain in "wait and see" territory for investors considering commitments.

FOOTNOTES

[1,2] Preqin 2018 Fundraising Update: Private Debt, 4Q 2018.

[3] S&P Global Market Intelligence High-End Middle Market Lending Review, 4Q 2018.

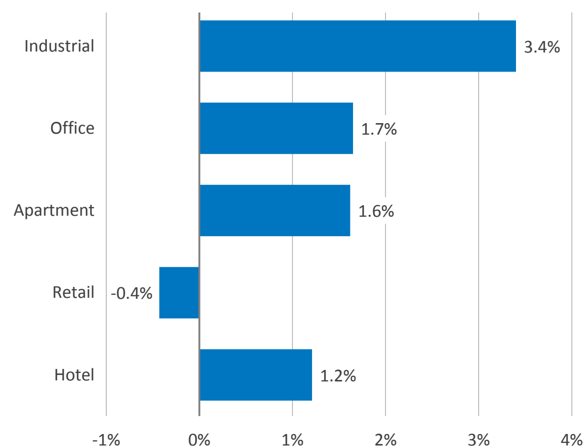
© 2019 Fund Evaluation Group, LLC

PRIVATE REAL ESTATE

MARKET RETURNS

- Real estate values for "core" properties, as measured by the National Council of Real Estate Investment Fiduciaries (NCREIF) Property Index (NPI), experienced a total return of 1.4% during the fourth quarter, following a 1.70% gain in the third quarter. Longer-term, the index return was 9.9% on an annualized 5-year basis as of December 31, 2018. Occupancy for properties in the NCREIF rose to 94%, a 16-year high, and cap rates remained unchanged at approximately 4.8%, representing near record lows.[1]
- The industrial sector continued to outperform, with a return of 3.4% for the quarter, driven by continued growth in demand for warehouse space from online retailers. Alternatively, the retail sector underperformed the broad index and other property types with a marginally negative return of -0.4% for the quarter. The retail sector continues to suffer from store closings, growth in online retailing, and changes in consumer shopping behavior, making certain properties less valuable or obsolete.[2]

NCREIF NATIONAL PROPERTY INDEX SECTOR RETURNS
Fourth Quarter 2018



Data source: NCREIF; data as of January 25, 2019

TRANSACTION ACTIVITY

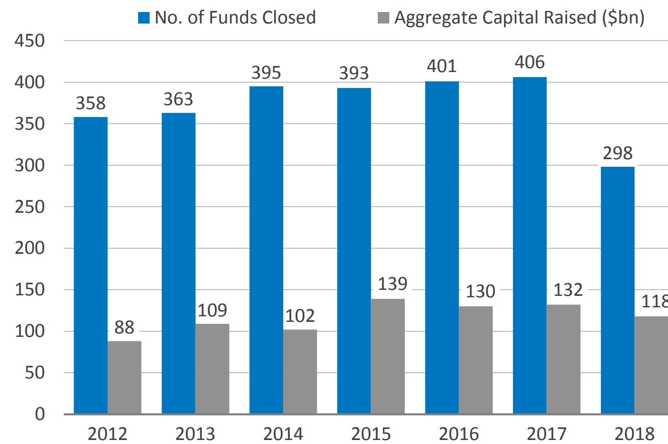
- Global commercial real estate transaction volume increased in 2018, with acquisitions of income-producing assets up by 3% to $963.7 billion, the third highest annual total on record behind 2007 and 2015. Including land sales, overall commercial real estate volume grew by 4% to $1.7 trillion.[3]
- Strong transaction volume in the U.S. contributed to an increase in the Americas of 16% above 2017 levels, and a sharper increase in the fourth quarter could signal strong investment momentum heading into 2019. Industrial was the strongest performing property type for the year, with a new record of transaction volume totaling $147 billion, an increase of 11%.[4]

FUNDRAISING

- A total of 298 real estate funds closed in 2018, raising a combined $118 billion. This represents a small decline from the $132 billion raised in 2017, and significantly fewer than the 406 funds closed that year. The trend reflects more capital moving into larger funds, which continued to dominate the real estate landscape. Dry powder held by private real estate funds was over $300 billion as of year-end 2018.[5]
- At the start of 2019, there were approximately 675 real estate funds in the market, seeking a total of $250 billion. This number is up significantly from a year ago, when 573 funds were targeting a combined $191 billion.[6] In addition, large funds continue to dominate the landscape, with Blackstone closing on its latest opportunistic real estate fund at $20 billion in early 2019, which represented the largest private real estate fund ever raised. Meanwhile, Brookfield completed fundraising on its third global flagship real estate fund, with $15 billion in capital commitments.[7] Factoring in leverage, these funds will have buying power in excess of $70 billion.

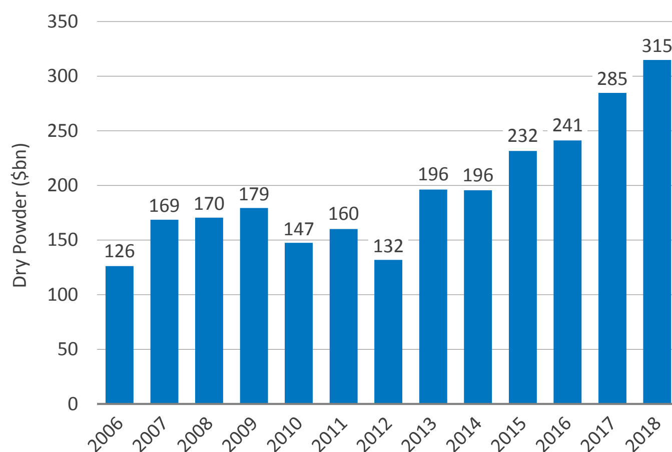
© 2019 Fund Evaluation Group, LLC

GLOBAL ANNUAL PRIVATE REAL ESTATE FUNDRAISING
2012–2018



Data source: Preqin; January 2019

GLOBAL PRIVATE REAL ESTATE DRY POWER



Data source: Preqin; January 2019

CONCLUSION

- Over the past decade, low interest rates and global monetary stimulus were critical support factors in the real estate market's recovery, and a potential reversal of these tailwinds could lead to a correction. The real estate recovery reflected both steadily improving fundamentals as well as investors' search for yield, which has positively impacted real estate values in major metropolitan markets and more recently in secondary markets.
- Despite cap rates being near record lows in many markets, commercial real estate continues to offer attractive yield spreads compared to 10-year government bonds. Moreover, broad demographic trends continue to impact real estate, including the rise of online retailing (retail and industrial sectors), shared work environments (office sector), and a desire for increased connectivity that is changing how and where people live and work (multi-family/apartment sector). FEG maintains a cautious outlook for the broad commercial real estate markets and continues to focus on identifying managers with theme-based, opportunistic strategies and a bias towards more defensive sectors.

FOOTNOTES

[1,2] NCREIF, January 25, 2019.
[3,4] Real Capital Analytics, Global Capital Trends, 4Q 2018.
[5,6] Preqin, January 2019.
[7] Grant, Peter, "Blackstone Aims to Throw Weight around with a Record Real Estate Fund," *The Wall Street Journal*, January 15, 2019.

© 2019 Fund Evaluation Group, LLC

NATURAL RESOURCES

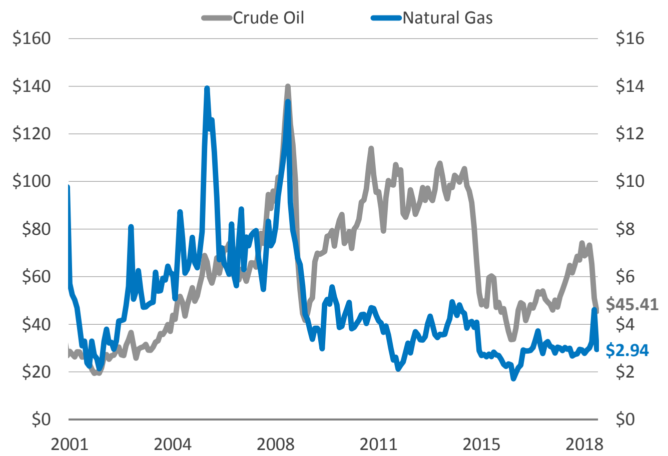
OIL PRICES

- A combination of record U.S. oil production and fears of slowing global economic growth led to a 38% decline in oil prices (WTI-spot) during the fourth quarter. Oil finished the year at $45/barrel, down from a multi-year high of $75/barrel in early October, representing the largest quarterly decline since 2014. In anticipation of sanctions against Iran, which took effect in November, oil prices reached $75/barrel by early October. The impact on global supply from the sanctions, however, was ultimately less than anticipated, primarily because the U.S. offered waivers to multiple countries, resulting in less supply coming out of the market. Despite efforts by OPEC to stem the decline (the cartel announced production cuts in December), prices failed to stabilize through year-end, as concerns about a trade war with China and broad weakness in the global equity markets weighed on prices.[1]

NATURAL GAS PRICES

- Natural Gas prices spiked briefly during the fourth quarter to their highest level in more than four years before retreating in December, finishing the quarter down 2.3%. For the full year, natural gas prices were unchanged at $2.95/MMBtu. Natural gas inventories, which reached their lowest mid-winter levels in over a decade, set the stage for the rally, which was driven by colder-than-normal weather in the fall. Furthermore, storage levels were lower due to a combination of nuclear outages, increased export demand, and rising natural gas utilization for power generation. Natural gas inventories remain approximately 20% below levels from one year ago and below the five-year average.[2]

CRUDE OIL AND NATURAL GAS PRICES



Data source: Bloomberg, L.P.

PRIVATE ENERGY PERFORMANCE

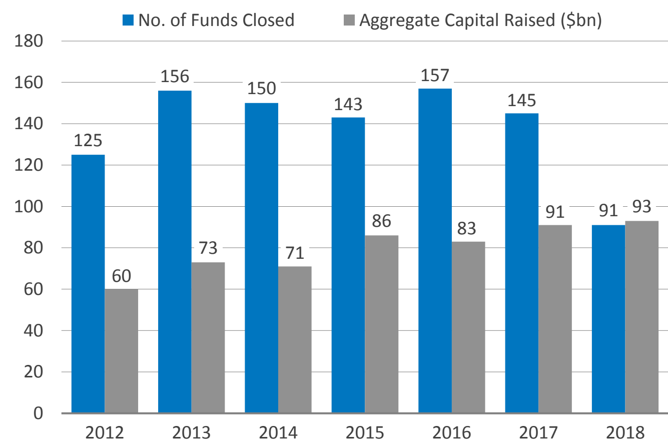
- Private energy funds are generally better-positioned to weather the recent downturn in commodity prices than their publicly-traded counterparts. Several factors could work in their favor, including private energy portfolio companies' lower debt-to-capitalization ratios, which depending on the company are in the range of approximately 20-30%, with some having no leverage. Additionally, private energy managers invest in a combination of both oil and natural gas, and as mentioned previously, natural gas held up much better than oil in the fourth quarter and for the year. Private equity funds generally utilize some degree of hedging to protect against commodity price downturns, which could offset some of the impact from lower oil prices. Finally, private energy managers are under no pressure to sell assets into this market and will only selectively do so in situations that make sense.
- Results for private energy funds are generally available late in the first quarter following year-end. Notwithstanding the aforementioned factors, FEG does expect to see some markdowns in reserves and valuations when private energy funds report their year-end numbers, reflecting sharp declines in oil prices during the fourth quarter. However, FEG expects these declines to be significantly less than those seen in the underlying commodities.

© 2019 Fund Evaluation Group, LLC

FUNDRAISING

- The fundraising environment for private energy continues to be dominated by mega-funds, with Quantum Energy Partners closing its eighth fund in August 2018 at its hard cap of $5.6 billion and KKR raising over $7.5 billion for its third infrastructure fund. Other groups currently in the market raising multi-billion-dollar energy funds include Energy Capital, Kayne Anderson, and Energy & Minerals Group.
- Private natural resources funds raised a record $93 billion in 2018, up from the prior high of $91 billion in 2017. The overall number of funds, however, fell from 145 in 2017 to 91 in 2018, reflecting the trend of ever-increasing fund sizes.[3] At $89 billion, energy-focused private natural resources funds represented nearly all the capital raised for private natural resources. Also, investor appetite for private energy remains strong, as evidenced by almost 60% of funds raised in 2018 exceeding fundraising targets.[4]

GLOBAL ANNUAL UNLISTED NATURAL RESOURCES FUNDRAISING 2011–2018



Data sources: Preqin, January 2019

EXIT ENVIRONMENT

- The exit market for private equity energy companies continues to evolve, driven by several factors. Historically, publicly-traded energy companies were the natural buyers of private equity-backed energy companies; however, the recent drop in oil prices, combined with energy companies' move toward greater capital discipline (preserving cash and paying down debt) resulted in diminished demand for assets held by private equity-backed firms. Additionally, with the rise of "mega funds" in private energy, there is an oversupply of assets for sale and concerns about their viability in the future should oil prices fail to rebound.
- While 2018 was a strong year for deals in U.S. energy, many of the biggest transactions, such as Concho Resources' $7.6 billion purchase of RSP Permian in the first quarter, were stock deals. Private equity energy managers typically prefer their companies to be purchased for cash, so they can return the proceeds to their own investors.[5]

CONCLUSION

- The U.S. energy environment continues to evolve, with record levels of production of oil and natural gas bringing both opportunities and challenges. The significant levels of capital raised by private energy funds will likely create increased competition for deals and challenges for managers in achieving their targeted returns. Moreover, the strategies pursued by private energy funds will need to evolve to reflect the current environment and will likely involve longer holding periods and fewer realizations in 2019 compared to 2018 due to lower oil prices. Performance for energy funds that deployed capital during the downturn of 2015-2016 has been strong, but many deals remain unrealized.

FOOTNOTES

[1] Amrith Ramumar, "Fears Loomed Large in Oil's Worst Quarter Since 2014," *The Wall Street Journal,* January 1, 2019.
[2] Core Commodity Management, Q4 2018 Commentary.
[3-4] Preqin, January 2019.
[5] Durden, Tyler, "Lack of Greater Shale Fools Leaves Private Equity in a Bidless Panic," ZeroHedge, January 24, 2019.

© 2019 Fund Evaluation Group, LLC

DISCLOSURES

This report was prepared by Fund Evaluation Group, LLC (FEG), a federally registered investment adviser under the Investment Advisers Act of 1940, as amended, providing non-discretionary and discretionary investment advice to its clients on an individual basis. Registration as an investment adviser does not imply a certain level of skill or training. The oral and written communications of an adviser provide you with information about which you determine to hire or retain an adviser. Fund Evaluation Group, LLC, Form ADV Part 2A & 2B can be obtained by written request directly to: Fund Evaluation Group, LLC, 201 East Fifth Street, Suite 1600, Cincinnati, OH 45202, Attention: Compliance Department.

The information herein was obtained from various sources. FEG does not guarantee the accuracy or completeness of such information provided by third parties. The information in this report is given as of the date indicated and believed to be reliable. FEG assumes no obligation to update this information, or to advise on further developments relating to it. FEG, its affiliates, directors, officers, employees, employee benefit programs and client accounts may have a long position in any securities of issuers discussed in this report.

Index performance results do not represent any managed portfolio returns. An investor cannot invest directly in a presented index, as an investment vehicle replicating an index would be required. An index does not charge management fees or brokerage expenses, and no such fees or expenses were deducted from the performance shown.

Neither the information nor any opinion expressed in this report constitutes an offer, or an invitation to make an offer, to buy or sell any securities.

Any return expectations provided are not intended as, and must not be regarded as, a representation, warranty or predication that the investment will achieve any particular rate of return over any particular time period or that investors will not incur losses.

Past performance is not indicative of future results.

Investments in private funds are speculative, involve a high degree of risk, and are designed for sophisticated investors.

An investor could lose all or a substantial amount of his or her investment. Private capital funds' fees and expenses may offset private capital funds' profits. Private capital funds are not required to provide periodic pricing or valuation information to investors except as defined in the fund documents. Private capital funds may involve complex tax structures and delays in distributing important tax information. Private capital funds are not subject to the same regulatory requirements as mutual funds. Private capital funds are not liquid and require investors to commit to funding capital calls over a period of several years; any default on a capital call may result in substantial penalties and/or legal action. Private capital fund managers have total authority over the private capital funds. The use of a single advisor applying similar strategies could mean lack of diversification and, consequently, higher risk.

All data is as of December 31, 2018 unless otherwise noted.

© 2019 Fund Evaluation Group, LLC

INDICES

The MSCI ACWI (All Country World Index) Index is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of developed and emerging markets. The MSCI ACWI consists of 47 country indexes comprising 23 developed and 24 emerging market countries.

The S&P 500 Index is capitalization-weighted index of 500 stocks. The S&P 500 Index is designed to measure performance of the broad domestic economy through changes in the aggregate market value of 500 stocks representing all major industries.

The NCREIF Property Index is a quarterly time series composite total rate of return measure of investment performance of a very large pool of individual commercial real estate properties acquired in the private market for investment purposes only.

HFRI ED: Distressed/Restructuring Index
Distressed/Restructuring strategies which employ an investment process focused on corporate fixed income instruments, primarily on corporate credit instruments of companies trading at significant discounts to their value at issuance or obliged (par value) at maturity as a result of either formal bankruptcy proceeding or financial market perception of near term proceedings. Managers are typically actively involved with the management of these companies, frequently involved on creditors' committees in negotiating the exchange of securities for alternative obligations, either swaps of debt, equity or hybrid securities. Managers employ fundamental credit processes focused on valuation and asset coverage of securities of distressed firms; in most cases portfolio exposures are concentrated in instruments which are publicly traded, in some cases actively and in others under reduced liquidity but in general for which a reasonable public market exists. In contrast to Special Situations, Distressed Strategies employ primarily debt (greater than 60%) but also may maintain related equity exposure.

Information on any indices mentioned can be obtained either through your consultant or by written request to information@feg.com.

© 2019 Fund Evaluation Group, LLC

RESEARCH AND PORTFOLIO MANAGEMENT TEAM

LILLIAN B. AMBROSIUS
Research Analyst
Global Equities

CHERYL A. BARKER
Senior Research Liaison
Global Equities

NOLAN M. BEAN, CFA, CAIA
Managing Principal
Head of Institutional Investments

KEITH M. BERLIN
Senior Vice President
Director of Global Fixed Income and Credit

PATRICK BONNELL
Research Analyst
Global Fixed Income and Credit

CHRISTIAN S. BUSKEN
Senior Vice President
Director of Real Assets

KEVIN J. CONROY, CFA, CAIA
Vice President
Hedged Strategies

MATT DENBLEYKER
Vice President
Real Asset Research Analyst

BRAD DERFLINGER, CFA
Vice President
Assistant Portfolio Manager,
Risk Management

GREGORY M. DOWLING, CFA, CAIA
Managing Principal
Chief Investment Officer,
Head of Research

SUSAN MAHAN FASIG, CFA
Managing Principal
Portfolio Manager, Private Investments

ANTHONY L. FESTA, CFA
Managing Principal
Head of Portfolio Strategy

MICHAEL B. FRANKE, CFA, CAIA
Senior Research Analyst
Hedged Strategies

ANANYA HANDA
Research Analyst
Global Fixed Income and Credit

EMILY C. HOGYA
Senior Portfolio Analyst
Portfolio Management

BRIAN A. HOOPER
Vice President
Global Equities

GREGORY D. HOUSER, CFA, CAIA
Director
Research

XAVIER A. JIMENEZ
Research Analyst
Real Assets

MARK A. KOENIG, CFA
Senior Vice President
Director of Quantitative Analysis

J. ALAN LENAHAN, CFA, CAIA
Managing Principal
Chief Investment Officer,
Head of Portfolio Management

CHARLIE W. LUECKE
Senior Research Analyst
Private Equity

LAUREN M. MAYERNIK
Research Analyst
Private Equity

SEAN P. MCCHESNEY
Vice President
Hedged Strategies

MICHAEL J. O'CONNOR, CFA, CAIA
Vice President
Assistant Portfolio Manager,
Public Investments

BENJAMIN C. SULLIVAN
Research Analyst
Global Equities

G. SCOTT TABOR, CAIA
Senior Vice President
Private Capital

STEVEN G. THIEME, CFA, CAIA
Senior Research Analyst
Hedged Equity

NATHAN C. WERNER, CFA, CAIA
Senior Vice President
Director of Private Equity

201 East Fifth Street
Suite 1600
Cincinnati, Ohio 45202

513.977.4400
information@feg.com
www.feg.com

Cincinnati | Dallas | Indianapolis

Subscribe to FEG's communications at ***www.feg.com/subscribe.***

The CFA designation is a professional certification issued by the CFA Institute to qualified financial analysts who: (i) have a bachelor's degree and four years of professional experience involving investment decision making or four years of qualified work experience[full time, but not necessarily investment related]; (ii) complete a self-study program (250 hours of study for each of the three levels); (iii) successfully complete a series of three six-hour exams; and (iv) pledge to adhere to the CFA Institute Code of Ethics and Standards of Professional Conduct.

The Chartered Alternative Investment Analyst Association® is an independent, not-for-profit global organization committed to education and professionalism in the field of alternative investments. Founded in 2002, the CAIA Association is the sponsoring body for the CAIA designation. Recognized globally, the designation certifies one's mastery of the concepts, tools and practices essential for understanding alternative investments and promotes adherence to high standards of professional conduct.

Research and Portfolio Management Team as of date of publication.

© 2019 Fund Evaluation Group, LLC