ANGELO GORDON

# CAPITAL MARKETS PERSPECTIVES

FOURTH QUARTER 2019

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ANGELO GORDON is a privately-held registered investment advisor dedicated to alternative investing. The firm was founded in 1988 and currently manages approximately $34 billion. We seek to generate absolute returns with low volatility by exploiting inefficiencies in selected markets and capitalizing on situations that are not in the mainstream of investment opportunities. We creatively seek out new opportunities that allow us to remain a leader in alternative investments.

We have expertise in a broad range of absolute return strategies for both institutional and high net worth investors. Our dedicated team of employees seeks to deliver consistent, positive returns in all market environments. We have built our name on our breadth of talent, intensive research and risk averse approach to investing. Our long-term experience gives us the insight and patience to turn our vision into profitable, stable businesses.

# CO-CIO OVERVIEW

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Through the third quarter of 2019, global equity markets maintained their strong performance, with the S&P 500 Index returning 20.6% year-to-date and the Euro Stoxx 50 and FTSE 100 Indexes gaining 22.9% and 14.3%, respectively. Credit markets also performed strongly through the first nine months of 2019, with U.S. and European loan indices generating mid- to upper-single digit returns and high yield indices providing returns in the low-teens. Slowing global growth, the escalation of trade tensions, falling interest rates, and attacks on oil supplies all contributed to market swings throughout the quarter, but despite intra-period volatility, the equity and debt markets ended higher in both Europe and the United States.

In last quarter's commentary, we highlighted what appeared to be conflicting signals across markets. On the one hand, we witnessed rapidly declining Treasury yields in response to concerns over stagnating growth expectations and increasing macro uncertainty. At the same time, equity market indices remained centered around all-time highs, and we saw significant credit curve compression as investors continued their unrelenting search for yield. During the first half of 2019, although dispersion remained at the margin, we started to note some emerging changes across corporate credit markets, namely investors' growing preference for higher-quality ratings, larger issuances, and more liquid/traded securities. While not sustaining trends at the time, several of those indicators suggested a growing dispersion underlying the aggregate market data. In the third quarter, however, divergence became more evident.

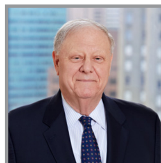
A few examples and observations. In the first half of the year, compression was the driving force in the market, with BB, B, and CCC bonds up 10.5%, 10.0%, and 8.8%, respectively, in the U.S., reflecting a trending market in which there was minimal differentiation. In contrast, from June to September, spreads for higher-quality U.S. leveraged loans tightened 25 basis points to 35 basis points, whereas the spread on the lowest-rated (split B/CCC) cohort expanded over 300 basis points. The J.P. Morgan U.S. High Yield Index returned 10.9% over the nine months ended September 30, 2019; within that period, BB bonds generated a 12.5% gain, while CCC bonds returned 500 basis points less at 7.5%. In both the U.S. and Europe, sectors now trade less closely with each other, performance has decoupled, and single-name dispersion within areas such as energy, retail, and healthcare has widened. Year-to-date through September, U.S. high yield bond funds have reported over $15 billion of inflows, versus $29 billion of outflows for U.S. loan funds. These figures are sharp reversals from the flow trends in 2018.

We do not know if this increase in dispersion is merely confirmatory of being later in the cycle, or if it will be predictive of a turn in the cycle. Regardless, this broadening range of activity creates greater opportunities for us to identify attractive investment opportunities – in both the United States and Europe – through our deep fundamental credit capabilities and decades of market experience. It also reminds us, though, of the risks that changing markets can create and the importance of focusing on downside protection and portfolio positioning.

Facing dueling dynamics of ongoing geopolitical concerns and an easing macro environment, real estate continues to chug along. In the U.S., sales volumes are down slightly – mostly due to declining public entity level transactions following the year-to-date rally in REIT shares – but the financing market remains a viable alternative for real estate owners, with rates low and lenders actively deploying capital. Fundamentals continue to remain stable, with rents still growing – albeit moderately – and occupancy leveling out. The U.S. markets continue to see the strongest price movement in asset classes typically least impacted by a recession, including manufactured housing, self-storage, and student/senior housing.

The European markets are defined by improving operating performance in the face of a slowing economy, which could eventually lead to declining fundamentals from the demand side. Lease up statistics as well as rent growth remain robust, and vacancy rates are near cyclical lows. Property values continue to be bolstered by low or negative interest rates and a search for yield. How long property values continue to run and net operating income (NOI) growth continues to trend up is hard to reconcile with the declining economy and continued political uncertainty, which is led by Brexit. Following the October 31st Brexit deadline, we expect more clarity could lead to increased corporate confidence and increased spending, which could short circuit the eventual property market decline that we would otherwise expect in a drawn-out political stalemate.

In Asia, Japan's real estate market remains robust across all commercial asset types, while GDP grew – though at a declining pace – as global demand and business sentiment weakened. Tokyo and the regional cities are seeing both office and industrial vacancies at extremely low levels, driving considerable rent growth. China continues to struggle with slowing growth as a result of the ongoing trade tensions, but stimulus measures continue to support real estate. Fundamentals continue to perform well, but leasing activity has slowed from the resulting uncertainty. Social unrest in Hong Kong has presented significant challenges to real estate in the third quarter, with leasing and sales activity down meaningfully across both commercial and residential. Low vacancy rates continue to bolster near-term performance; however, longer term, we would look for a slowdown in rents and occupancies if a resolution is not achieved. In South Korea, the market remains attractive for operating performance, with the office market in Seoul experiencing the lowest vacancies in seven years and Korean institutions continuing to deploy capital into real estate as a strong yield alternative to government bonds.



**Michael Gordon**
CEO, Co-Chief Investment Officer

**Josh Baumgarten**
Co-Chief Investment Officer, Head of Credit

**Adam Schwartz**
Co-Chief Investment Officer, Head of Real Estate

ANGELO GORDON

Maureen D'Alleva
Portfolio Manager

## PERFORMING CREDIT

Leveraged loans experienced yet another positive quarter, with the J.P. Morgan index returning 1.03% in the third quarter of 2019 – making this the first quarter this year that the asset class has outperformed high yield, which returned 0.91%. Loan market conditions weakened in October, with prices declining to an average of $95.70 – approaching the price levels experienced in January of 2019. The third quarter was the second consecutive quarter where – with the exception of energy and metals & mining – performance was positive across all industries. As a reminder, the energy sector, which has been under intense pressure, comprises only 3% of the leveraged loan index, versus over 13% of the high yield index. Technology, services, and healthcare remain the three largest weightings within the leveraged loan index. Additionally, performance was positive across all ratings aside from split-rated B/CCC. Also of note was the uptick in the percent of the index trading above par to approximately 34%.

The positive performance of the asset class through September is notable given the steady outflows from loan funds and the expectation of further rate cuts. Outflows continued during the quarter, although late in September, the 43-week streak of consecutive outflows paused with a week of inflows. Year-to-date outflows are nearly $30 billion, and outflows since the beginning of the fourth quarter of last year total approximately $50 billion. While fund flows merit monitoring, it is also important to recall that in periods of time in which fund outflows put pressure on loan pricing, experienced and disciplined managers may be able to take advantage of market conditions to purchase more attractively priced credits. In addition, loan fund AUM represents a small percentage of the overall loan market at approximately $120 billion of the nearly $1.2 trillion loan market; CLOs remain a much more critical component of the market as they hold close to $650 billion in leveraged loans. During the third quarter, CLO issuance declined versus the previous two quarters, but year-to-date volume of $90 billion has provided ample demand to the loan market. The supply side of the equation has also provided support. Year-to-date gross loan issuance – totaling $250.6 billion – and net loan issuance – totaling $154.2 billion – are down 58% and 35%, respectively, from a year ago, and for the first time in over five years, leveraged loan demand is outstripping supply. Finally, from a fundamental perspective, default rates remain extremely low at approximately 1.4%, representing a decline of approximately 30 basis points year-to-date.

Ryan Mollett
Global Head of Distressed & Special Situations

Dan Pound
Co-Portfolio Manager

## DISTRESSED DEBT

The U.S. and European high yield markets both added modest gains in the third quarter of 2019 and extended their strong year-to-date performance. U.S. high yield rose 0.9% for the quarter, increasing its year-to-date return to 10.9% through September. Euro-currency high yield delivered a 1.1% gain in the third quarter and a 9.0% gain over the first nine months of 2019.

Globally, higher-quality issuers further widened their performance leadership over lower-quality counterparts. In the first nine months of 2019, BB rated bonds out-returned CCC rated bonds 9.5% to 7.7% in Europe and by a wider margin – of 12.5% to 7.5% – in the U.S. Notably, from June to September, BBs gained 1.8%, while CCCs lost 1.2% in U.S. high yield. During the third quarter, the themes of higher-quality, larger size, more liquid, and lower-yielding continued their relative outperformance. While quarter-to-quarter changes in spreads were varied by credit rating in the European market, there was a more discernable directional pattern in the U.S., with a 135-basis point widening in CCC/split CCC spreads – a sharp contrast to modestly tighter spreads for high-rated cohorts.

U.S. and European high yield default rates remain low and below long-term averages; however, activity in the U.S. has been elevated since June of this year. Nearly $16 billion of loans and bonds defaulted in the third quarter 2019, representing the fourth quarter-over-quarter increase in the past five quarters and the highest level since the first quarter of 2018 (which included the iHeartMedia filing) and the first quarter of 2016 (the energy-driven "micro-cycle"). In addition, despite the double-digit return of U.S. high yield year-to-date, distressed bonds – trading less than or equal to $70 – surpassed 5% of the high yield universe in September, triple the amount from the same period last year and the highest level since the third quarter of 2016. Energy, telecommunications, and healthcare accounted for over 75% of the high yield distressed universe.

U.S. high yield new issuance was again active in the third quarter of 2019, totaling $68 billion across 100 issuers and bringing year-to-date gross volume nearly 25% above the that of the first nine months of 2018. September's $31 billion of issuance was a two-year high and marked the first time in 19 months that volume exceeded the $30 billion threshold. In both Europe and the United States, refinancing continued to account for the majority of activity.

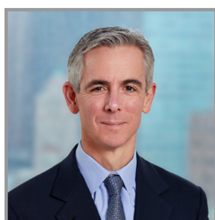
U.S. high yield mutual funds have reported inflows in seven of the first nine months of 2019. The year-to-date total of over $15 billion is notable given the $25 billion of outflows during the first nine months of last year. In comparison, U.S. loan funds recorded $29 billion of outflows through the third quarter and experienced a record 43 consecutive weeks of outflows, which ended in mid-September.

**Trevor Clark**
Portfolio Manager

## MIDDLE MARKET DIRECT LENDING

Syndicated middle market loan volume of just under $30 billion represented a more than 20% quarter-over-quarter decline, and refinancing volume was down over 30% versus the third quarter of last year. Issuance of $106 billion year-to-date puts the market on pace for the lowest total since 2016. During the third quarter, non-sponsored issuance declined more substantially than sponsored issuance, but at $63 billion through the first nine months of the year, is outpacing the $42 billion of sponsored issuance over the same time period. In a recent market survey, most lenders indicated that despite these declining volumes and despite volatility in the broadly syndicated loan market, overall conditions in the middle market were relatively unchanged. In the same survey, lenders who were able to meet their lending targets cited several reasons for doing so, including the ability to speak for big hold sizes, diverse origination sources, and add-on acquisitions. This highlights what we believe is a key aspect of the middle market, namely that it is a very large, diverse market and lenders who have differentiated, experienced platforms can continue to enjoy strong, consistent, high-quality deal flow, while other lenders may struggle to deploy capital or be forced to deploy into potentially weaker transactions with poor structures and/or high leverage. Despite a market that has attracted many new entrants over the last several years, a subset of lenders in the market have been able to shift the pendulum back in their favor with respect to terms by limiting EBITDA add-backs and pushing back on covenant-wide transactions.

With respect to the broader economy and portfolio performance, most lenders view their overall portfolios as stable, but some are citing signs of economic weakness in the capex numbers of their portfolio companies. Given overall economic conditions and continued trade war concerns, this is not surprising. Lenders have varied views on how best to protect capital in the middle market, with some believing the best approach is to avoid cyclical industries and an equal number believing being more senior in the capital structure is the best defense. While not directly cited in the survey, we believe relevant manager experience through a full cycle will prove to be critically important to a manger's ability to successfully manage through the next cycle.



**Todd Dittmann**
Portfolio Manager

## ENERGY

In retrospect, WTI's precipitous fall to $26 was not the most impactful result of OPEC's 2014 decision to battle U.S. shale for market share, a sustained doubling in the volatility of oil prices was. This increased volatility has caused a great unwind of investor interest in the energy capital markets; it happened piecemeal over the last three years, but now seems complete and potentially represents nothing less than the loss of substantially all the equity capital invested in the sector since the advent of large-scale shale drilling a decade ago.

As a result, investments highly correlated with increasingly volatile oil prices – specifically public equity and high yield debt – are shunned, driving valuations to twenty-year lows and debt yields ever wider. The number of companies about which investors simply do not care continues to grow. For most energy equities, there is no floor, and for most of the debt, there is no bid. The steep downward movements in the prices of these securities are not a case of short-term mispricings, but instead represent a longer-term secular shift away from the industry.

The withdrawal of capital has precipitated second-order effects such as a historically unprecedented demand for capital discipline, a cratering of the new issue markets, the effective elimination of a once robust asset sale market, a private equity exit problem and related fund raising difficulty, and a further retrenchment by the banks. This withdrawal of liquidity reflects a re-rating of risk and a dramatic increase in the cost of energy capital. Without ample debt and equity capital, the capital stack and strategy of most shale-based companies does not work. A steady flow of capital is vital to the model.

Even with increasing costs of capital, the larger the company, the cheaper the cost of capital, so consolidation must happen. Some of this has begun by way of merger of equal transactions, more of which should occur – although how many remains in question given the shellacking corporate buyers have taken at the hands of stockholders hoping for exits. Additionally, consolidation by attrition will likely emerge as a more common path, as issuers simply produce out of existence.

With respect to new investments, one must ask if this an investable industry and, if so, at which attachment points? In this environment, with very few exceptions, strong, established cash flow coverage is the only sensible criteria. For non-bank lenders, this means discounted reserve-based loans and new senior secured, top of capital structure, hedged loans that are priced at higher yields than ever before and repaid through robust amortization.

We believe the industry's cost of capital will continue to grow, even though the withdrawal of capital supply appears complete, because the demand for capital will grow – particularly for lifelines that provide runway. Entering October's borrowing base redeterminations, numerous oil and gas companies are far too highly drawn against availability. Likewise, there is a coming wall of maturities representing billions of dollars of issuance that must be dealt with starting next year. In this environment, the virtues of fortitude and patience are most necessary to a successful energy lending and distressed practice – fortitude because there is no reason to loosen lien, amortization, covenant, and other structural provisions; patience because there will be plenty from which to choose.

**TJ Durkin**
Co-Portfolio Manager

**Yong Joe**
Co-Portfolio Manager

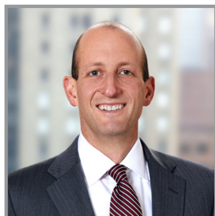
## RESIDENTIAL AND CONSUMER DEBT (RMBS/ABS)

Mortgage- and asset-backed sectors performed relatively well during the third quarter. Spreads for credit-risk transfer (CRT) subordinate tranches were meaningfully tighter, while mezzanine spreads were relatively unchanged. The sector saw some incremental spread tiering, as seasoned bonds with large price premiums to par were somewhat weaker given increased prepayment concerns amid lower prevailing mortgage rates. Despite these concerns, the new issue CRT market was very active and garnered significant investor focus, with several deals enjoying very strong oversubscription levels during the quarter. Legacy RMBS spreads were broadly unchanged, but the market's depth was apparent amid notably higher secondary volumes. Several auctions were well-attended, and larger blocks of bonds were easily absorbed by investors. There was also more clean-up call activity during the quarter. The down-in-credit theme in ABS continued, as investors reached for yield in subordinate and residual tranches, and new issue ABS offerings continued to be well-oversubscribed.

Quarterly new issuance of U.S. RMBS fell slightly to $28.3 billion, down 5% from the previous quarter, bringing year-to-date issuance to $86 billion. The Non-Qualified Mortgage (Non-QM) sector continued to post strong issuance growth, rising $1.9 billion, or 35%, from the second quarter. Year-to-date, the Non-QM new issue has grown significantly, rising 175% from the first nine months of 2018 to nearly $18 billion, and CRT rose 18% to $15.3 billion for the period. The Non-QM market remains well-positioned to grow as credit availability modestly expands to underserved, creditworthy borrowers whose profiles may not conform to agency and government mortgage underwriting criteria. U.S. ABS new issuance was $55.3 billion in the third quarter, a small decrease of 4% versus the third quarter of 2018.

Annual home price appreciation continued to moderate during the quarter. As of the latest reading, S&P CoreLogic Case-Shiller reported a 3.2% increase in national home prices year-over-year, down from 3.6% in the previous quarter and from 6.0% a year ago. Housing activity has remained somewhat mixed, as buyers continue to face affordability headwinds from rising prices and a limited stock of housing in lower- and middle-price tiers, although lower prevailing rates provided a small boost to activity during the quarter. While the inventory headwind has created challenges for buyers, it continues to be a source of support for home prices, as housing demand far exceeds the tight inventory available across much of the country.

Agency MBS spreads widened further versus benchmark rates during the third quarter, as the rally in interest rates continued to apply pressure in the form of increased gross supply, prepayment uncertainty, and implied volatility. Funding pressures into quarter-end also resulted in erosion of carry in the sector. While the Fed has stepped in to provide relief to funding markets, participants remain uneasy into year-end. Looking ahead, easier monetary policy globally and the continued reach for yield should serve as tailwinds for all fixed income.



**Andrew Solomon**
Portfolio Manager

## COMMERCIAL REAL ESTATE DEBT

CMBS spreads remained stable during the third quarter of 2019, despite some volatility in the broader markets. The trend of credit curve flattening also continued, as AAA-rated securities garnered the least support in the new issue market, while most BBB-rated new issue bond classes were multiple times oversubscribed. This trend was most pronounced on new issue Single Asset/Single Borrower transactions.

Another development during the quarter, which we expect to persist into year-end, was a wider than typical dispersion in new issue AAA spread levels. During the quarter, there was a ten-basis point difference between the tightest and widest last cash flow AAA; this spread differential is typically a few basis points. We believe this is a result of increased issuance volumes during the quarter – and anticipated strong issuance in the next several months – combined with the fact that the limited number of AAA buyers currently active has allowed them to be more selective in their investments. While it is typical to see tiering for credit bonds, it is much less common at the AAA level.

A total of $18.7 billion in private-label CMBS transactions were issued in the third quarter, a nearly 6% increase year-over-year. After a sluggish start to 2019, this issuance surge has brought year-to-date private-label issuance to nearly $56 billion, roughly in-line with the first nine months of 2018. We believe transactions already in the pipeline for the fourth quarter should easily bring annual volumes ahead of last year.

A few factors have led to the recent increase in issuance, including the more than 40-basis point decline in 10-year swap spreads. Commercial real estate owners have responded by actively locking in long-term financing at these historically low rates. In addition, the Trump administration proposed ending conservatorship for Fannie Mae and Freddie Mac in June, which led both agencies to pause on new multifamily lending. Non-Agency CMBS lenders were quick to step into this temporary funding gap helping to boost issuance further. We believe this was a temporary factor, as new lending caps for Fannie and Freddie were announced in September. These caps are not expected to impact multifamily lending behavior over the intermediate term.

There are a few recent developments that we believe are worth monitoring given their potential to create headwinds for certain commercial properties in the future. WeWork's failed initial public offering has investors questioning the company's viability. While WeWork is one of the largest office tenants in the U.S., its direct exposure in securitized loans appears limited – 37 loans totaling $3.5 billion list WeWork as one of their top five tenants. Forever 21 became the latest troubled retail tenant. The company recently filed for Chapter 11 bankruptcy and plans to close 178 locations across the country – 28 CMBS loans totaling $6.3 billion list one of the closing stores as a top five tenant. Each of these properties will be impacted in a unique way by these tenant difficulties, and drawing specific conclusions requires a loan by loan analysis.

**David Kamin**
Co-Portfolio Manager

## MERGER ARBITRAGE

After starting the year off with the second strongest first half in two decades, M&A volumes were down approximately 30% year-over-year in the third quarter, marking a five-year quarterly low. Another metric used to gauge the health of the M&A market is the number of deals announced, or deal count, which only declined 7% year-over-year. The reason for the difference between the declines in deal volumes and deal count is the notable absence of large deals, as the average deal size dropped to just under $2 billion – well below the twenty-year average of $4.5 billion. In the third quarter, just one deal that was announced had a target company with a market capitalization greater than $10 billion: the Viacom/CBS Corporation merger of equals. The cause of this decline is the multitude of headwinds global and/or mega-deals currently face. In addition to the U.S.-China trade dispute, which was discussed in our fourth quarter 2018 report, boardrooms are contending with the fear of a potential economic downturn, which were further fanned when the yield curve inverted in August; a still uncertain Brexit outcome; and a stalled approval process for the USMCA trade agreement.

While the above were headwinds in the third quarter and beyond for the M&A market, these and other idiosyncratic perceived risks presented opportunities for merger arbitrage investors during the quarter. The third quarter saw a total of over $215 billion in deal market capitalization close – most notably, Occidental Petroleum Corporation's acquisition of Anadarko Petroleum Corporation, IBM's purchase of Red Hat, Inc., and Array BioPharma Inc.'s sale to Pfizer Inc. Arbitrage investors had limited options to reinvest this capital given the slowdown of M&A activity during the quarter. This all helped tighten spreads, which finished the quarter at an average annualized net spread of 7%. Looking forward, the fundamental backdrop of M&A remains constructive with cheap, accessible financing and the need for sustained earnings growth; however, it is difficult to predict when the above headwinds will abate. Therefore, absent a sudden surge in announced M&A, spreads will continue to tighten in the fourth quarter, as arbitrage investors seek a return on their capital.

**Gary Wolf**
Portfolio Manager

## CONVERTIBLE ARBITRAGE

Global equity markets experienced another drop in August, followed again by a reversal in September, leading to a modest overall third quarter gain of 1.07% for the MSCI World Index in local currency terms. However, the rally was not as broad-based as in the second quarter, with several emerging markets giving back some of their year-to-date gains. Overall, credit market performance remained reasonably strong. Despite this supportive backdrop, convertible bonds only returned 0.19% during the quarter, as valuations suffered somewhat amid a surge in global new issuance. The HFRX Relative Value Fixed Income Convertible Arbitrage Index added 0.6% in the third quarter, pointing to modestly positive returns for hedged convertible strategies.

Primary market activity dominated proceedings in global convertibles during the third quarter. New deals totaling $28.8 billion hit the market – including $21.2 billion in the U.S., $4.8 billion in Europe, and $2.7 billion in Asia – in what was the strongest quarter for issuance since the second quarter of 2014. On a year-to-date basis, global transaction volume now stands at $69.4 billion.

The pace of new issuance, particularly in early September, caught benchmarked convertible investors by surprise, and as available cash levels were generally fairly low, market participants were seen reducing existing positions to accommodate the new supply. While the overall market remains somewhat expensive, in our view, the cheapening we witnessed has brought valuations down to much more reasonable levels in a number of securities we track. At the same time, the news flow – which included central bank policy updates, trade war developments, a shock to oil supply, another countdown to Brexit, and impeachment proceedings against the U.S. president – underpinned volatility levels in specific names and sectors.

**R Christian Wyatt**
Head of Multi-Strategy Research

## LIQUID CREDIT

High yield markets remained volatile in the third quarter. Spreads widened 50 basis points in the first half of the quarter, as trade tensions and weak economic data drove negative sentiment, and then compressed in the second half of the quarter, as trade tensions eased and central banks continued their dovish stance, resulting in overall cash spreads being unchanged quarter-over-quarter at 451 basis points. While high yield cash yields ended the third quarter at 6.1% – near year-to-date tights – the dispersion between BBs and CCCs closed at 674 basis points, the widest it has been in 10 years. This has partly been driven by the material underperformance of the energy sector, with a current default rate of 6.7% versus broader high yield at 2.2%. At $31 billion, September issuance was the largest it's been in two years, with a bulk of the issuance in the high-quality BB space. This supply coincided with strong passive inflows of $5.8 billion in September – $3.6 billion in ETFs and $2.2 billion in mutual funds.

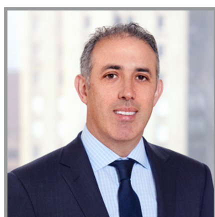
Investment grade markets were less volatile than high yield markets, as spreads tightened 2 basis points in the third quarter. The U.S. BBB market has increased 5.3x since 2007 and now represents 59% of all U.S. investment grade supply. Additionally, the BBB market is now 5.3x the size of the BB (high yield) market, the largest differential in the last 20 years. The BBB space ballooned in size from 2015-2018, largely driven by leveraging the M&A activity of low-growth businesses; deleveraging and debt paydown have been tepid following that M&A cycle. The significant growth in BBBs overall, the large amount of BBB leverage, and the lack of organic growth have led to increasing concerns about BBB credit quality and the potential migration to junk in a recessionary scenario. In turn, there is significant concern about what could happen to BB spreads in a recession given the relative size differential between BBB and BB and BB's inability to absorb a large number of BBB downgrades.

In specific sectors, high yield energy has suffered. The sector continues to decouple from the rest of the high yield market, as investors continue to question small- and mid-cap exploration and production (E&P) and oil field services businesses' ability to generate long-term free cash flow. Metals & mining moved sideways in the third quarter, as moderate downward moves in commodity prices were offset by strong balance sheets. The notable exception was a large sell-off in the integrated steel complex, with material volatility in steel intra-quarter. U.S. Steel and AK Steel both sold off materially, as the market contemplated capital markets risk in these names given funding plans and refinancing needs. The chemicals and aerospace & defense sectors were uneventful, as continued strong global growth supported chemical chains, and strong aerospace macro metrics supported the entire aerospace supply chain. The healthcare sector continued to be dominated by opioid litigation, as uncertainty around the ultimate size of opioid liabilities grew over the course of the third quarter, impacting several investment grade and high yield credits. Lastly, the telecom & media sector generally outperformed given the concentration of large, higher-rated structures. Meanwhile, lower-rated names also outperformed as the FCC continued to move forward with its C-band spectrum reallocation process and the market awaits the resolution of the T-Mobile/Sprint antitrust case.

**Gordon J. Whiting**
Portfolio Manager

## NET LEASE REAL ESTATE

As of the third quarter of 2019, the trailing 12-month U.S. single-tenant transaction volume totaled $76 billion, according to Real Capital Analytics (RCA). Industrial volume declined slightly quarter-over-quarter – down 2% – but remains at elevated levels, hovering above $30 billion. Following a large, multi-quarter increase, office volume flattened in the third quarter, while retail volume was down 3%. Overall, single-tenant volume was down modestly in the third quarter but has been north of $70 billion for the last four quarters. The single-tenant investment environment is attractive, with low interest rates and a healthy lending market. Aside from mild fluctuations quarter to quarter, cap rates have generally compressed, particularly in office and industrial. Since 2015, office and industrial cap rates are 45-60 basis points tighter, while retail cap rates have been flat, according to RCA. Lower cap rates have benefited the public net lease REIT sector, which is up 31% year-to-date, 6% more than the total REIT sector, according to Citi's October 2019 report. According to Stifel, several public net lease REITs are trading above net asset value (NAV), resulting in a favorable environment for issuing equity.



**Adam Schwartz**
Portfolio Manager
Head of Real Estate

**Reid Liffmann**
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U.S. Real Estate

## REAL ESTATE - UNITED STATES

Commercial property transactions in the third quarter of 2019 were 6% lower year-over-year, and year-to-date transaction activity lagged by 5%. Portfolio sales were up 50% year-over-year in the third quarter and helped narrow the gap, with Blackstone entities acquiring two industrial portfolios from GLP during the quarter – one of which was the largest industrial portfolio sale in history. Without these deals, portfolio sales would have been down 14% year-over-year. Entity level transactions were a detractor in the third quarter, as activity was minimal and last year included Brookfield's acquisition of mall owner GGP. The rally in REIT shares in 2019 and the resulting close of net asset value (NAV) discounts have muted some of the motivations for public entity level deals. However, the positive market performance of REITs has contributed to increased acquisition activity. After a relatively quiet 2018, REITs acquired 39% more property year-over-year through the second quarter, accounting for 10% of all volume year-to-date. On the other hand, foreign investors have pulled back year-to-date, with volume down 41% year-over-year through the second quarter, causing this cohort to be net sellers of U.S. property for the first time in seven years. Finally, ample debt capital availability combined with reduced borrowing costs has fueled refinancing activity in lieu of sales. In the 12 months ending June 30, 2019, 39% of all capital flows to commercial real estate were refinancings, as opposed to acquisitions or development.

The major property sectors saw mixed results. The industrial sector was the leader for growth in activity, up 63% year-over-year, as the aforementioned portfolio deals propelled the sector. Apartments remained the category leader in dollar volume, but activity shrank 7% year-over-year. The lodging sector was a notable outlier, as volumes grew 24%, while retail property volume suffered, down 55% year-over-year due to the difficult comparable from last year.

This decline in transaction volume is occurring against a backdrop of investor concern over both the absolute length of this economic expansion and the multiple ongoing geopolitical uncertainties that could tip markets into a recession should they not be resolved positively. However, with both the Federal Reserve Board and its global counterparts back in easing mode and low absolute yields, the macro environment remains supportive for commercial real estate pricing. Fundamentals remain stable across most property types and supply growth – as measured by starts relative to existing inventory – has begun to decline, though there continues to be pockets of overbuilding. Rent growth continues to moderate, and occupancy levels appear to have peaked.

On the valuation front, the Green Street Commercial Property Price Index was up 0.5% over the last three months and 1.8% over the trailing 12 months. Manufactured housing continued to lead the sector higher, rising 5% in the third quarter. Self-storage performed similarly this quarter, as cap rates declined. Some further separation occurred in retail, with malls losing 6% of value and strip retail increasing 1% over the trailing three months. Green Street Advisor's model, which tracks the relative value relationship between real estate and fixed income (investment grade and high yield), pegs real estate at about 5% undervalued. Fair value, however, varies significantly across sectors. Year-to-date, listed real estate equities have outperformed broader markets as well as private real estate and currently trade at a premium to NAV of 11%, though the core sectors of apartment, industrial, retail, and office, are priced at a 4% discount.

Perhaps the most notable event of the quarter in commercial real estate was the failed IPO of coworking unicorn WeWork. It's too early to gauge the potential fallout, but media reports have flagged several pending WeWork leases that subsequently were not executed. Additionally, we are aware of a handful of properties in the market for sale, where coworking presence has poured cold water on investor demand. In more mature markets such as Manhattan, where CBRE estimates flex office penetration is at 3.6%, flex office leasing momentum was already slowing amidst increased caution (1.3 million square feet in the first half of 2019 versus 5.5 million square feet in full year 2018), but the pullback could negatively impact market fundamentals. We expect there will be greater clarity on WeWork's prognosis over the next few months. Reports suggest SoftBank – WeWork's major investor – is infusing more capital into the business, so it isn't yet a forgone conclusion that there are near-term credit issues. Regardless, we remain convinced that amenitized buildings with flexible leasing arrangements will continue to attract tenants, but are cautious on the coworking concept and continue to consider their tenancy with prudence.

**Anuj Mittal**
Co-Portfolio Manager
Europe Real Estate

## REAL ESTATE - EUROPE

The economic situation in Europe continues to decline, with growth slowing to 0.1% in the third quarter. The composite PMI – one of the more reliable indicators of the economy – dropped to 50.1 in September, suggesting a stall in growth. The recent downturn in the services sector – which previously held up relatively well – points to the scope and severity of Europe's economic trouble. Germany's export-oriented economy was hit particularly hard, led by disappointing performance in the auto sector, now 15% below its peak. Lagging indicators, such as consumer confidence and employment, may start to show declines in the coming months. Negative interest rates persist across the continent, with negative-yielding debt totaling $8.7 trillion in Europe, more than half of the world's $17 trillion as of August. In hopes of turning around an economy on the cusp of a recession, the new European Commission president has laid out a reflationary vision for the region.

Despite the economic climate, real estate fundamentals have remained relatively strong. European office take-up reached 3.4 million square meters in the third quarter, pushing the annual take-up to 13 million square meters, down only 5% from a record 2018. Although rental growth slowed in the third quarter, annual rental growth stands at 4.2% – outperforming the 10-year average of 2.8% – and vacancy in the region dropped to 5.7%, the lowest level since the third quarter of 2002. Additionally, robust fundamentals and a positive income yield have supported continued investor demand for commercial real estate.

The U.K. experienced economic weakness in the third quarter, mainly caused by concerns about the impending Brexit deadline. Although the economy grew 0.4% quarter-over-quarter, an improvement from the 0.2% contraction in the second quarter, PMIs suggest more bad news to come. The services PMI dropped from 50.6 in August to 49.5 in September (declining more than the expected 0.3 points), the composite PMI fell from 50.2 to 49.3, and the all-sector PMI also declined. Consumer spending has dropped to 1.1% since the referendum, with most households delaying purchases of non-essential goods and services, and household savings ratios are increasing. The British Retail Consortium reported a like-for-like retail sales decline of 1.7% in September – significantly worse than recent averages and the lowest monthly figure since August 2009. The previously-strong labor market saw a reversal in the third quarter, with employment figures declining by 56,000 jobs – the first drop in two years – and wage growth weakening.

Real estate fundamentals have not been completely immune to Brexit uncertainty and the downward economic trend. Property funds experienced £2.7 billion in net outflows over the past 12 months, with £199 million of outflows in September. Nevertheless, Central London office take-up increased by 11% quarter-over-quarter and vacancy dropped to 4.1% in the third quarter. Across the U.K., all-property rental value growth increased by nearly 0.1% month-over-month in August – the strongest monthly rise since June 2018 – and remained unchanged on an annual basis at 0.1%. Minimal movement was fueled by increases in office and industrial rental value growth and the continued decline of retail rental values. The Brexit outcome will determine how quickly the real estate market and overall economy will rebound.

**Wilson Leung**
Portfolio Manager
Head of Asia Real Estate

**Steven Cha**
Co-Portfolio Manager
Asia Real Estate

## REAL ESTATE - ASIA

### Japan

Japan's GDP grew by 0.3% in the second quarter, down from 0.5% in the first quarter, as global demand and business sentiment weakened. The Bank of Japan is expected to maintain its current monetary policy, holding 10-year Japanese Government Bond yields at 0%. Meanwhile, the anticipated consumption tax increase from 8% to 10% took place on October 1st. With the government putting in place a multitude of support measures, the effect on consumption is expected to be muted compared to the previous rate increase from 5% to 8% in 2014. The office markets in Tokyo and Japan's regional cities continued to remain tight at near 0% vacancy, as demand kept pace with new supply. This supply-demand balance has been accompanied by solid rent growth, with regional cities recording new rental highs. Looking ahead, the office market is showing no signs of slowing down, with strong pre-leasing activity for new buildings under construction. The logistics market has also exhibited strong fundamentals, with vacancy in the Greater Tokyo area at only 2.7% after achieving record levels of net absorption. The Greater Osaka market – which saw vacancy rise to 18% in 2018 due to a concentration of new supply – has since recovered to only 7%. While investment volume was subdued in the first quarter, activity sharply rose in the second quarter, with several large transactions bringing first half 2019 transaction volume to $20 billion – in line with first half 2018 levels. Given current market conditions, corporate owners are increasingly finding this an opportune time to offload their non-core assets.

### China

In the second quarter of 2019, China's economy grew 6.2% year-over-year – 0.2% lower than the previous quarter, but in line with market expectations. U.S-China trade tensions coupled with slowing exports and industrial output growth continued to weigh on the Chinese economy. China has implemented a domestic stimulus program in the form of individual income tax and value-added tax cuts worth RMB 2 trillion as well as local infrastructure investments, which should benefit the economy. In terms of monetary policy, the People's Bank of China lowered the required reserve ratio for banks in September, marking its third reduction this year. On the real estate front, office fundamentals in large Chinese cities continued to be positive, underpinned by rapid growth in the services and technology sectors. However, trade tensions have begun to affect the leasing market, resulting in a softer leasing environment. In the second quarter, tier one cities – such as Beijing and Shanghai – saw subdued demand for office space, as large-size tenants and multinational corporations became more cautious about expansions. Nevertheless, vacancy rates and rents generally remained at healthy levels. In Beijing, specifically, the office market remained relatively tight due to a lack of supply, with vacancy edging up slightly to 6.9% and rents up 0.5% year-over-year. In Shanghai, core Central Business District Grade A office rents were down 3.6% quarter-over-quarter, and vacancy edged up 20 basis points to 13.1% due to new supply. Overall commercial real estate transaction volume in China was RMB 100 billion in the first half of 2019, down 16% year-over-year. Meanwhile, transaction volume in Beijing and Shanghai was up 16% year-over-year, as investors continued to have strong conviction in these core cities. Foreign investors accounted for about 50% of the total transactions and continued to be lured by China's strong economic growth, opportunities for diversification, and comparatively less competition from local buyers.

### Hong Kong

At 0.5% in the second quarter, Hong Kong's economy posted the slowest year-over-year growth since the global financial crisis, and the unemployment rate remained at a 20-year low of 2.8%. With ongoing U.S.-China trade tensions and social unrest caused by extradition law protests, Hong Kong's property investment market slowed significantly in the third quarter. Residential unit transaction volume fell a dramatic 40.3% quarter-over-quarter. Sellers, however, are relatively well-capitalized and have therefore been unwilling to cut prices significantly. In the third quarter, residential prices dropped 1.8% year-over-year and 4.3% from their historic high in June. The commercial property investment market recorded its worst performance in six years in the third quarter, with total transaction volume dropping to by 77% quarter-over-quarter. Office leasing demand continued to soften, as tenants held off on committing to relocations or expansions. Nevertheless, the office market remained tight, with Grade A office vacancy at 2.9% in Central, Hong Kong and 3.8% in Hong Kong overall. Office rents, however, recorded a slight decline of 2.9% quarter-over-quarter in Central and 1.7% quarter-over-quarter across Hong Kong.

### South Korea

In the second quarter, South Korea's economy grew 1.0% quarter-over-quarter, mainly led by increased investments, government expenditure, and exports. Due to economic headwinds, the Bank of Korea ("BoK") forecasts that the Korean economy will grow 2.2% in 2019. The BoK maintained its benchmark policy rate at 1.50%, which was lowered from 1.75% in July 2019 – the first rate cut in three years. On the real estate front, the spread between prime office cap rates and Korean government bond yields (i.e. 5-year treasury bond) widened approximately 20 basis points to 290 basis points, which is above the 10-year average of approximately 230 basis points. Investment activity in the commercial office sector remains robust. Transaction volume in the first half of 2019 was $5 billion, which exceeded that of the same period last year, when commercial office transactions reached a record high of $10 billion for the full year. We continue to expect strong demand for stabilized core properties, as Korean institutions ramp up their

investment portfolios with yield-generating real assets. The prime office vacancy rate in the major business districts in Seoul declined to 9.3% in the second quarter – the lowest level in seven years – on the back of expansionary and upgrade demand. The residential market in Seoul has slowed moderately, with Seoul apartment prices rising 3.1% year-over-year as of September 2019. The current government is implementing a new residential policy that includes tax reforms to curb speculative investment in the residential sector, which may impact future price growth.

**Arthur Peponis**
Portfolio Manager

## PRIVATE EQUITY

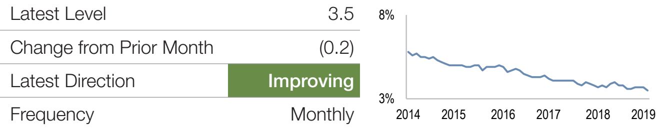
The private equity industry experienced weakness through the first nine months of 2019, with the exception of multiples paid, which continued its upward trajectory. For the first nine months of 2019, deal volume on both a global and North American basis decreased year-over-year. In North America, there were $155 billion of transactions in the first three quarters of 2019, as compared to $183 billion from the prior year – a year-over-year decrease of 15%. Global deal volume in the first nine months of 2019 decreased 21% year-over-year to $275 billion. Interestingly, dry powder at September 30th declined $15 billion to $723 billion – down from the all-time high of $738 billion at June 30, 2019. There have rarely been quarterly decreases in dry powder over the last five years. In the months ahead, we shall see if this is the beginning of a trend or just an anomaly. As previously stated, average multiples paid in the first three quarters of 2019 were quite strong at 11.5x EBITDA, higher than the 11.1x level during the first half of 2019 and the 10.6x achieved in calendar 2018. Average leverage for buyouts in the first nine months of 2019 was 6.0x multiple of EBITDA, which is slightly higher than the 5.8x we have seen over the prior three years. Equity contribution as a percentage of total capitalization was at 45%, which is also slightly higher than prior years. Average multiples paid for 2019 are on pace to set an all-time record, eclipsing the current record of 10.7x set in 2017. The combination of lower deal volume and a high level of dry powder is a driving factor for high deal multiples. The trend of lower exits in both volume and dollars continued from prior periods. In the first three quarters of 2019, the number of exits decreased approximately 10% year-over-year, with dollar volume decreasing approximately 13%, reflecting smaller monetizations. Baring exogenous factors, the private equity industry – despite lower levels of activity – should continue to experience high average multiples paid for deals.

# ECONOMIC DASHBOARD

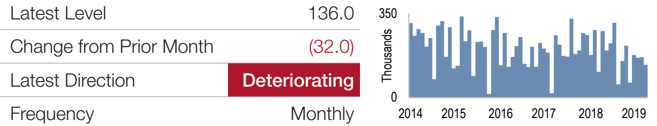
*Market Indices: Fourth Quarter 2019*

## JOB MARKET

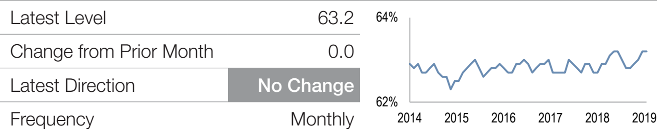
| Macro Economics | | Five-Year Trend |
|---|---|---|
| **U.S. – Unemployment Rate** | | As of 9/30/2019 |
| Latest Level | 3.5 | |
| Change from Prior Month | (0.2) | |
| Latest Direction | Improving | |
| Frequency | Monthly | |



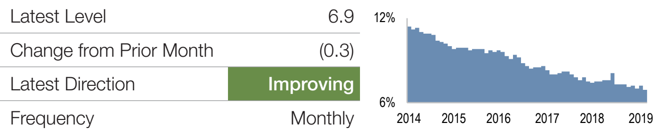

| **U.S. – Non-Farm Payroll** | | As of 9/30/2019 |
|---|---|---|
| Latest Level | 136.0 | |
| Change from Prior Month | (32.0) | |
| Latest Direction | Deteriorating | |
| Frequency | Monthly | |



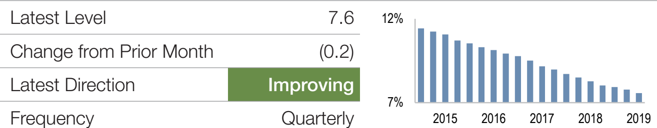

| **U.S. – Labor Participation Rate** | | As of 9/30/2019 |
|---|---|---|
| Latest Level | 63.2 | |
| Change from Prior Month | 0.0 | |
| Latest Direction | No Change | |
| Frequency | Monthly | |




| **U.S. – U-6 Unemployed & Margin & Part-Time as % of Labor Force & Margin** | | As of 9/30/2019 |
|---|---|---|
| Latest Level | 6.9 | |
| Change from Prior Month | (0.3) | |
| Latest Direction | Improving | |
| Frequency | Monthly | |

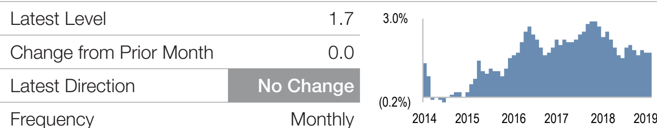



| **Eurozone Unemployment Rate** | | As of 6/30/2019 |
|---|---|---|
| Latest Level | 7.6 | |
| Change from Prior Month | (0.2) | |
| Latest Direction | Improving | |
| Frequency | Quarterly | |

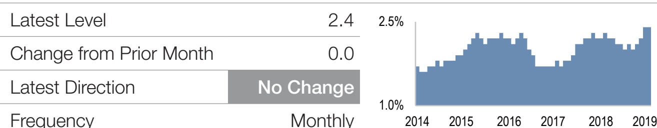



## INFLATION

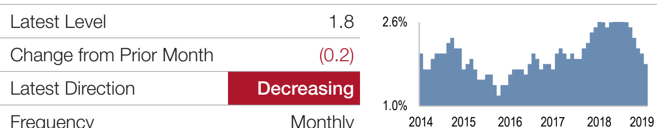
| Macro Economics | | Five-Year Trend |
|---|---|---|
| **U.S. Consumer Price Index (CPI) Y-o-Y %** | | As of 9/30/2019 |
| Latest Level | 1.7 | |
| Change from Prior Month | 0.0 | |
| Latest Direction | No Change | |
| Frequency | Monthly | |




| **U.S. CPI Goods Less Food and Energy Y-o-Y %** | | As of 9/30/2019 |
|---|---|---|
| Latest Level | 2.4 | |
| Change from Prior Month | 0.0 | |
| Latest Direction | No Change | |
| Frequency | Monthly | |



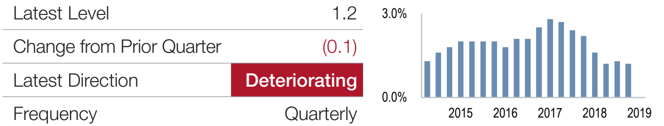

| **U.S. Producer Price Index (PPI) Y-o-Y %** | | As of 9/30/2019 |
|---|---|---|
| Latest Level | 1.8 | |
| Change from Prior Month | (0.2) | |
| Latest Direction | Decreasing | |
| Frequency | Monthly | |



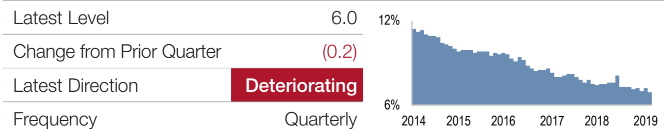

## GDP GROWTH

| Macro Economics | | Five-Year Trend |
|---|---|---|
| **U.S. – GDP Y-o-Y %** | | As of 9/30/2019 |
| Latest Level | 3.7 | |
| Change from Prior Quarter | (0.3) | |
| Latest Direction | Deteriorating | |
| Frequency | Quarterly | |

| **Eurozone – GDP Y-o-Y %** | | As of 6/30/2019 |
|---|---|---|
| Latest Level | 1.2 | |
| Change from Prior Quarter | (0.1) | |
| Latest Direction | Deteriorating | |
| Frequency | Quarterly | |

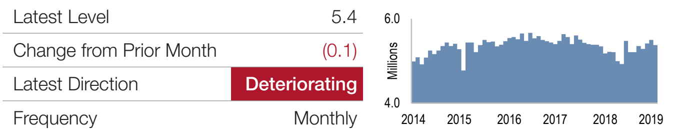



| **China – GDP Y-o-Y %** | | As of 9/30/2019 |
|---|---|---|
| Latest Level | 6.0 | |
| Change from Prior Quarter | (0.2) | |
| Latest Direction | Deteriorating | |
| Frequency | Quarterly | |

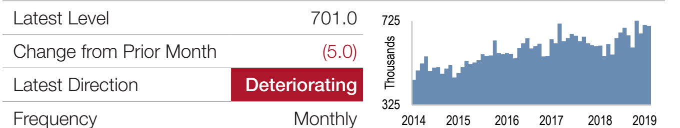



## HOUSING

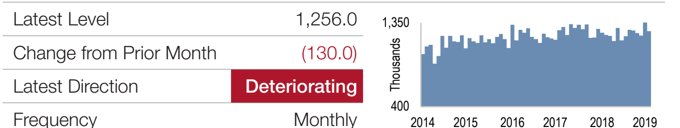
| Macro Economics | | Five-Year Trend |
|---|---|---|
| **Existing Home Sales** | | As of 9/30/2019 |
| Latest Level | 5.4 | |
| Change from Prior Month | (0.1) | |
| Latest Direction | Deteriorating | |
| Frequency | Monthly | |



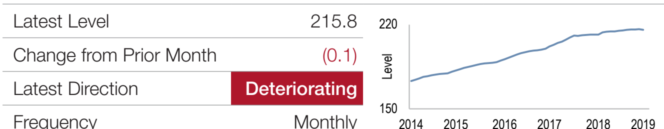

| **New Home Sales** | | As of 9/30/2019 |
|---|---|---|
| Latest Level | 701.0 | |
| Change from Prior Month | (5.0) | |
| Latest Direction | Deteriorating | |
| Frequency | Monthly | |




| **Housing Starts** | | As of 9/30/2019 |
|---|---|---|
| Latest Level | 1,256.0 | |
| Change from Prior Month | (130.0) | |
| Latest Direction | Deteriorating | |
| Frequency | Monthly | |




| **Case-Shiller Index of Home Value in 20 Cities** | | As of 8/31/2019 |
|---|---|---|
| Latest Level | 215.8 | |
| Change from Prior Month | (0.1) | |
| Latest Direction | Deteriorating | |
| Frequency | Monthly | |



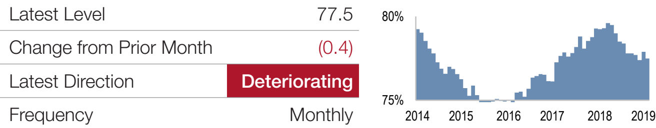

Source: Bloomberg (All).

"Latest Direction" is from the last "Frequency" measurement.

# ECONOMIC DASHBOARD *(continued)*

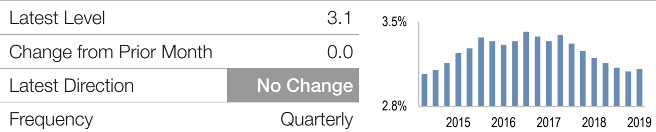
## ECONOMIC & MARKET CONFIDENCE

| Macro Economics | | Five-Year Trend |
|---|---|---|
| **Capacity Utilization as a % of Capacity** | | As of 9/30/2019 |
| Latest Level | 77.5 | |
| Change from Prior Month | (0.4) | |
| Latest Direction | Deteriorating | |
| Frequency | Monthly | |

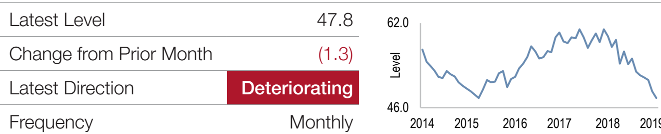



| **Private Fixed Investment Nonresidential SAAR** | | As of 9/30/2019 |
|---|---|---|
| Latest Level | 2,872.9 | |
| Change from Prior Month | (17.1) | |
| Latest Direction | Deteriorating | |
| Frequency | Quarterly | |

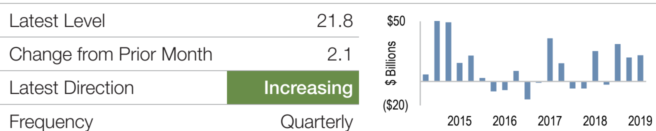
| **Residential Fixed Investment as a % of GDP** | | As of 9/30/2019 |
|---|---|---|
| Latest Level | 3.1 | |
| Change from Prior Month | 0.0 | |
| Latest Direction | No Change | |
| Frequency | Quarterly | |



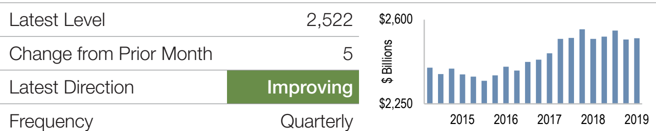

| **ISM Manufacturing Index** | | As of 9/30/2019 |
|---|---|---|
| Latest Level | 47.8 | |
| Change from Prior Month | (1.3) | |
| Latest Direction | Deteriorating | |
| Frequency | Monthly | |



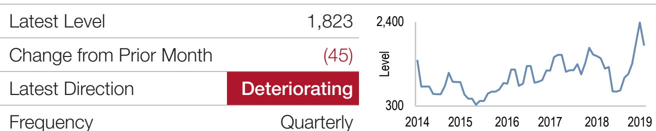

| **Manufacturing Inventory Change Q-o-Q $** | | As of 9/30/2019 |
|---|---|---|
| Latest Level | 21.8 | |
| Change from Prior Month | 2.1 | |
| Latest Direction | Increasing | |
| Frequency | Quarterly | |



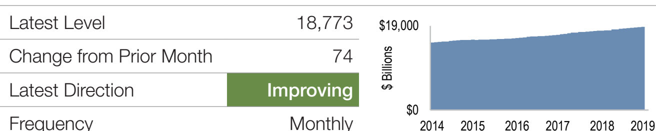

| **Exports of Goods/Services** | | As of 9/30/2019 |
|---|---|---|
| Latest Level | 2,522 | |
| Change from Prior Month | 5 | |
| Latest Direction | Improving | |
| Frequency | Quarterly | |



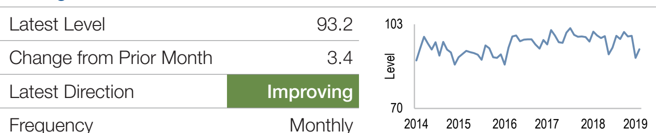

| **Shipping Rates** | | As of 9/30/2019 |
|---|---|---|
| Latest Level | 1,823 | |
| Change from Prior Month | (45) | |
| Latest Direction | Deteriorating | |
| Frequency | Quarterly | |




| **Personal Income Level** | | As of 8/31/2019 |
|---|---|---|
| Latest Level | 18,773 | |
| Change from Prior Month | 74 | |
| Latest Direction | Improving | |
| Frequency | Monthly | |

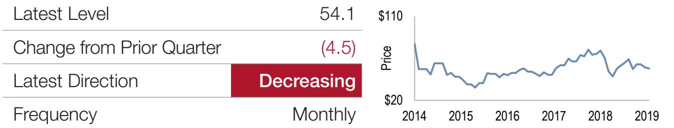



| **Michigan Consumer Confidence Sentiment** | | As of 9/30/2019 |
|---|---|---|
| Latest Level | 93.2 | |
| Change from Prior Month | 3.4 | |
| Latest Direction | Improving | |
| Frequency | Monthly | |

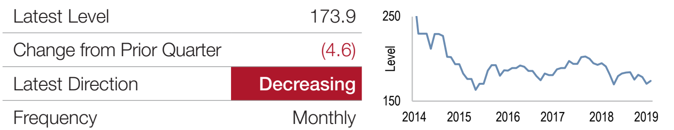



## COMMODITIES

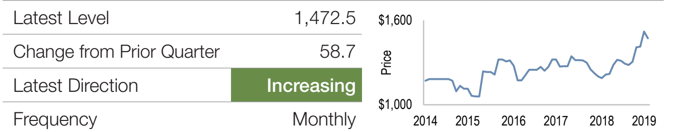
| Macro Economics | | Five-Year Trend |
|---|---|---|
| **WTI Crude Oil Price** | | As of 9/30/2019 |
| Latest Level | 54.1 | |
| Change from Prior Quarter | (4.5) | |
| Latest Direction | Decreasing | |
| Frequency | Monthly | |




| **Reuters/Jefferies Commodity Index** | | As of 9/30/2019 |
|---|---|---|
| Latest Level | 173.9 | |
| Change from Prior Quarter | (4.6) | |
| Latest Direction | Decreasing | |
| Frequency | Monthly | |

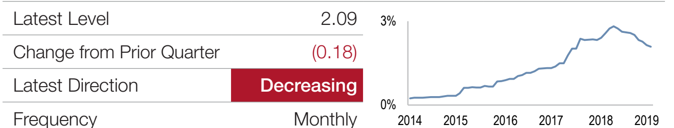



| **Gold** | | As of 9/30/2019 |
|---|---|---|
| Latest Level | 1,472.5 | |
| Change from Prior Quarter | 58.7 | |
| Latest Direction | Increasing | |
| Frequency | Monthly | |



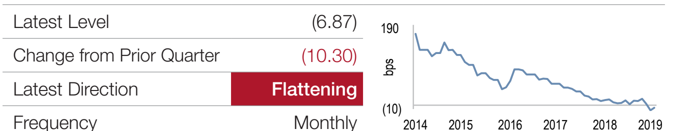

## RATES

| Macro Economics | | Five-Year Trend |
|---|---|---|
| **LIBOR 3M** | | As of 9/30/2019 |
| Latest Level | 2.09 | |
| Change from Prior Quarter | (0.18) | |
| Latest Direction | Decreasing | |
| Frequency | Monthly | |

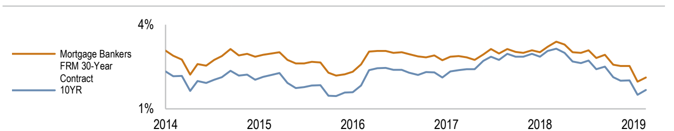



| **Treasury 10-Yr Yield** | | As of 9/30/2019 |
|---|---|---|
| Latest Level | 1.66 | |
| Change from Prior Quarter | (0.35) | |
| Latest Direction | Decreasing | |
| Frequency | Monthly | |

| **Swaps 2-Yr vs. 10-Yr** | | As of 9/30/2019 |
|---|---|---|
| Latest Level | (6.87) | |
| Change from Prior Quarter | (10.30) | |
| Latest Direction | Flattening | |
| Frequency | Monthly | |




**30-Yr Mortgage and 10-Yr Treasury** As of 9/30/2019



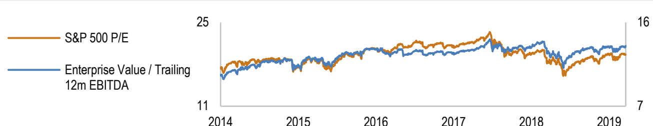

Source: Bloomberg (All).

"Latest Direction" is from the last "Frequency" measurement.

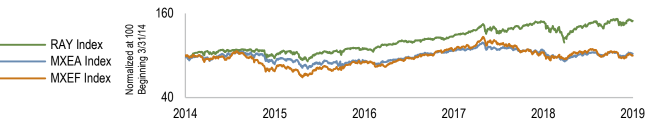
# ECONOMIC DASHBOARD *(continued)*

## EQUITY

| Macro Economics | | Five-Year Trend |
|---|---|---|
| **U.S. Equity Markets – Russell 3000** | | As of 9/30/2019 |
| Latest Level | 1,742.7 | |
| Change from Prior Month | (12.0) | |
| Latest Direction | Selloff | |
| Frequency | Monthly | |
| **U.S. Equity – VIX** | | As of 9/30/2019 |
| Latest Level | 16.2 | |
| Change from Prior Month | 0.1 | |
| Latest Direction | Increasing | |
| Frequency | Monthly | |
| **S&P 500 Percentage Exceeding Earning Estimates** | | As of 9/30/2019 |
| Latest Level | 75.0 | |
| Change from Prior Month | 0.4 | |
| Latest Direction | Increasing | |
| Frequency | Monthly | |
| **S&P 500 Historical Valuation Levels** | | As of 9/30/2019 |




| | | |
|---|---|---|
| **Trailing P/E on S&P 500** | | As of 9/30/2019 |
| Latest Level | 19.6 | |
| Change from Prior Month | 0.1 | |
| Latest Direction | Increasing | |
| Frequency | Monthly | |
| **Equity Markets – Euro Stoxx** | | As of 9/30/2019 |
| Latest Level | 384.2 | |
| Change from Prior Month | 8.3 | |
| Latest Direction | Increasing | |
| Frequency | Monthly | |
| **Equity Markets – MSCI EAFE** | | As of 9/30/2019 |
| Latest Level | 1,889.4 | |
| Change from Prior Month | (7.8) | |
| Latest Direction | Decreasing | |
| Frequency | Monthly | |
| **Equity Markets – MSCI EM** | | As of 9/30/2019 |
| Latest Level | 1,001.0 | |
| Change from Prior Month | (36.0) | |
| Latest Direction | Decreasing | |
| Frequency | Monthly | |
| **Russell 3000 – MSCI EAFE – MSCI EM** | | As of 9/30/2019 |



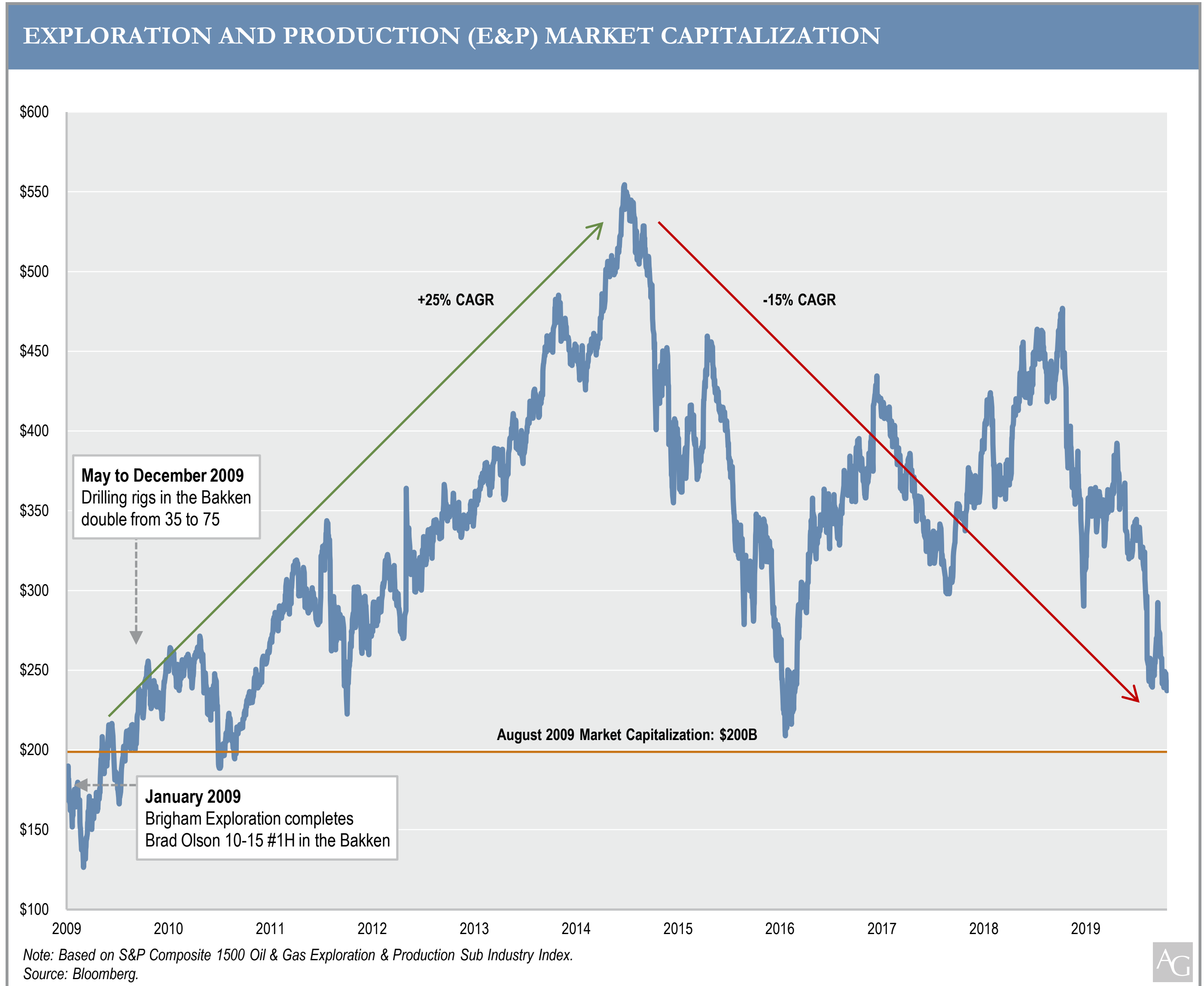

## FOREIGN EXCHANGE RATE

| Macro Economics | | Five-Year Trend |
|---|---|---|
| **Euro Spot Rate vs. 1 USD** | | As of 9/30/2019 |
| Latest Level | 1.09 | |
| Change from Prior Quarter | (0.02) | |
| Latest Direction | Deteriorating | |
| Frequency | Monthly | |
| **Yuan Spot Rate vs. 1 USD** | | As of 9/30/2019 |
| Latest Level | 0.1399 | |
| Change from Prior Quarter | (0.0054) | |
| Latest Direction | Deteriorating | |
| Frequency | Monthly | |
| **Yen Spot Rate vs. 1 USD** | | As of 9/30/2019 |
| Latest Level | 0.0093 | |
| Change from Prior Quarter | 0.0001 | |
| Latest Direction | Improving | |
| Frequency | Monthly | |

Source: Bloomberg (All).

"Latest Direction" is from the last "Frequency" measurement.

## EXPLORATION AND PRODUCTION (E&P) MARKET CAPITALIZATION

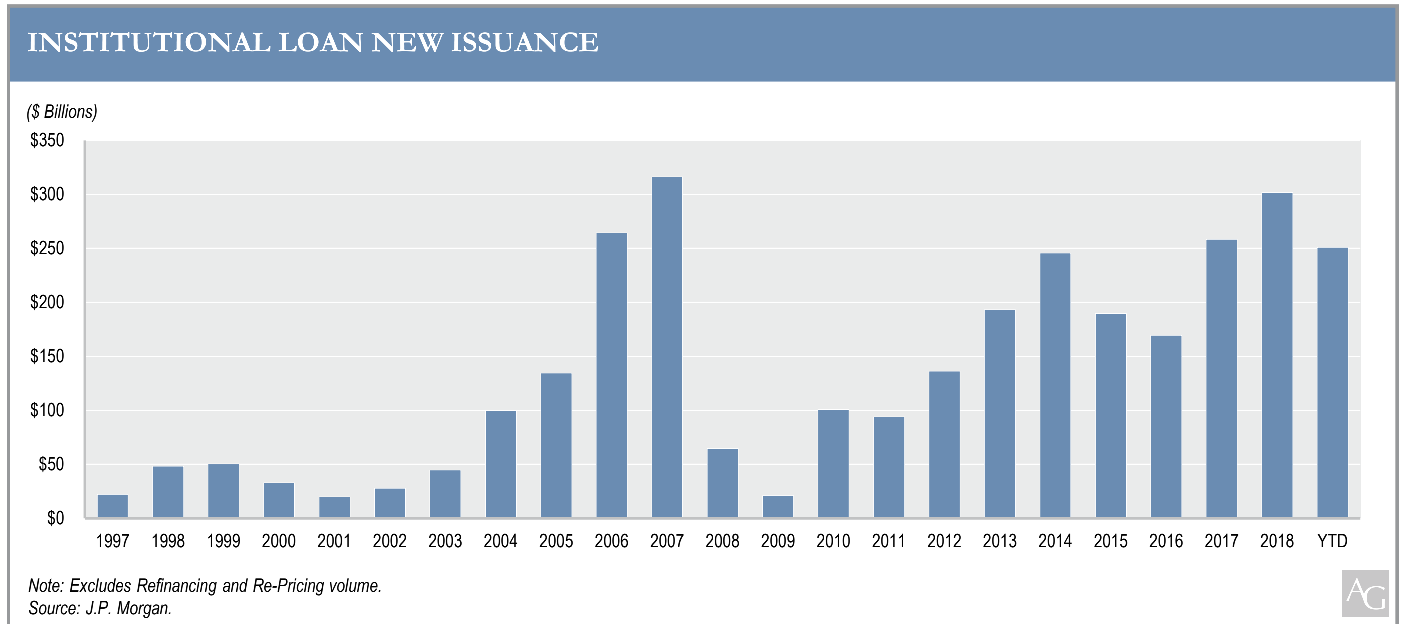



*Note: Based on S&P Composite 1500 Oil & Gas Exploration & Production Sub Industry Index.*
*Source: Bloomberg.*

**Since 2009, when Brigham kicked off the modern oil shale era, the aggregate market capitalization of U.S. oil and gas producers expanded by $350 billion to a peak of $550 billion. Unfortunately, since 2014, the market has unwound effectively all of those gains.**

# PERFORMING CREDIT

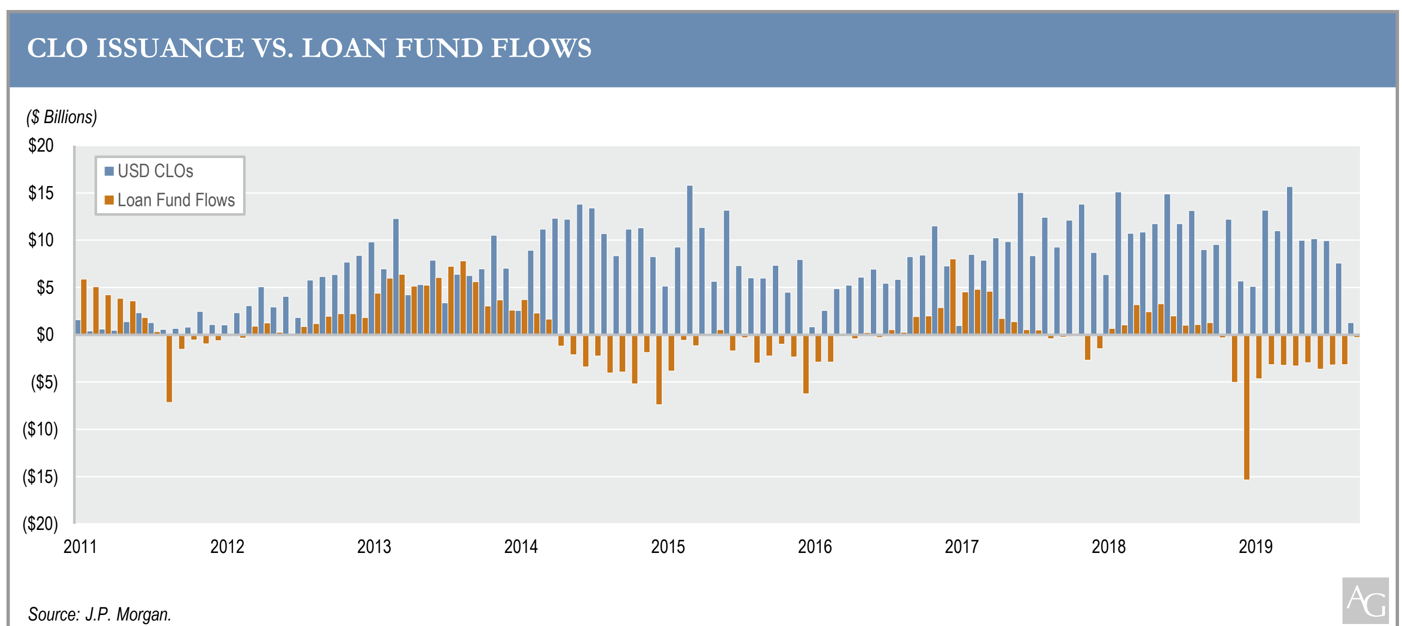
## INSTITUTIONAL LOAN NEW ISSUANCE




*Note: Excludes Refinancing and Re-Pricing volume.*
*Source: J.P. Morgan.*

**An uptick in new issuance in Q3 has led to full year projections exceeding the total issued in 2018.**

## CLO ISSUANCE VS. LOAN FUND FLOWS

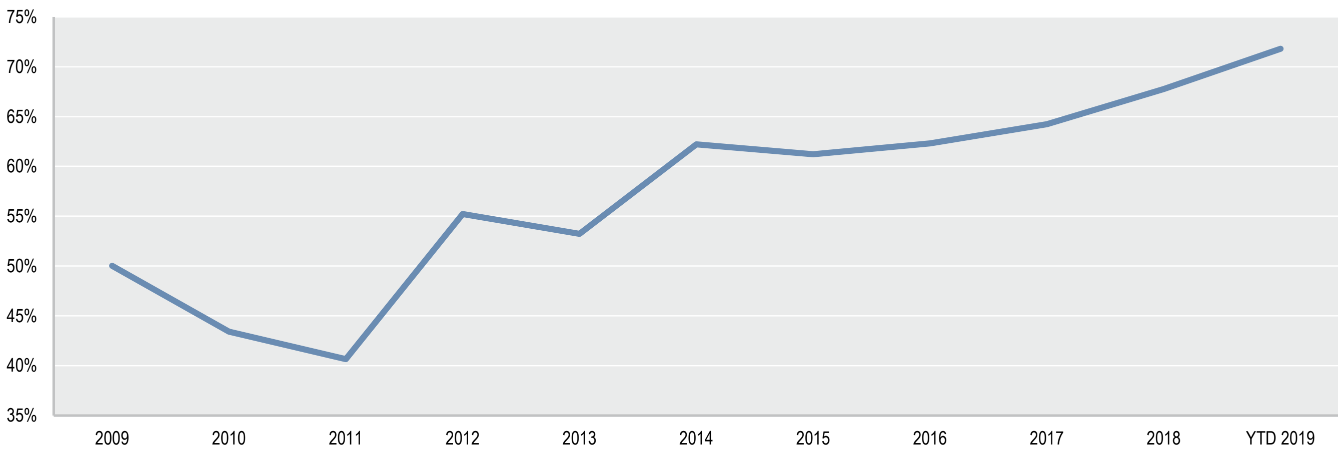



*Source: J.P. Morgan.*

**Although outflows from loan funds have been significant, they have been more than offset by continued strong CLO issuance.**

# PERFORMING CREDIT *(continued)*

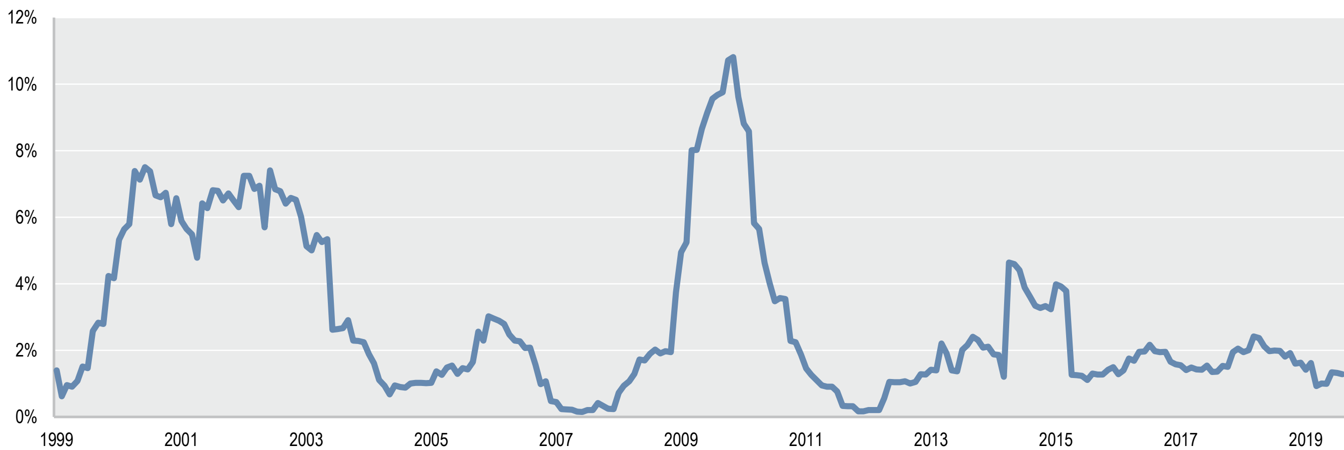
## CLO SHARE OF NEW ISSUE MARKET




*Source: S&P LCD.*

**CLO's share of the new issue loan market is up to a record level of 72%.**

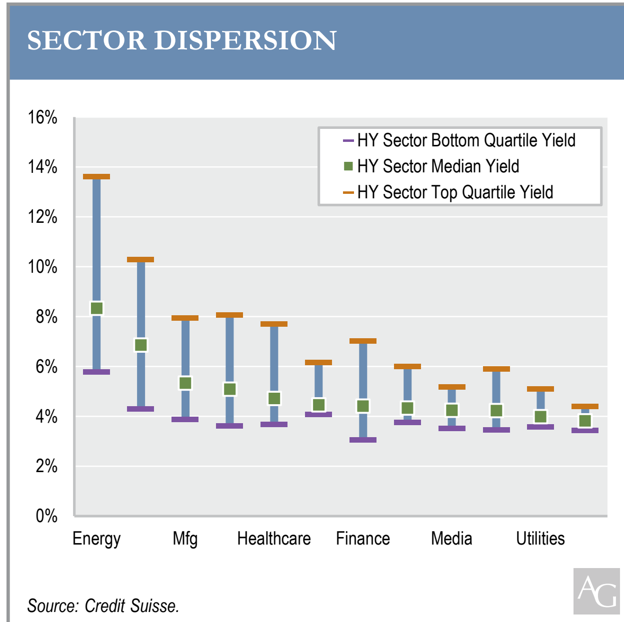
## S&P LOAN INDEX DEFAULT RATE



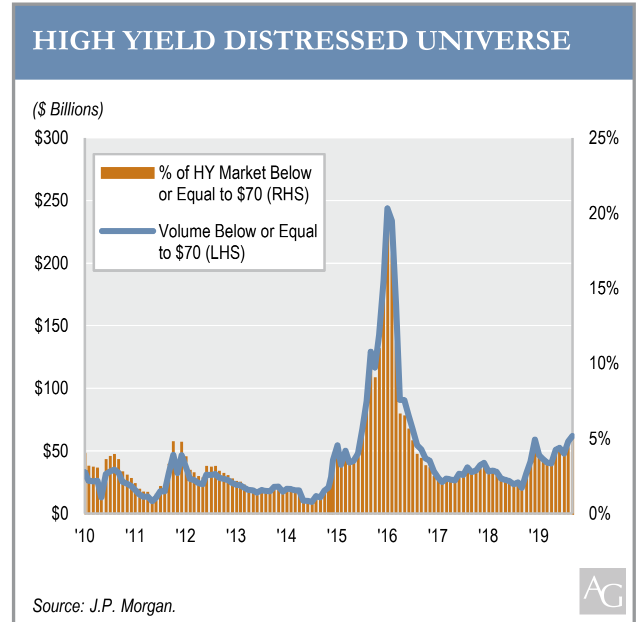

*Note: Last twelve-month default rate.*
*Source: Morgan Stanley Research, S&P LCD.*

**Default rates remain below 2% and are near post-crisis lows.**

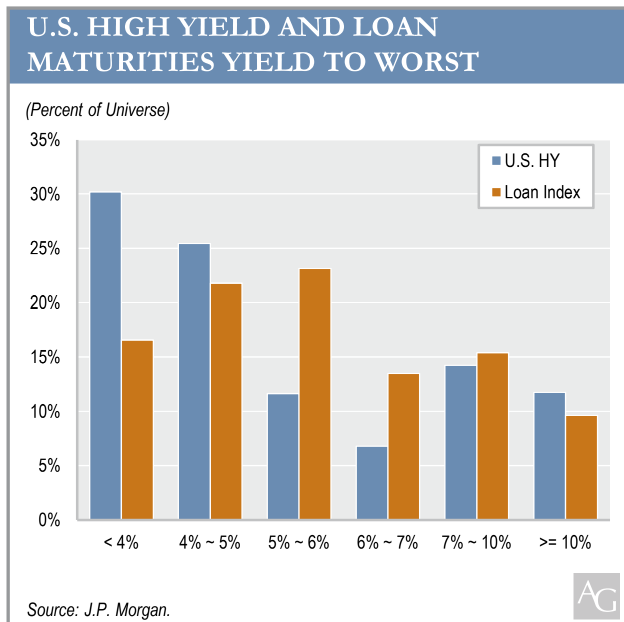
# DISTRESSED DEBT



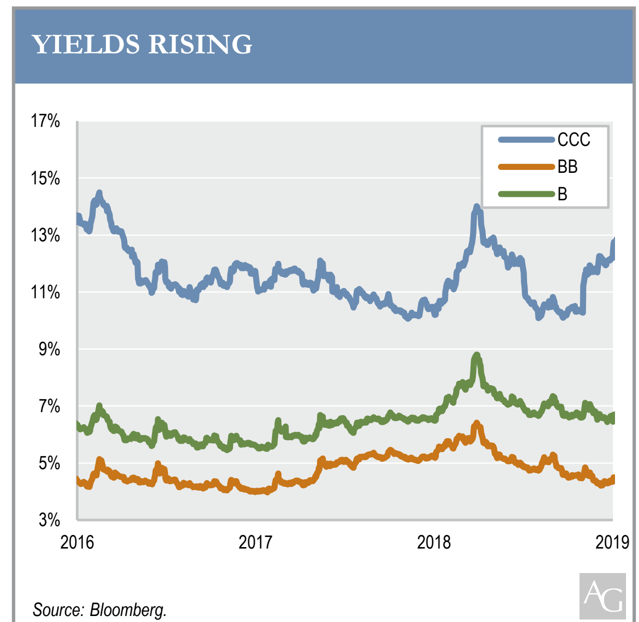

Dispersion is increasing in high yield, particularly in sectors undergoing fundamental change.




Distressed bonds (trading less than or equal to $70) surpassed 5% of the high yield universe, triple the amount from Q3 2018 and the highest level since Q3 2016.

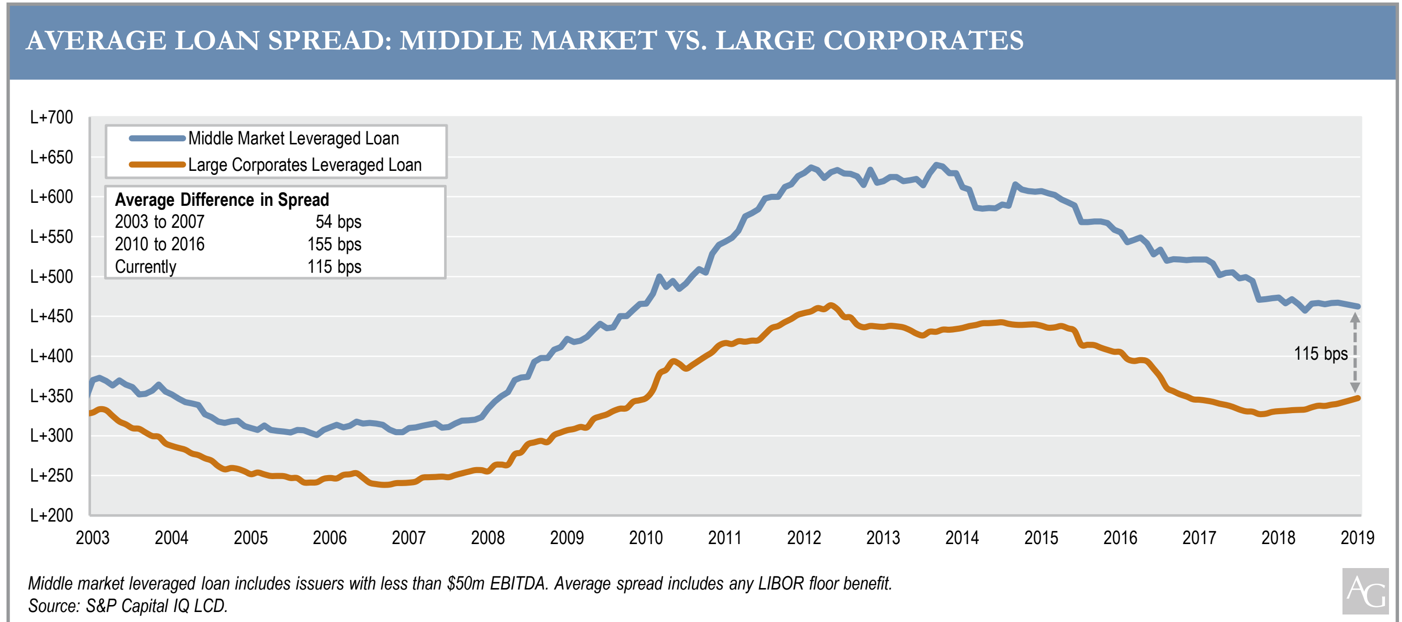



56% of U.S. high yield bonds currently yield 5% or lower, while only 12% yield over 10%.



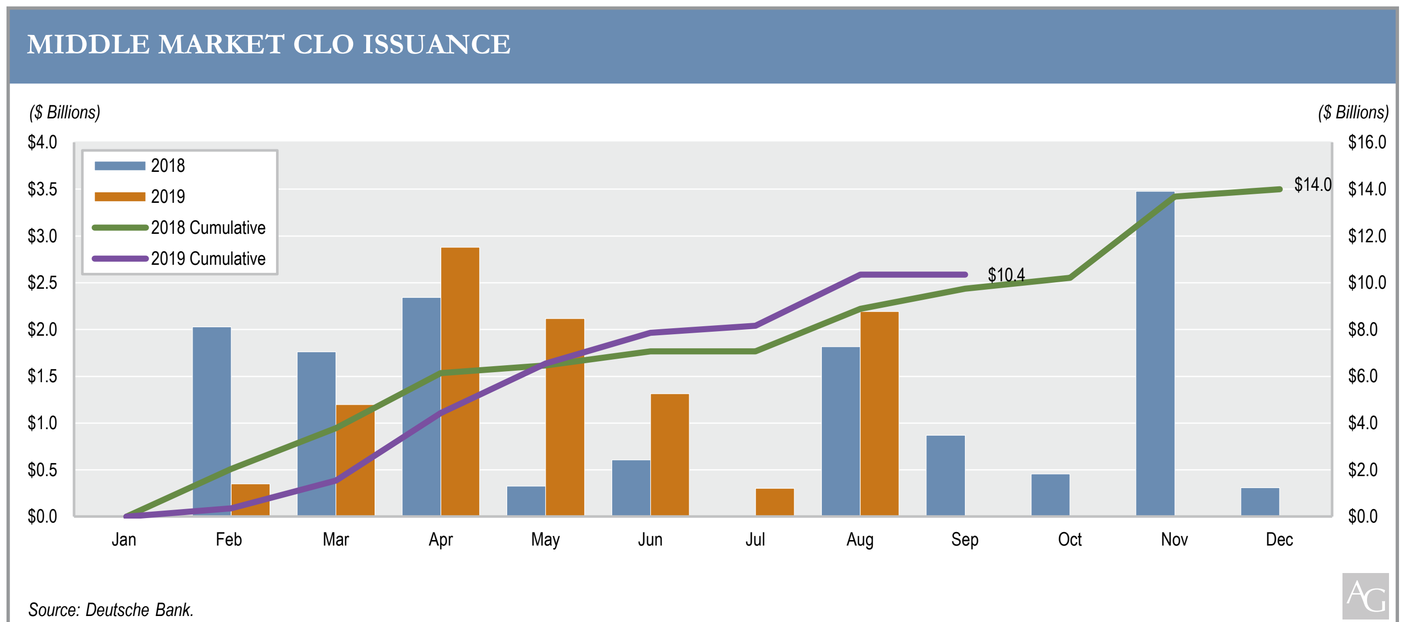

Since mid-year, yields on CCC bonds have climbed, even as yields on higher-rated bonds have declined.

# MIDDLE MARKET DIRECT LENDING




*Middle market leveraged loan includes issuers with less than $50m EBITDA. Average spread includes any LIBOR floor benefit.*
*Source: S&P Capital IQ LCD.*

**Middle market loans continue to offer an attractive spread premium compared to large corporate loans.**

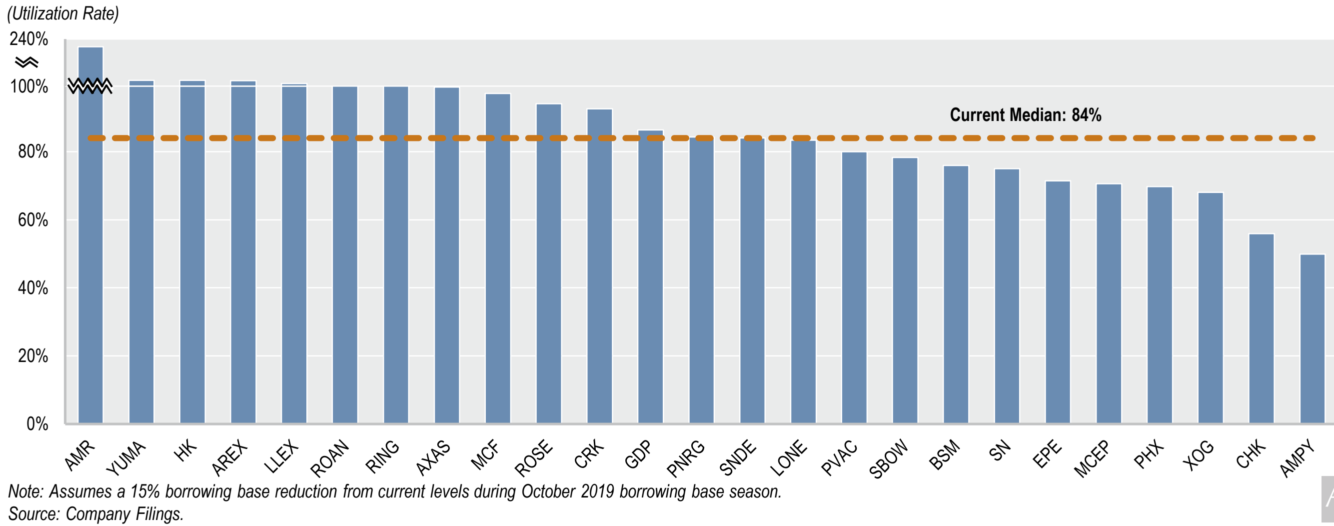



*Source: Deutsche Bank.*

**Middle Market CLO issuance is on pace to match or exceed last year's total.**

# ENERGY

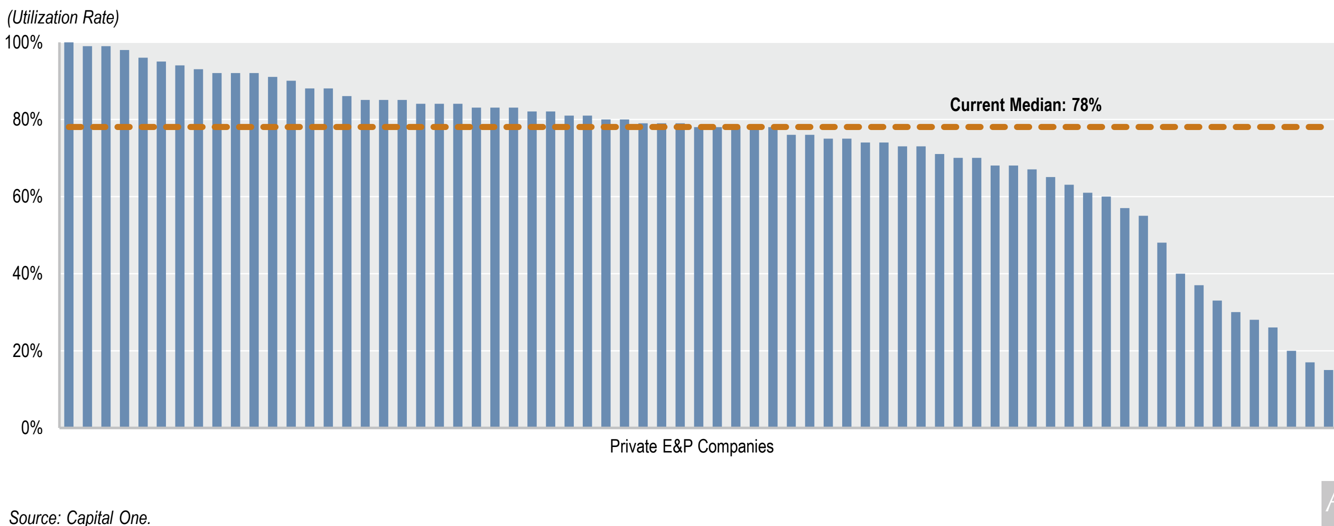
## PUBLIC E&P COMPANY RESERVE BASED LOAN UTILIZATION




Note: Assumes a 15% borrowing base reduction from current levels during October 2019 borrowing base season.
Source: Company Filings.

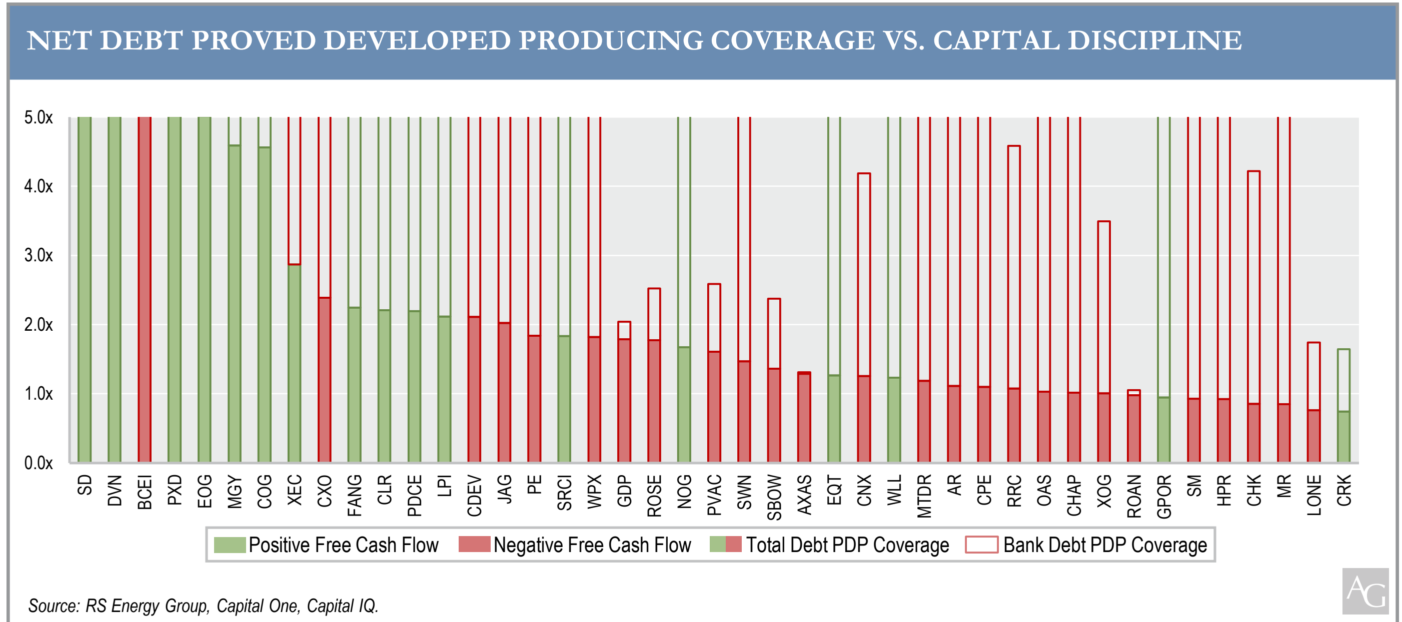
**Public oil and gas producers are significantly drawn against bank borrowing base credit facilities. Any availability reductions by banks will compel many borrowers to refinance at higher rates in order to maintain liquidity.**

## PRIVATE E&P COMPANY RESERVE BASED LOAN UTILIZATION

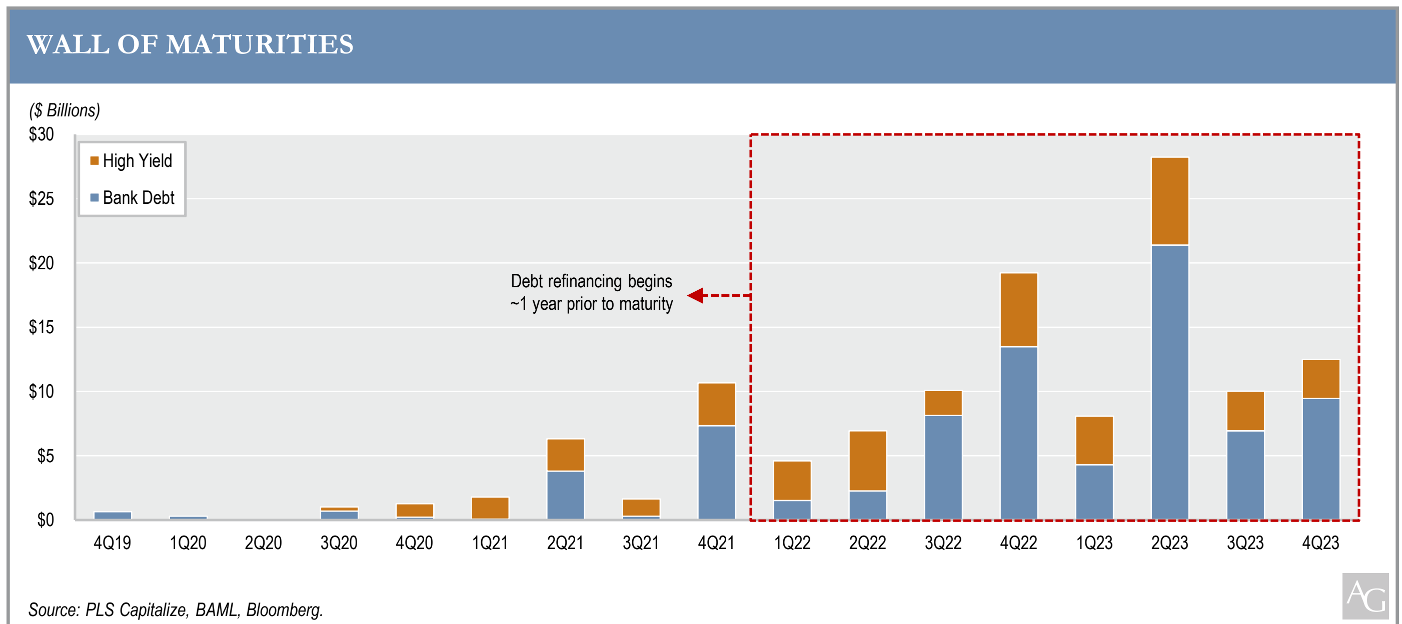



Source: Capital One.

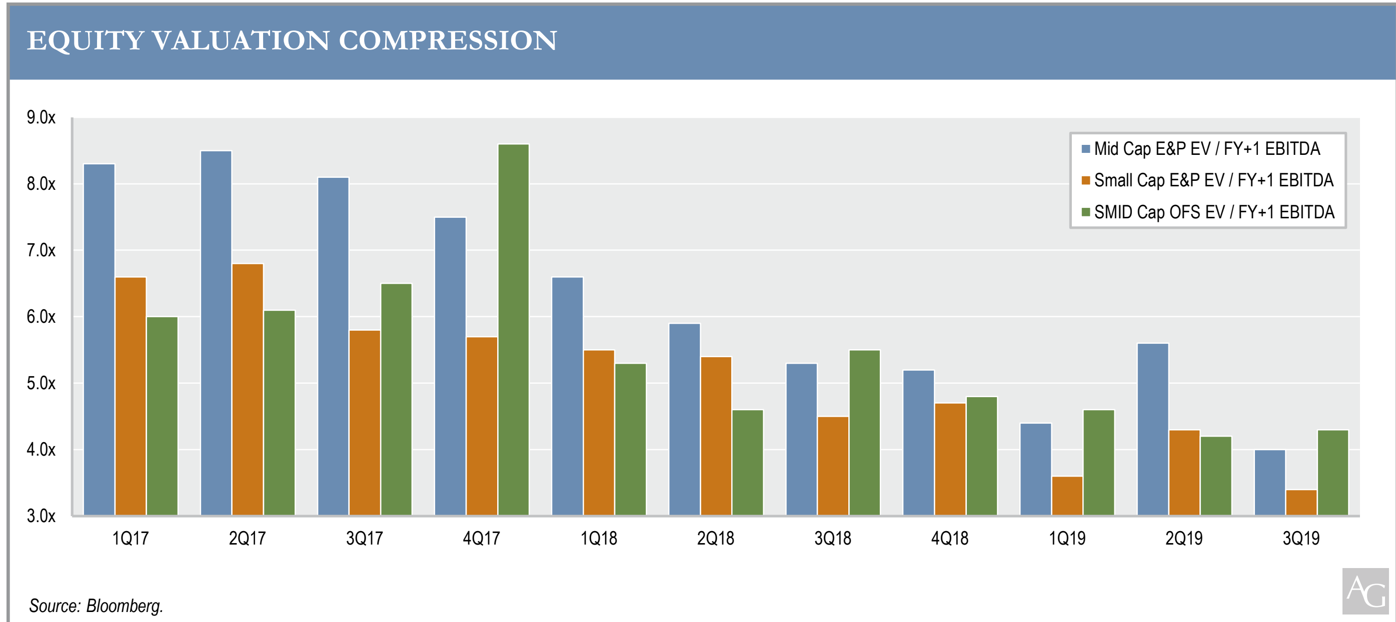
**Private oil and gas producers are also significantly drawn against bank borrowing base credit facilities. Any availability reductions by banks will compel many borrowers to refinance at higher rates in order to maintain liquidity.**



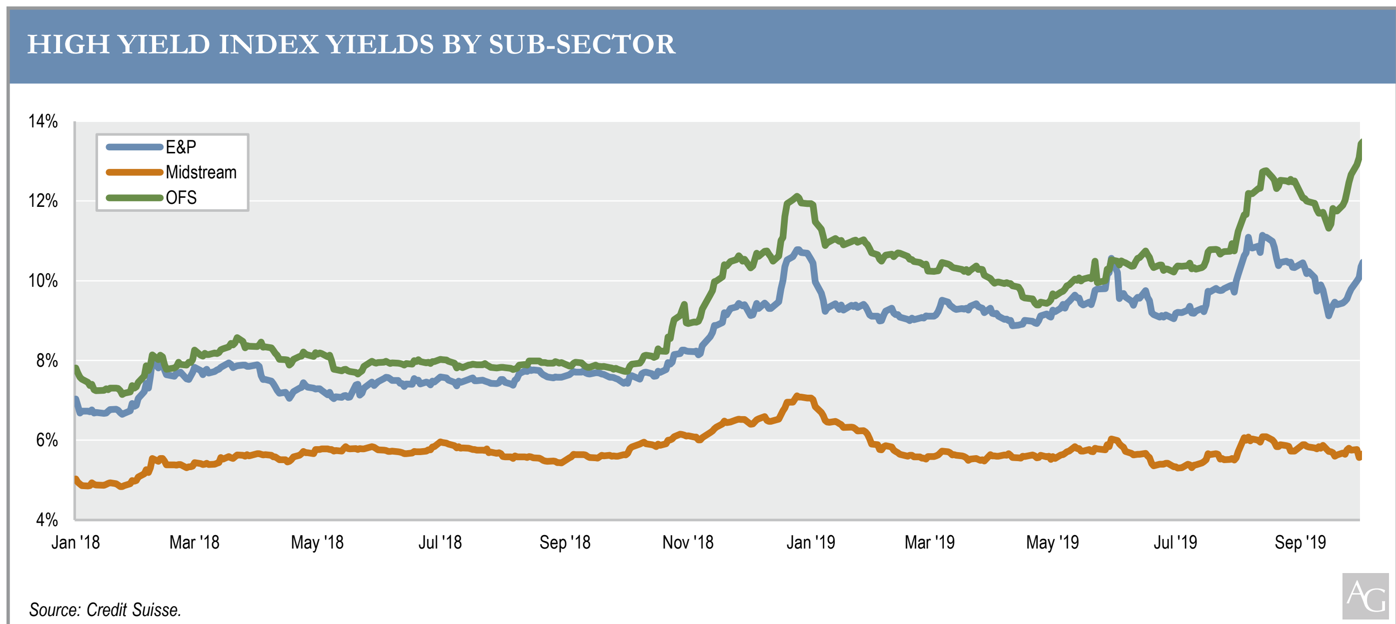

**Proved developed producing coverage of net debt in the first lien slot remains robust.**




**Oil and gas producers and oilfield services companies face a significant wall of upcoming maturities. Companies typically refinance maturities a year prior, so demand for refinancings and distress should increase meaningfully in 2020.**

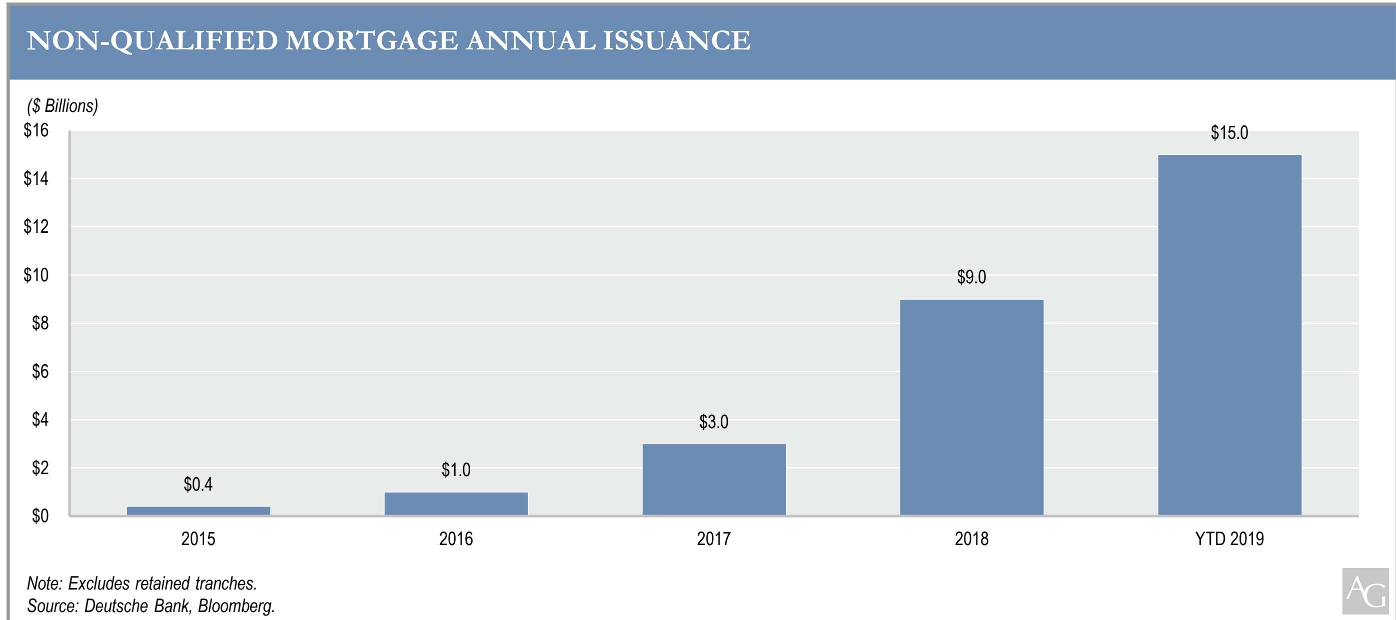



As equity capital has fled the energy sector, valuations have compressed to historically low levels.

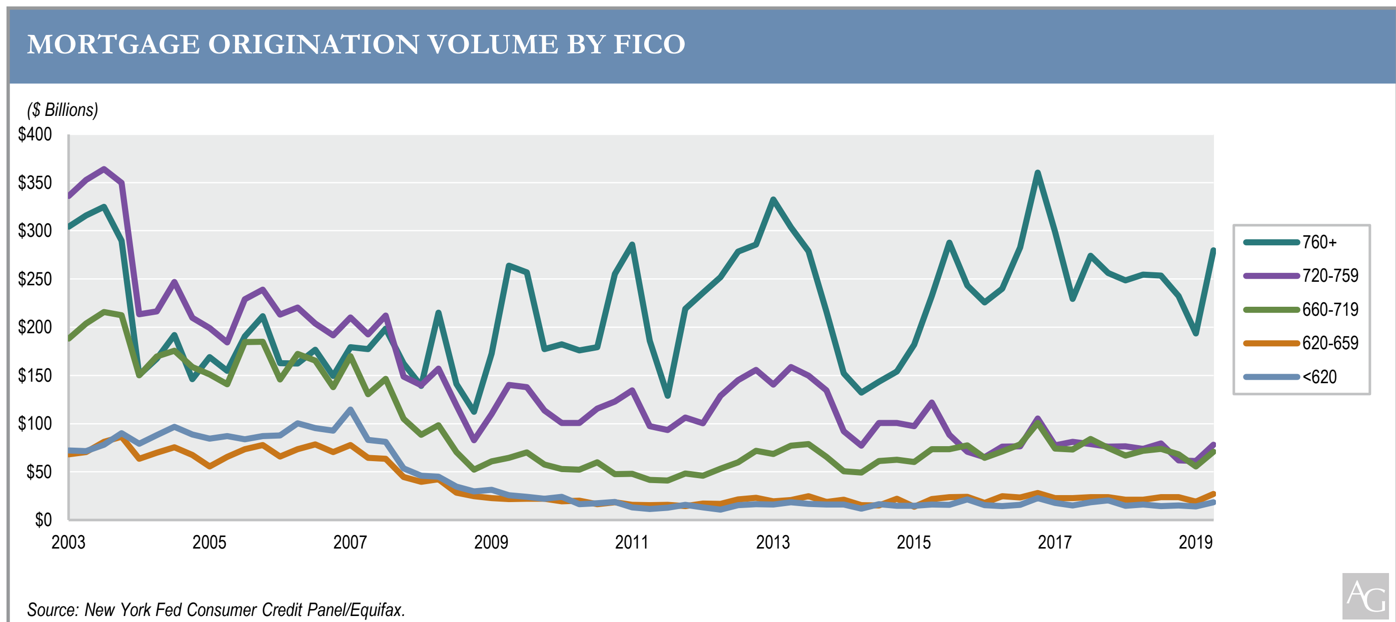



Energy yields continue to widen. Oilfield services borrowers offer yields approaching 14%, while oil and gas producers offer yields in excess of 10%. The broader high yield market offers a yield of 6.2%.

# RESIDENTIAL AND CONSUMER DEBT (RMBS/ABS)

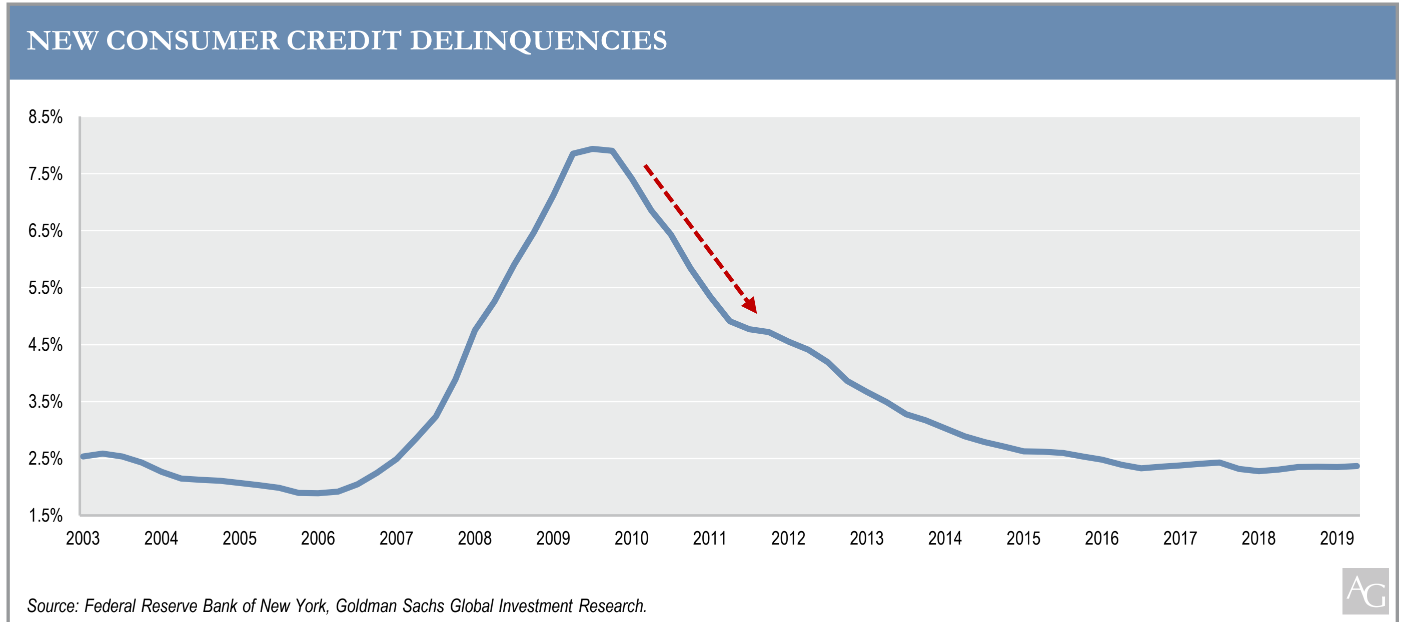



**Non-QM issuance has nearly doubled versus 2018's full year issuance.**

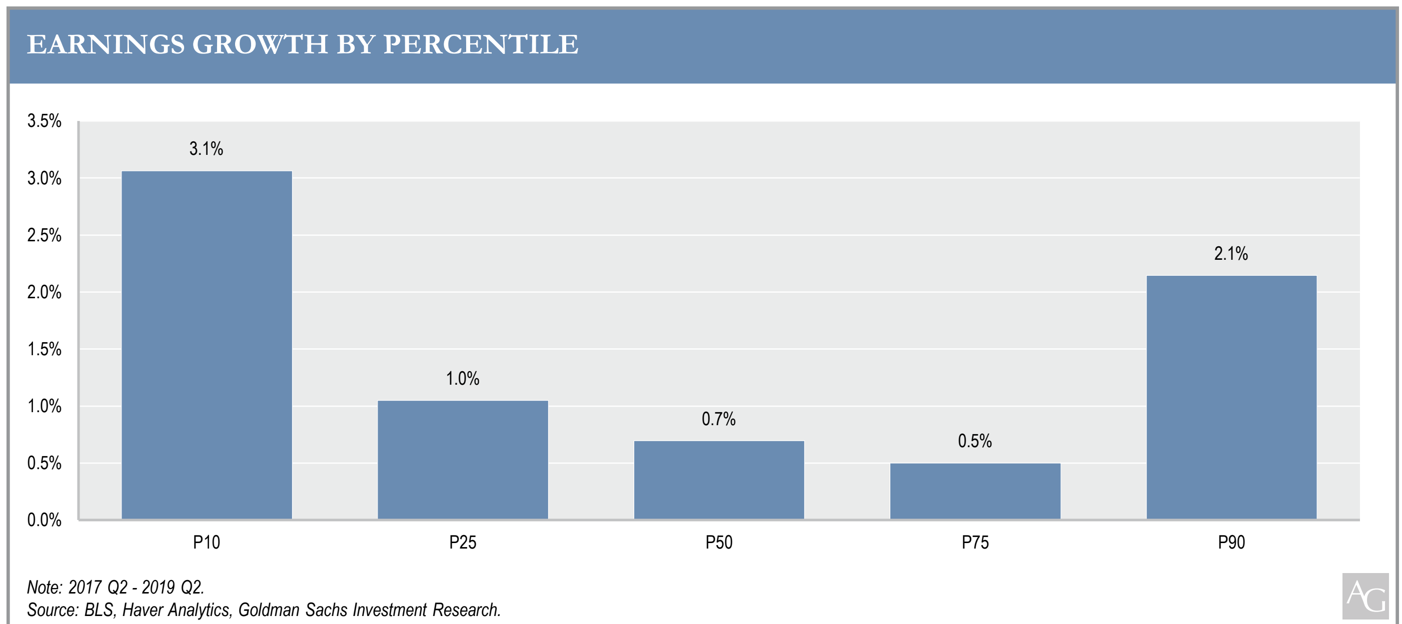



**Mortgage lending continues to be focused on the highest credits.**

# RESIDENTIAL AND CONSUMER DEBT (RMBS/ABS) *(continued)*



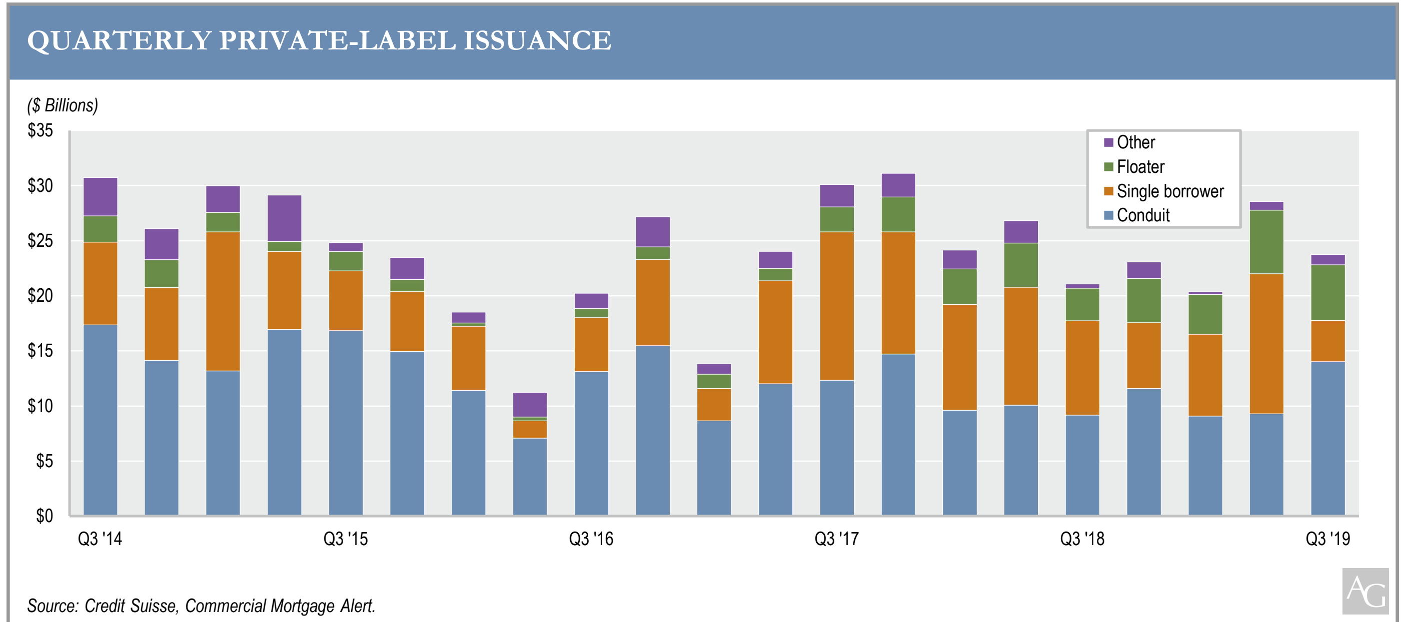

**U.S. consumer health continues to improve, with new credit delinquencies at post-crisis lows.**




**Earnings growth in the lowest percentile continues to improve.**

# COMMERCIAL REAL ESTATE DEBT

## QUARTERLY PRIVATE-LABEL ISSUANCE




Source: Credit Suisse, Commercial Mortgage Alert.

**Strong issuance continued through the quarter, with full year projections expected to exceed last year.**

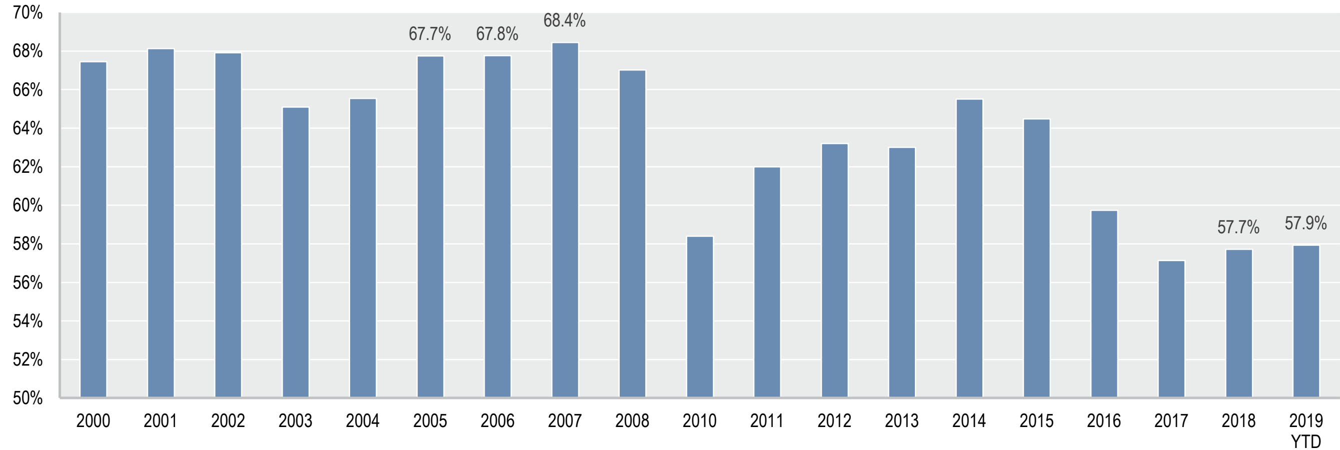
## AAA/BBB- CONDUIT CREDIT CURVE

Source: Source: BofA Merrill Lynch Global Research.

**The credit curve has continued to flatten in 2019.**

# COMMERCIAL REAL ESTATE DEBT *(continued)*

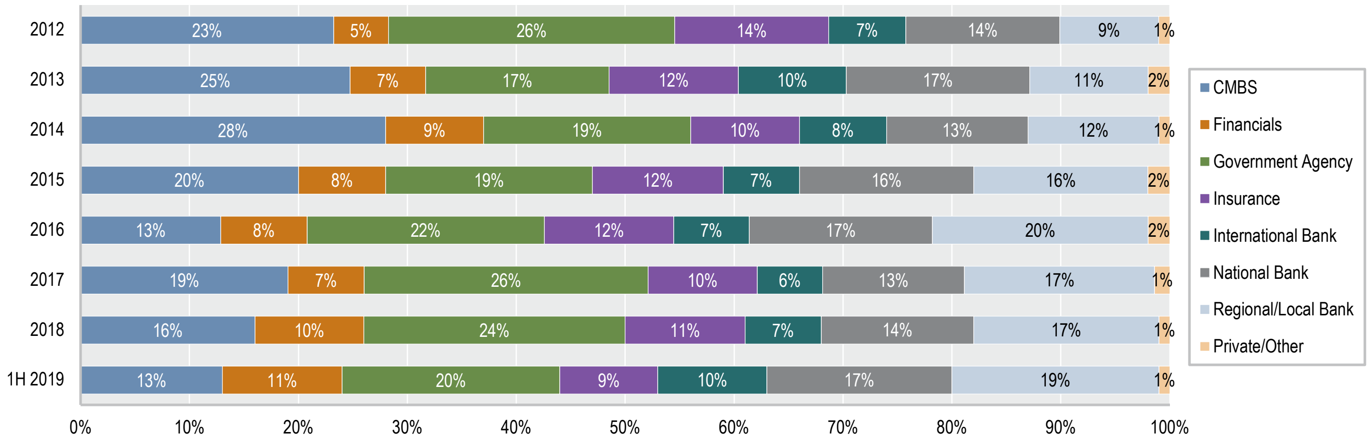
## LOWER LTVs FOR NEW ISSUE CONDUIT DEALS



Source: BofA Merrill Lynch Global Research.

**Underwritten loan-to-value metrics remain conservative by historical standards.**

## CRE LENDING MARKET SHARE

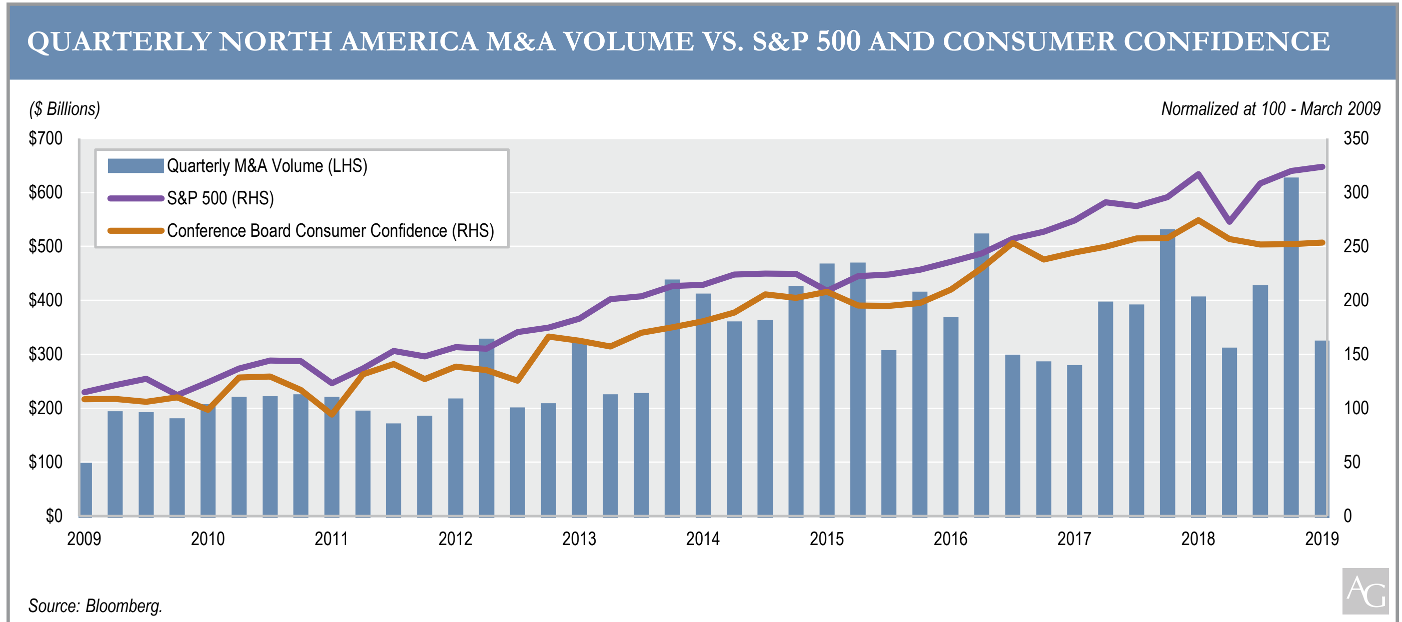


Source: BofA Merrill Lynch Global Research, Real Capital Analytics.

**Commercial real estate owners have access to a number of different types of lenders.**

# MERGER & CONVERTIBLE ARBITRAGE

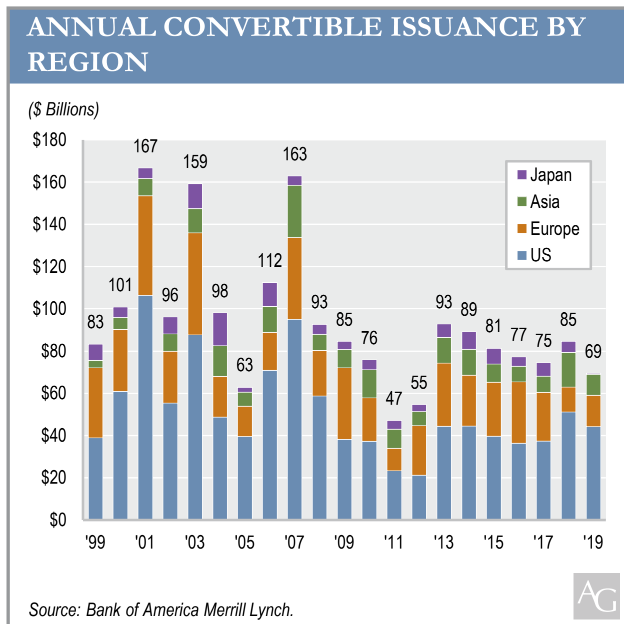
## QUARTERLY NORTH AMERICA M&A VOLUME VS. S&P 500 AND CONSUMER CONFIDENCE




Source: Bloomberg.

**U.S. M&A volumes slowed in the third quarter but are still performing well year-to-date.**

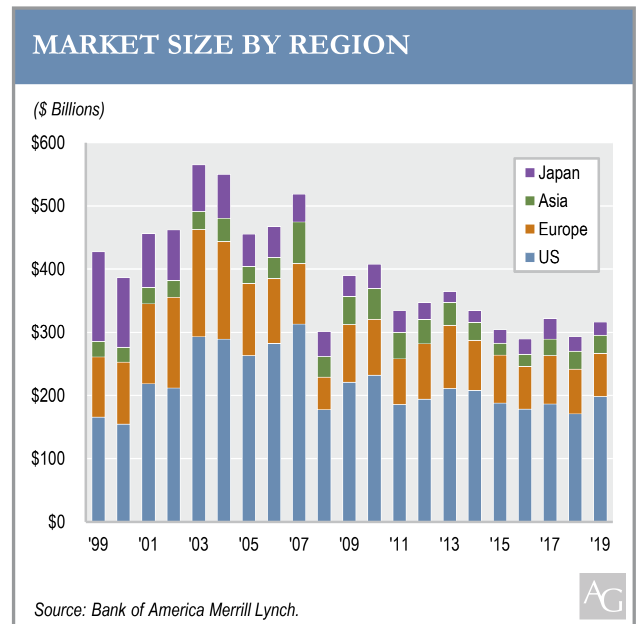
## ANNUAL CONVERTIBLE ISSUANCE BY REGION




Source: Bank of America Merrill Lynch.

**2019 global new issuance is on track to reach last year's strong level.**

## MARKET SIZE BY REGION

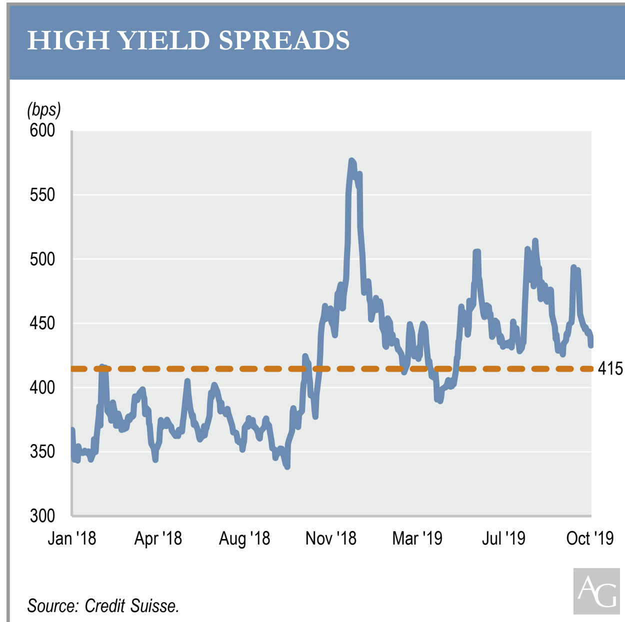



Source: Bank of America Merrill Lynch.

**Global convertible market cap remains above $300 billion.**

# LIQUID CREDIT

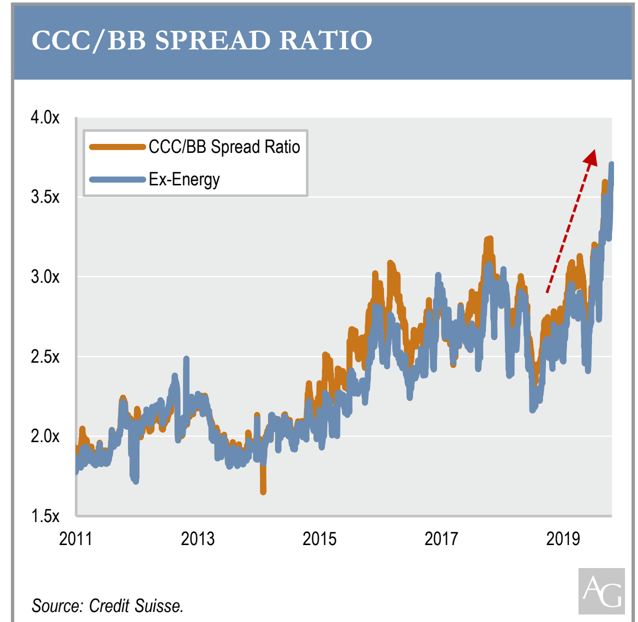
## HIGH YIELD SPREADS




Source: Credit Suisse.

High yield spreads were volatile in Q3 but were overall relatively unchanged.

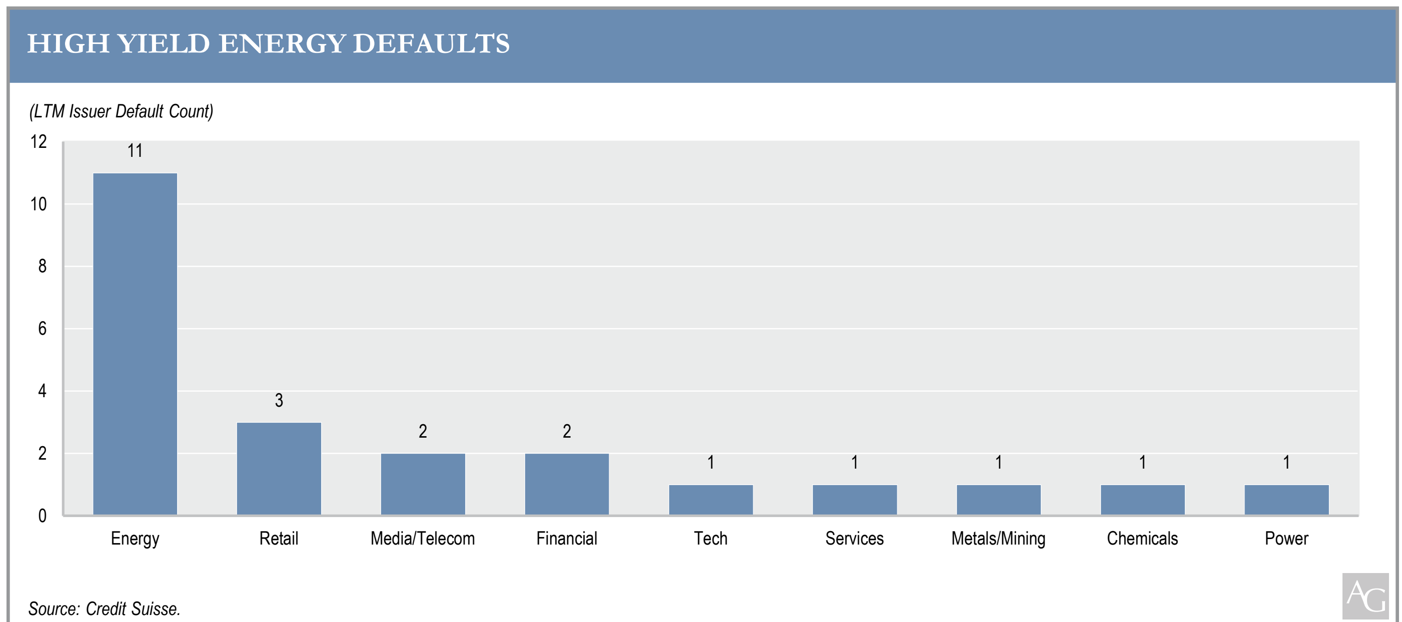
## CCC/BB SPREAD RATIO




Source: Credit Suisse.

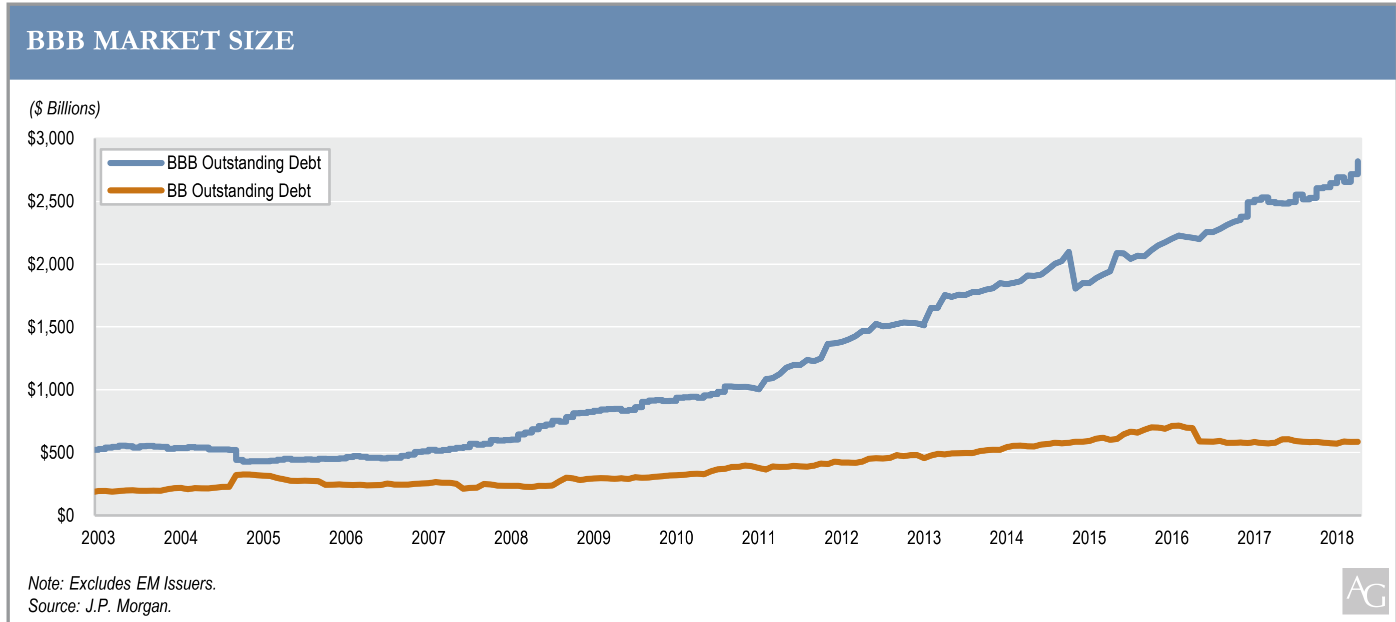
The CCC/BB spread ratio is close to the widest it's been in 10 years.

## HIGH YIELD ENERGY DEFAULTS

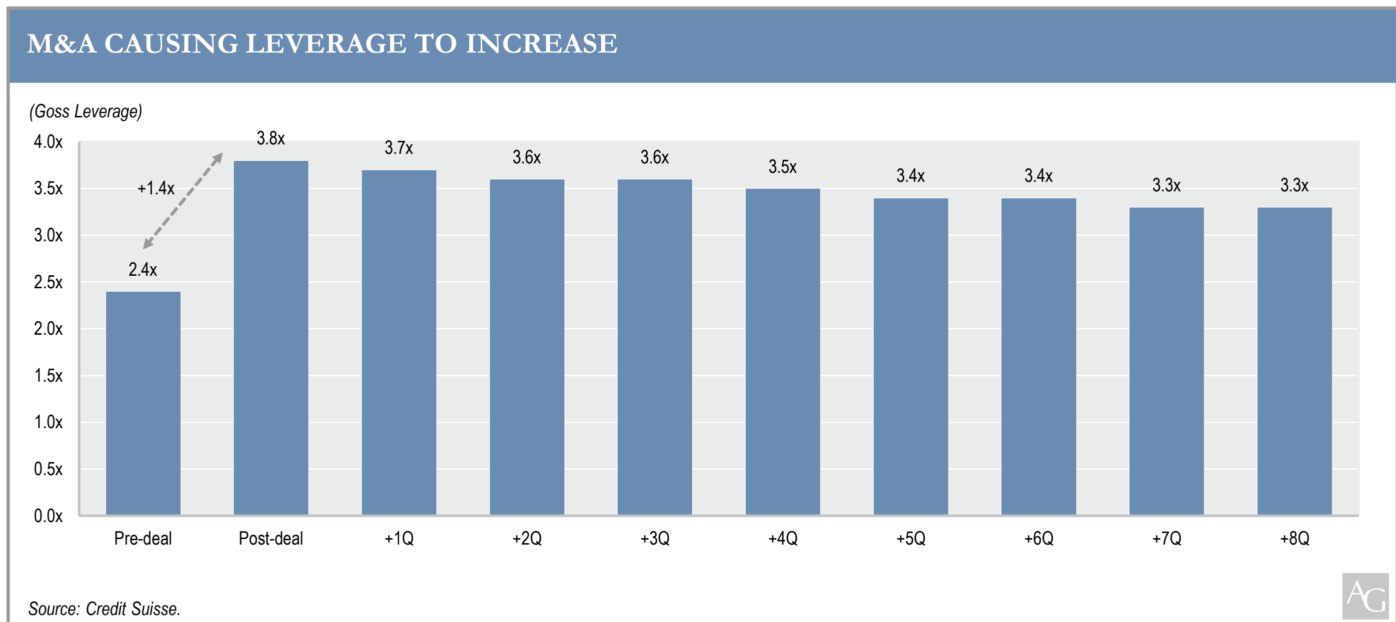



Source: Credit Suisse.

High yield energy defaults for the last 12 months are significantly greater than general high yield market defaults.

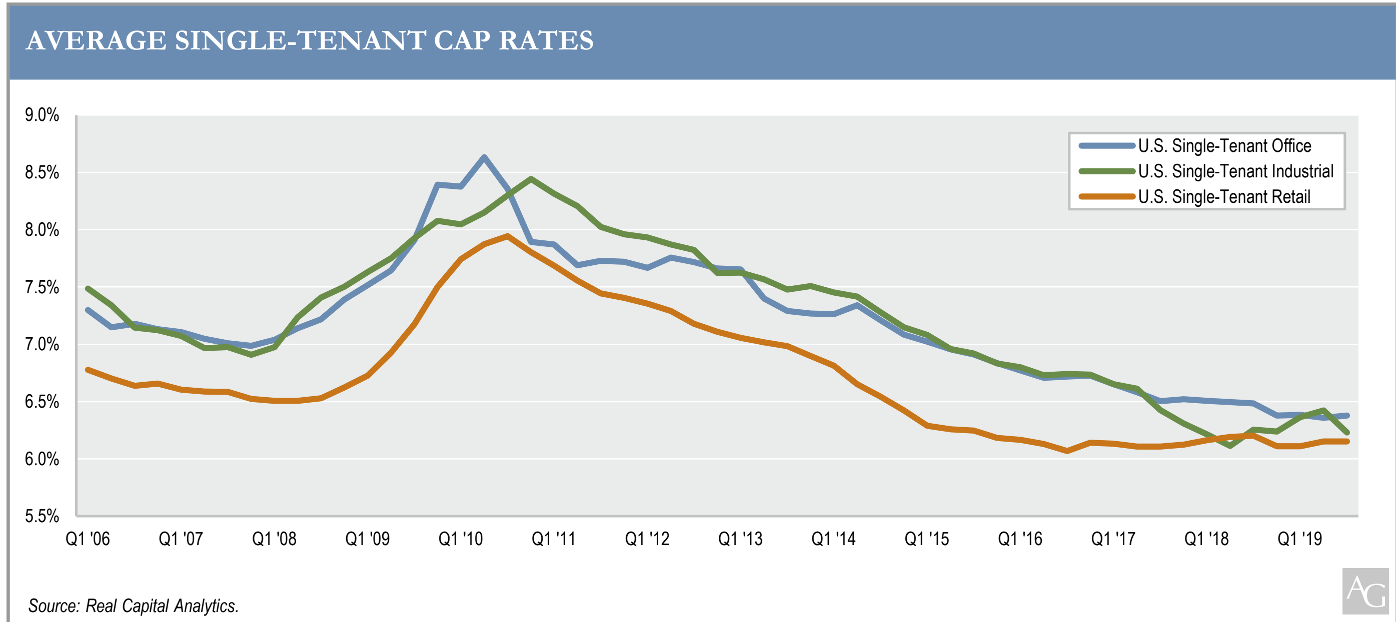



**BBB market size has grown dramatically since 2007 and is now significantly larger than the BB market.**

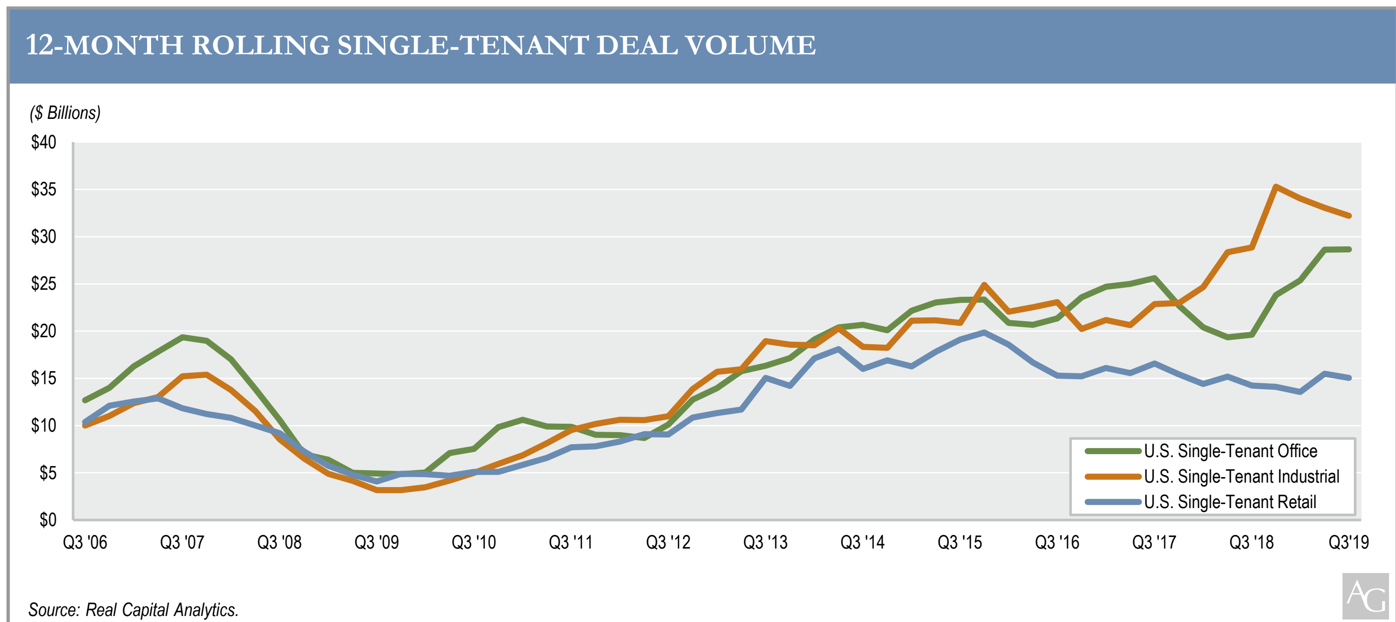



**M&A transactions have put significant leverage on balance sheets with minimal deleveraging post deal.**

# NET LEASE REAL ESTATE



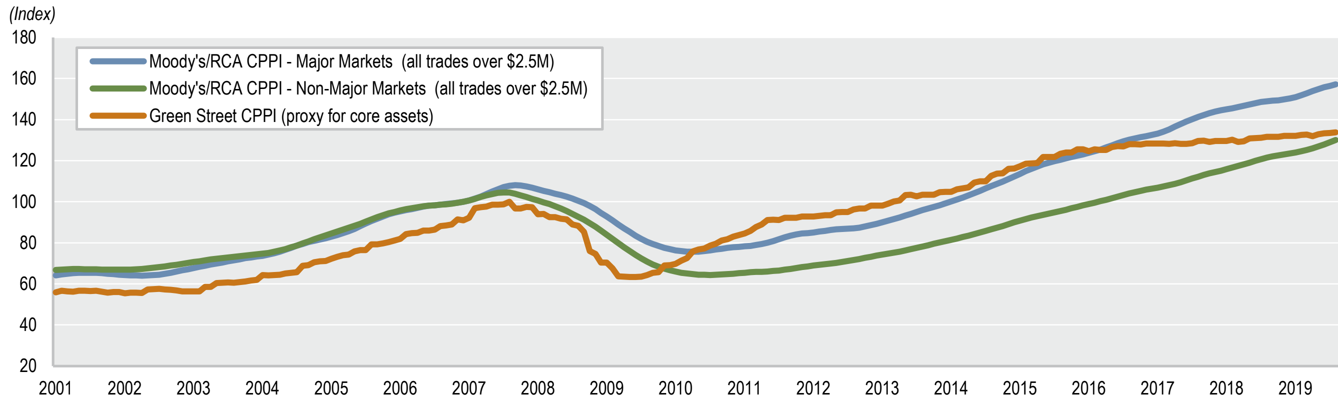

Office and retail cap rates were flat in Q3, while industrial compressed.




Overall volume remains elevated, with modest declines in industrial and retail in the third quarter.

# REAL ESTATE – UNITED STATES

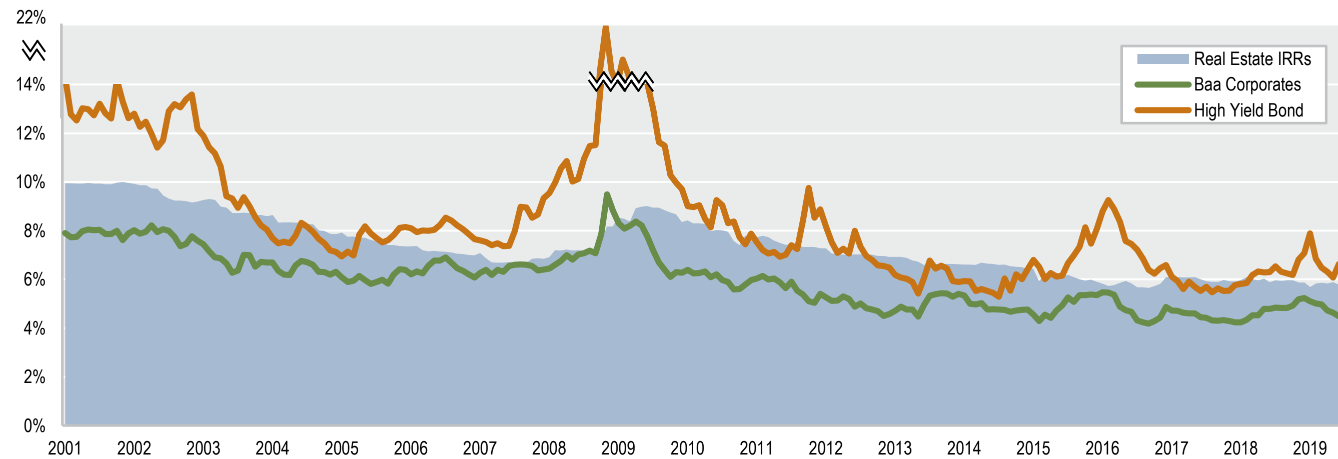
## COMMERCIAL REAL ESTATE PRICE INDICES




*Source: Moody's CPPI = Moody's/RCA All Property Types.*
*Green Street CPPI = Major Sectors.*
*Sources: Moody's – Commercial Property Price Index (Moody's CPPI) (data through May '19), Green Street Advisors – Commercial Property Price Index (Green St CPPI) (data through May '19). Note: For this chart, Green St CPPI was indexed to 100 at it's 2007 peak (Aug 2007) and Moody's CPPI was indexed at 100 in Dec 2006.*
*Note: Major markets include Boston, Chicago, Washington D.C. Metro, Los Angeles Metro, New York City Metro and San Francisco Metro.*

**Price gains continue to level off in core markets, while broader market pricing continues to move modestly upward. Across the major sectors, apartments and industrial have led the way in price growth, while retail continues to lag.**

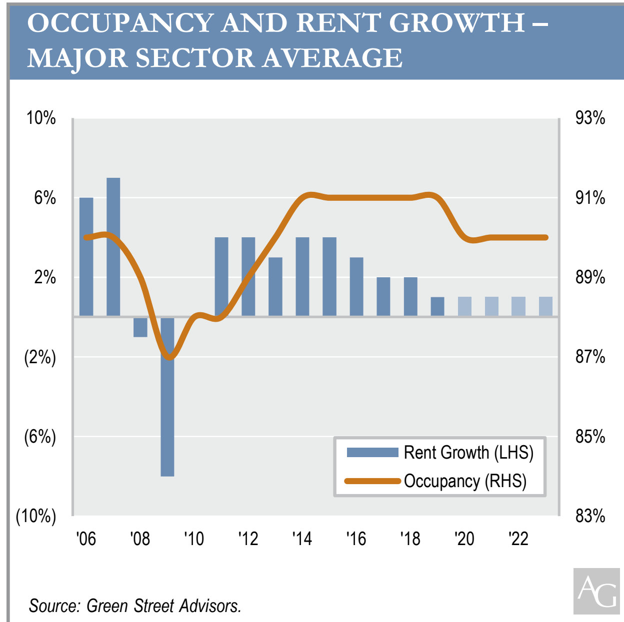
## UNLEVERED TOTAL RETURN EXPECTATIONS ON REAL ESTATE VS. CORPORATE BOND YIELDS




*Real Estate IRRs is an equal-weighted average of the asset-weighted averages for the five major property sectors (apartment, industrial, mall, office, and strip center).*
*Source: Green Street Advisors (June '19), Moody's (Baa Corporates), BAML (High-Yield Bonds).*

**Unlevered real estate has historically offered a return between investment grade and high yield bonds. Real estate currently appears cheaper on a relative basis compared to debt.**

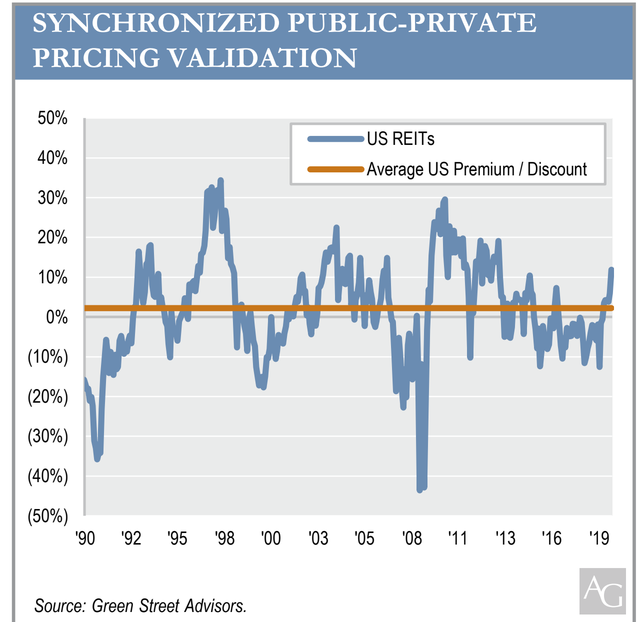
## OCCUPANCY AND RENT GROWTH – MAJOR SECTOR AVERAGE




Source: Green Street Advisors.

As new deliveries have ramped up, the pace of rent growth has slowed and occupancy has modestly declined.

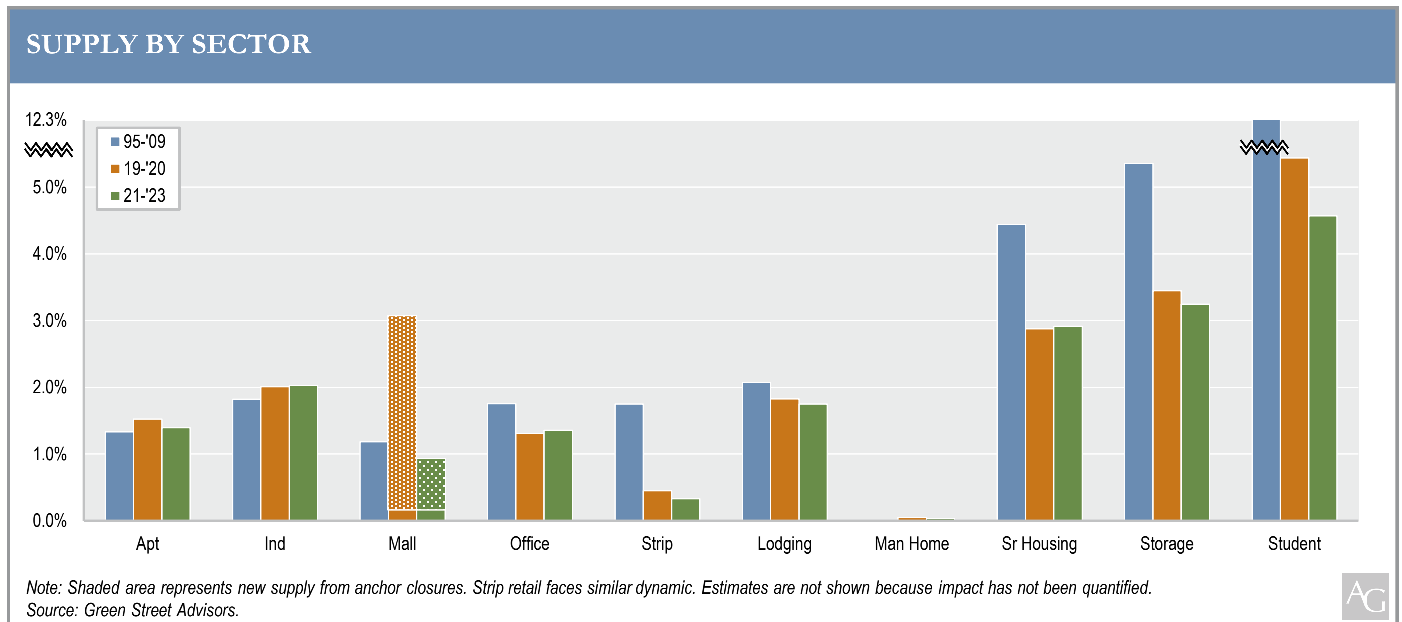
## SYNCHRONIZED PUBLIC-PRIVATE PRICING VALIDATION




Source: Green Street Advisors.

After a period of sustained discount to NAV, current pricing parity reflects a return to cycle trend growth and an easing bias in monetary policy.

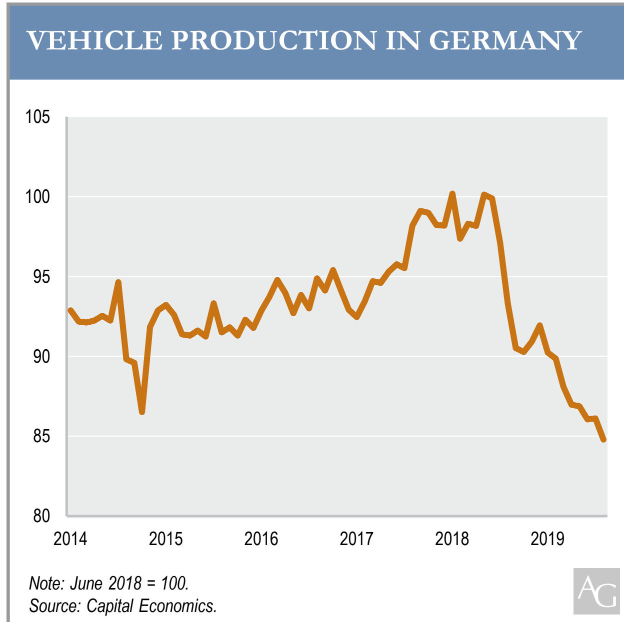
## SUPPLY BY SECTOR



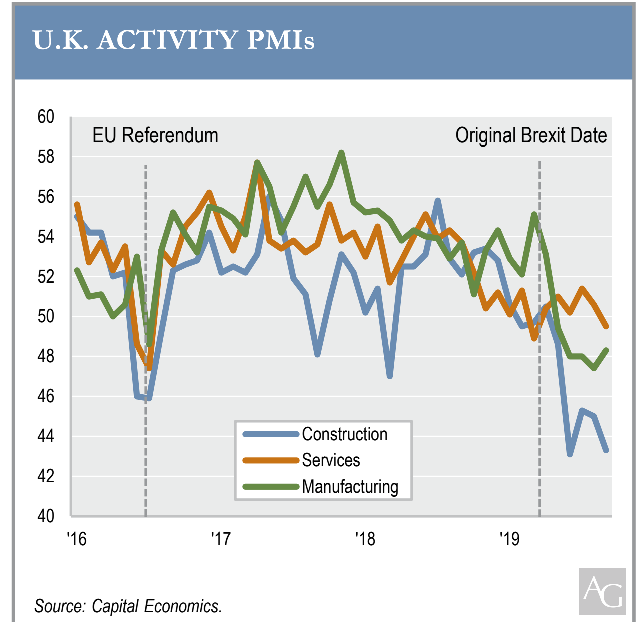

*Note: Shaded area represents new supply from anchor closures. Strip retail faces similar dynamic. Estimates are not shown because impact has not been quantified.*
*Source: Green Street Advisors.*

New deliveries are at cycle peak but leveling off, and senior, student, and storage have seen the heaviest new supply as a percentage of existing stock.

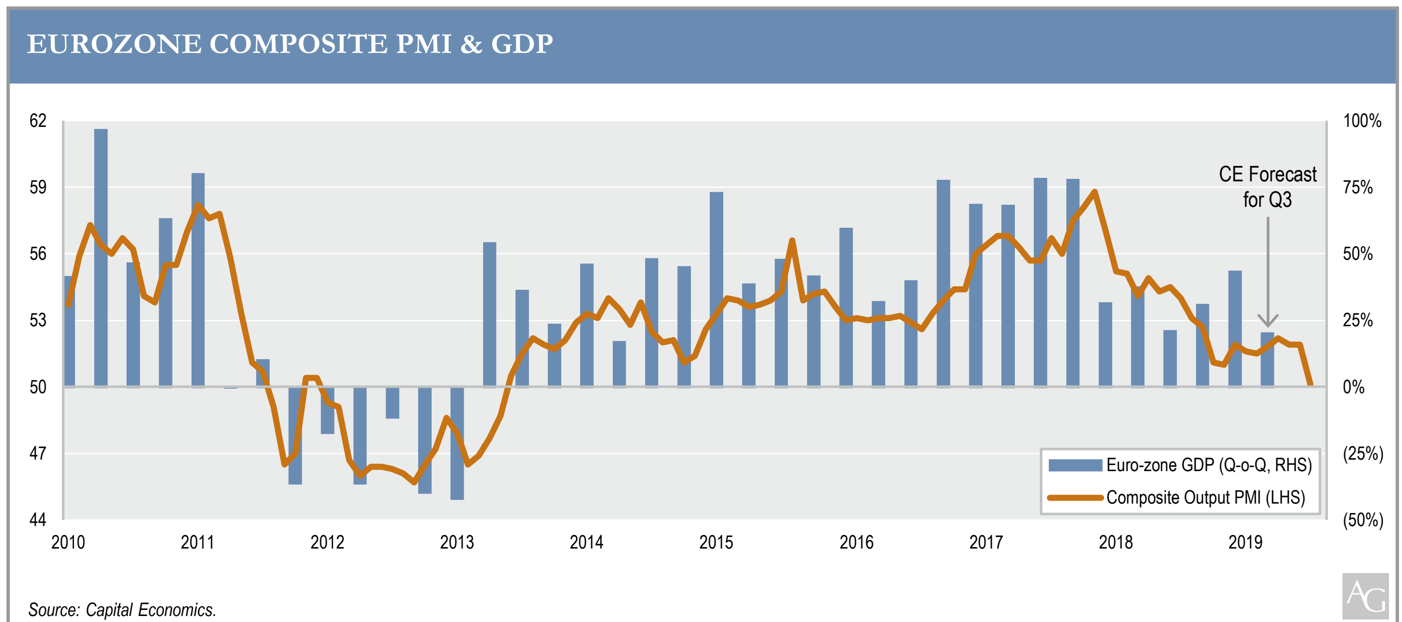
# REAL ESTATE – EUROPE




German vehicle production is down 15% from peak levels.



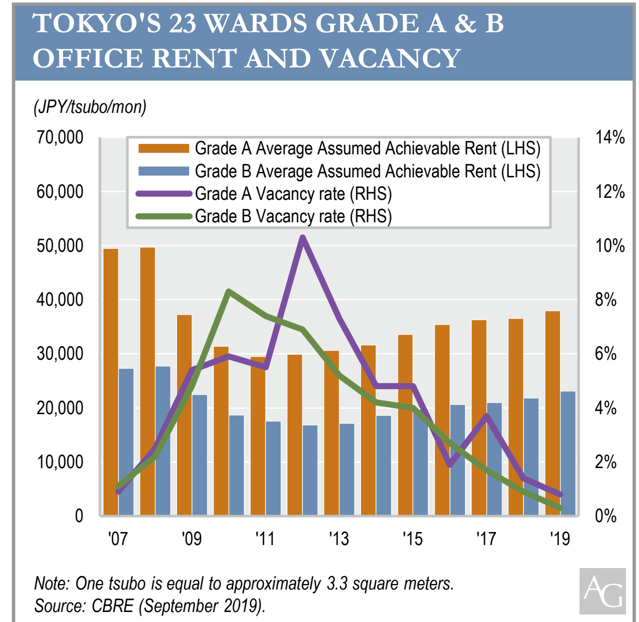

All major PMIs drop as Brexit concerns increase.



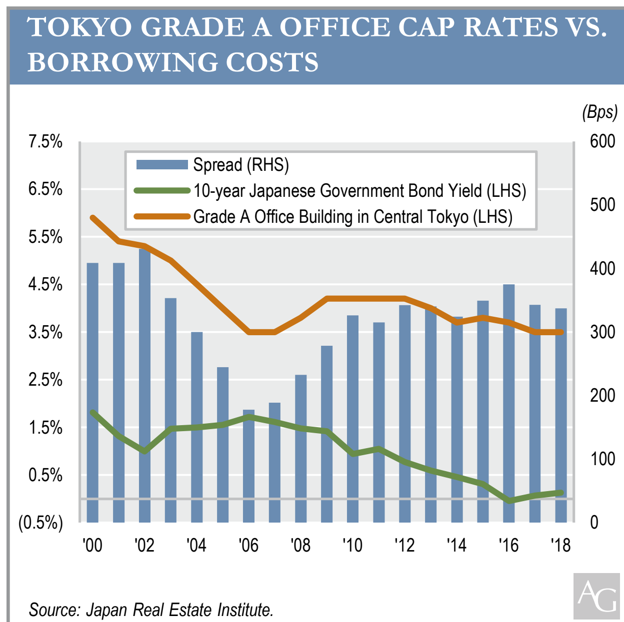

The Eurozone economy stalls on the edge of recession.

# REAL ESTATE – ASIA

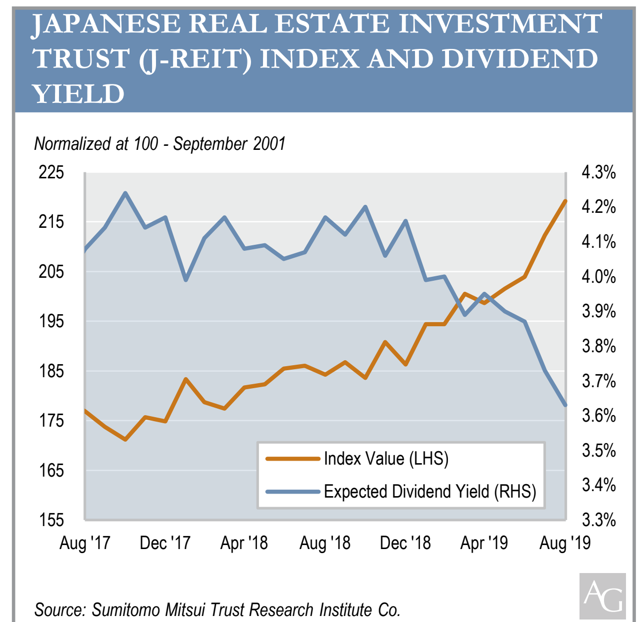
China's GDP growth has fallen to 6.0% due to trade tensions, but remains in the expected range of 6.0 – 6.5%.



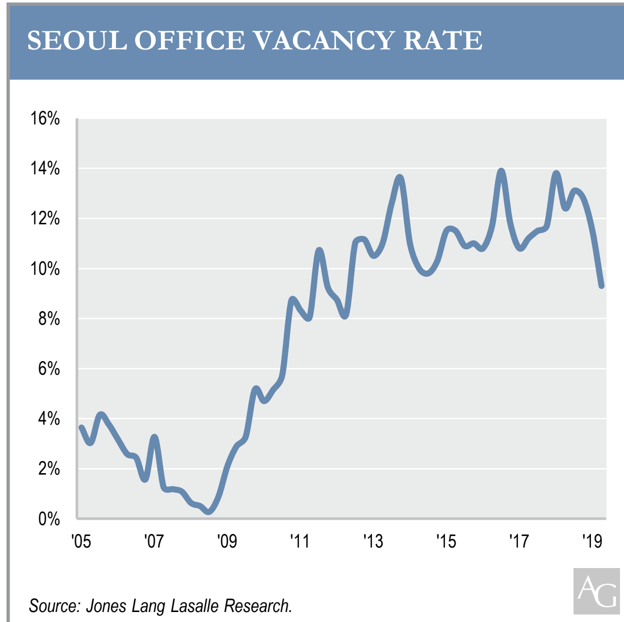

Tokyo office fundamentals continue to be strong, with vacancy falling to nearly 0% and rents rising.



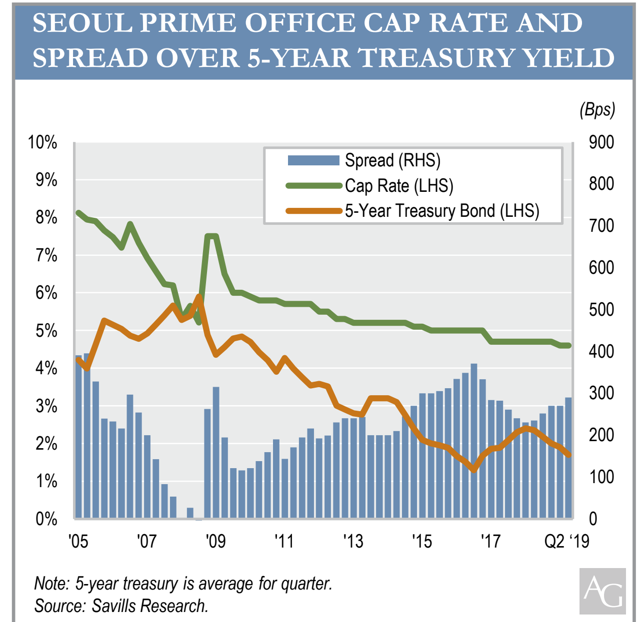

Cap rate spreads continue to be wide at nearly 350 basis points.




The J-REIT index increased 18% year-over-year as of August 2019, reaching a 12-year high.




Seoul office vacancy remains high as new supply weighs on the market, although we are seeing some tapering.

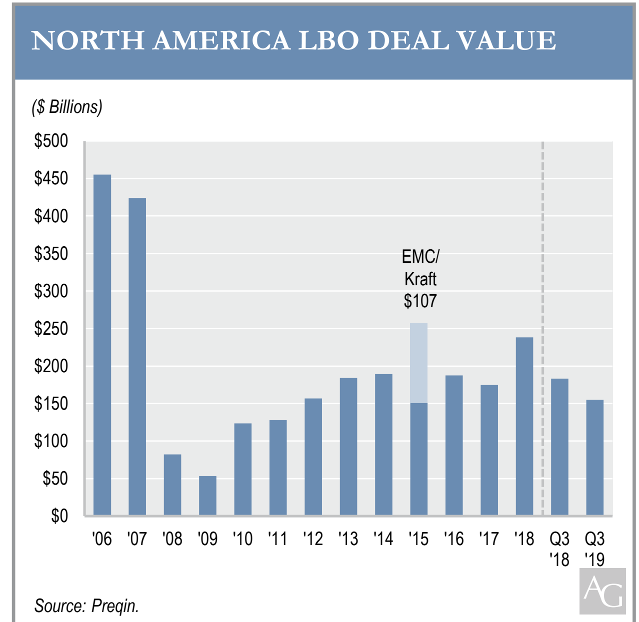



Cap rate spreads widen as Korean treasury yields decline.

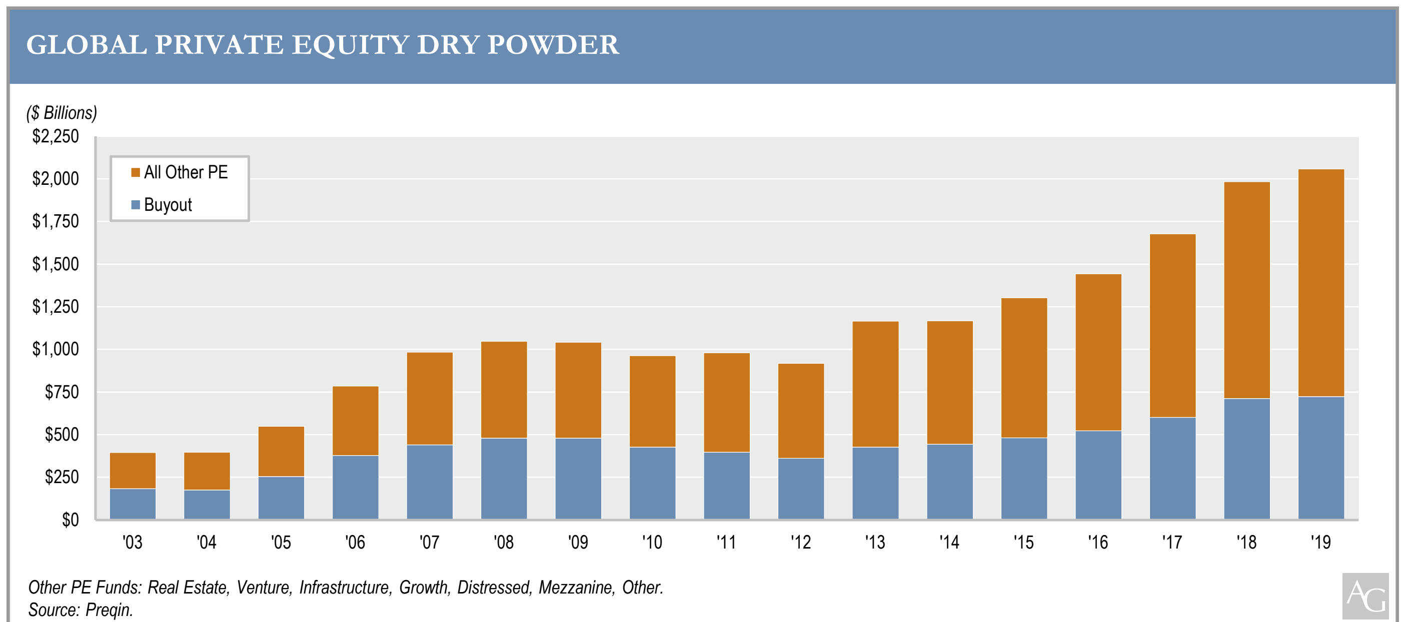
GDP growth remains sluggish as trade tensions rise and global export demand falls.

China's currency continues to weaken against a strong dollar.

# PRIVATE EQUITY

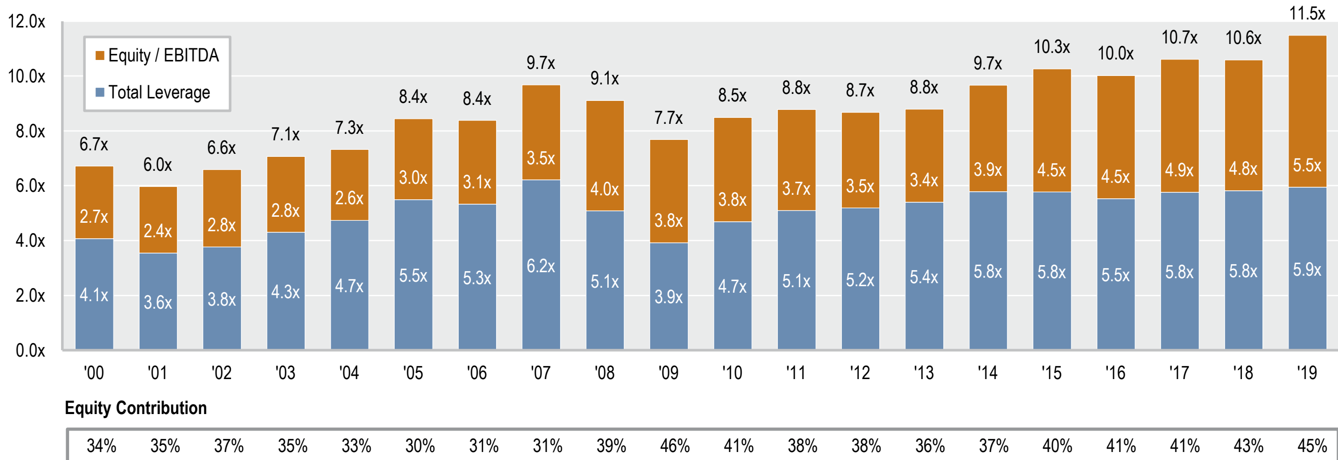



**For the first nine months of 2019, year-over-year deal volume decreased 15% in North America and 21% globally.**




**Buyout dry powder at September 30, 2019 stood at $723 billion; a modest 2% decline from the all-time record of $738 billion at June 30, 2019.**

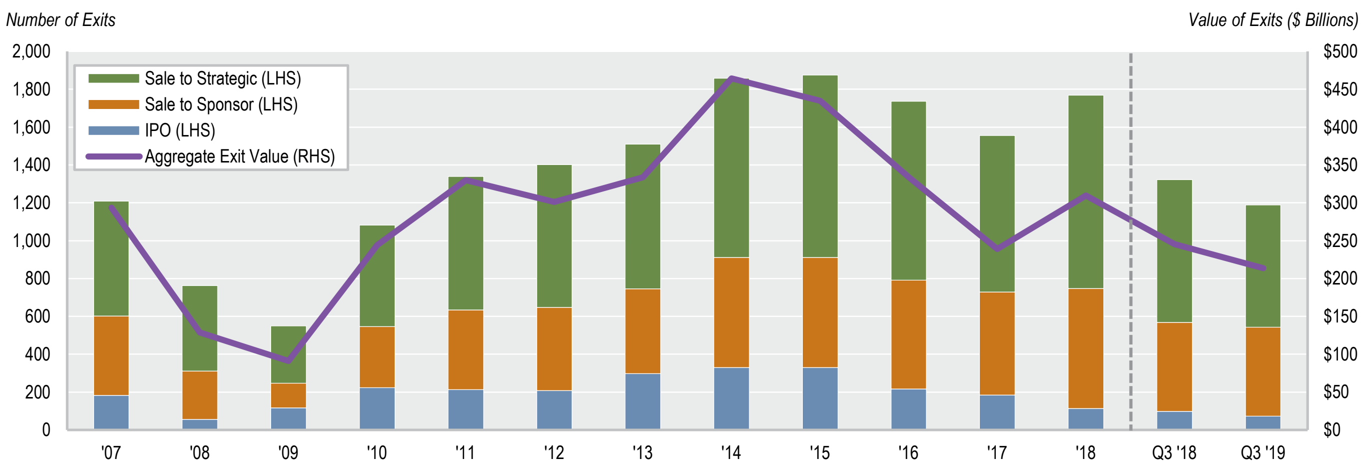
## LBO PURCHASE PRICE BREAKDOWN




*Source: S&P Capital IQ LCD.*

**LBO multiples in the first three quarters of 2019 (11.5x) were high and are on pace to set a year-end record.**

## PRIVATE EQUITY EXITS




*Note: Sale to Sponsor includes management-led buyouts.*
*Source: Preqin.*

**The first nine months of 2019 were weaker year-over-year, with the number of exits decreasing 10% and dollar volume down 13%, reflecting smaller monetizations.**

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