



ANGELO, GORDON & CO.

CAPITAL MARKET'S PERSPECTIVES

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THIRD QUARTER 2016

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ANGELO, GORDON & CO. is a privately held investment management firm that was founded in 1988 to focus on alternative money management activities and currently has assets under management of \$26 billion. The firm's investment philosophy combines fundamental in-depth research and a conservative valuation approach with a diversification strategy designed to reduce downside risk and protect principal.

Investment disciplines encompass four principal business lines: (i) credit; (ii) real estate; (iii) private equity and (iv) multi-strategy. Funds are managed in single-strategy vehicles or multi-strategy vehicles. A great deal of synergy exists among the investment teams and their ability to work together has proven to be a key element in the firm's success.



**MAUREEN D'ALLEVA**  
*Portfolio Manager*

### Non-Investment Grade Corporate Credit

The rebound in the leveraged loan market that began in Q2 2016 continued in Q3 with the CS Leveraged Loan Index enjoying three consecutive months of strong returns. In Q3 2016 the index returned 3.10%, taking YTD returns to 7.62%, and technicals were positive as CLO formation picked up steam, with September issuance of nearly \$13 billion representing a 15-month high. While total volume year-to-date is still lagging last year's pace by roughly 40%, many strategists expect full-year issuance to potentially reach \$60 billion, and since CLOs account for over 50% of the loan market purchasing power, the health of the CLO market can have a strong effect on the tone in the leveraged loan market. Fund flows remained positive, with the asset class enjoying nine consecutive weeks of inflows by quarter end. Inflows during each month of the quarter have helped reduce year-to-date outflows to just over \$4 billion.

Switching to the supply side of the market, issuers astutely took advantage of the improvement in demand for both CLOS and loan funds. September's institutional issuance of over \$56 billion was the highest volume month since February 2013, and was the third month in the last four with issuance north of \$50 billion. Year-to-date volume now exceeds that of the first nine months of 2015, with over 25% of issuance year-to-date coming in the technology and healthcare sectors. Despite the pick-up in issuance, the outstanding loan market has not grown meaningfully this year. While refinancing represented roughly 30% of issuance, M&A can result in relatively little change in the debt outstanding, as new debt used to finance an acquisition is often simply replacing existing debt.

Despite the mid-quarter sell-off in energy, it remains one of the top performing sectors in the loan market, second only to Metals and Mining on a year-to-date basis. According to J.P. Morgan, Energy High Yield returned 30.83% and Energy Leveraged Loans returned 20.25% for the first nine months of the year.

The third quarter ended with the same positive tone with which it started, with both the forward calendar and investor risk appetite remaining strong. As we look ahead to Q4, the market does face several potential sources of uncertainty, including the outcome of the upcoming U.S. presidential election and a lack of clarity with respect to the timing of a change in interest rates. However, as global interest rates remain low and economic growth, while modest, is still allowing the bulk of industries to post stable to higher earnings, we believe the leveraged loan market should continue to attract new investors and deliver positive returns.



**TREVOR CLARK**  
*Portfolio Manager*

### Middle Market Direct Lending

Middle market institutional issuance picked up during the third quarter to \$28.3 billion, an increase of roughly 6% quarter-over-quarter. Although reported issuance is trailing last year's levels, we believe that lenders with differentiated strategies are potentially enjoying more robust deal flow than lenders competing in the more crowded segments within the middle market. According to PitchBook's Q3 2016 Private Equity Report, the three most active lenders by deal count in the third quarter completed 42 transactions, more than the next six lenders combined. We believe that access to deal flow will remain a crucial component of successful investing in the middle market.

Looking ahead to the fourth quarter, lenders expect volumes to increase again, with activity driven by a combination of LBOs, refis and dividend recaps. By sector, healthcare and manufacturing have led volumes thus far in 2016. Interestingly, in a survey late last year, market participants indicated that they believed healthcare offered the greatest growth potential for this year and this has indeed proven to be the case. That same survey also saw technology, business services and manufacturing offering strong growth potential. Deal pricing has remained relatively stable, especially versus pricing levels in the broadly syndicated loan market where strong demand has resulted in better execution for issuers. Overall, leverage levels in the middle market have continued to decline and remain below those in the broadly syndicated loan market, and we expect this trend to continue.



**CHRIS WILLIAMS**  
*Portfolio Manager*

Although the overall tone in the global fixed income market has improved since the start of the year, uncertainties lie ahead – Brexit has yet to fully play out, the U.S. election has the potential to roil markets and the global economy has yet to exhibit strong, stable growth. This uncertainty coincides with a record amount of global debt trading at negative yields. Amidst these market conditions we believe the middle market will continue to offer investors an attractive investment proposition.



**TODD DITTMANN**  
*Portfolio Manager*

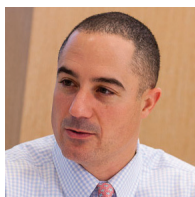
### Energy Direct Lending

Even prior to September's surprise OPEC announcement that its members will explore a production cut at its November meeting, U.S. producers had been cautiously planning CAPEX increases into 2017 and adding rigs month-on-month since June. The largest producers have sustained or grown production despite both falling prices and lower spending by way of inorganic growth through a marked increase in acquisition and divestiture activity, as well as organic growth through enhanced efficiencies and reduced well costs. As a result of the latter, overall rig counts have declined over the past two years but output by basin has generally increased, peaking during Q1 2016. Given the sensitivity and responsiveness of U.S. supply to \$50 oil and readily available capital for larger and better-rated producers, we believe a \$45-\$55/barrel band is most likely over the near-term. Nonetheless, we also expect substantial volatility within that band and a floor that is likely to be tested by the return of U.S. production growth in 2017.

Capital availability is the key to growth and the equity markets have been happy to oblige, with investor enthusiasm driving robust valuations typically underwritten on a commodity deck priced materially higher than the current strip. New equity issuance by U.S. energy companies through Q3 exceeded \$30 billion and it is becoming apparent that the IPO market has returned for companies with top-tier acreage and a plausible growth trajectory. As long as relative valuations remain several turns above historic levels, we expect to see continued strong issuance volumes in the equity markets.

After a prolonged period marked by lack of high yield debt markets access, the market for well-capitalized borrowers re-opened during the second quarter and regular-way issuance is again growing, as well as now accommodating smaller issuers. As an example, Great Western (CCC+ rated) priced a \$300 million 9% senior notes deal at 99 to yield 9.25%, thus decreasing the threshold for high yield market access. More generally, there is strong investor appetite for comprehensively structured transactions, which is perhaps best exemplified by Transocean's recent \$600 million senior secured bond offering, in which Angelo, Gordon played a significant role and was an anchor investor.

Finally, as a result of the continued retraction in bank lending activity, the market for non-bank direct lending continues to improve. The broadly syndicated bank market remains functionally non-existent for all but the best borrowers, as the confluence of sector bankruptcies and stringent new regulatory guidelines that were imposed on lenders by the OCC in March have changed the landscape of secured energy lending for the foreseeable future. This environment, however, creates a real opportunity for private debt, in both bank refinancing transactions and in new growth financings.



**GAVIN BAIERA**  
*Portfolio Manager*

### Distressed Debt

Credit market participants' appetite for yield showed no signs of slowing during the third quarter of 2016, even as the economy approaches its eighth year of expansion. In fact, more than 70% of the performing leveraged loan market today is trading higher than 99.5% of par.

As seasoned distressed practitioners, we recognize factors critical to the success of our distressed mandate: avoid reaching for yield in frothy environments and ensure ample dry powder to deploy during proper market dislocations. Such dislocations historically have occurred at credit cycle inflection points preceding a default wave. What we are witnessing instead is a potential global storm brewing. With unprecedented levels of negative yielding fixed income instruments, increasingly volatile currencies, and incessant monetary stimulus insisting that artificially low rates will provoke growth and inflation, corporate growth remains anemic, leverage levels are at record highs,

and defaults are at historic lows (less than 1% excluding commodities). Until a fundamental correction re-prices risk according to market constraints, the increasingly influential technical backdrop will continue to dominate balance sheet and earnings fundamentals, and erode credit-specific quality attributes.

While waiting for such a re-pricing, credits that carry a simple story are richly valued, and we retain a preference for idiosyncratic, off-the-run situations in which process or value complexity has led to a natural price gap.



**ARTHUR PAPONIS**  
*Portfolio Manager*

### Private Equity

The third quarter of 2016 was a continuation of prior trends for the private equity market. Although North American volumes increased 28% in the first nine months of 2016 from the same period in 2015 (\$151 billion versus \$118 billion), global deal volume through the first three quarters of 2016 was down approximately 5% year on year (\$234 billion versus \$245 billion). Continuing a long-term trend, dry powder increased from \$518 billion at June 30, 2016 to \$534 billion at September 30, setting a new record. Leverage levels as a multiple of EBITDA for the first nine months of 2016 were 5.4x, which is slightly lower than levels seen in 2014 and 2015, but still high from a historical perspective. Although we saw a slight decline in average multiples paid through the first two quarters of 2016 from calendar 2015, this trend was short-lived. The average multiple paid by private equity firms in the first nine months of 2016 was a record 10.5x EBITDA, higher than the 10.3x multiple paid in calendar 2015.

The competition for assets and the high level of dry powder in the marketplace have also resulted in an increased level of equity contribution by private equity firms to secure assets. The 43% of equity contribution as a percent of total capitalization seen in the first three quarters of 2016 is the highest level since 2009. In this environment, private equity firms need to choose their “spots” and focus on acquiring assets where they believe they have a sourcing advantage and differentiated industry expertise in order to generate superior returns. Finally, while the number of exits was essentially the same during the nine months of 2016 from the first nine months of 2015 (1,177 vs. 1,195), overall volume declined 31% in large part by both a weaker IPO environment and smaller dispositions of assets by sponsors to strategic acquirers.

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**DAVID KAMIN**  
*Portfolio Manager*

### Merger Arbitrage

The third quarter of 2016 saw a continuing shift from mega-cap to mid-cap deals, with deal volume declining to its lowest level of the last 11 quarters while recording well-above average numbers of announced deals. The outliers to this recent trend were foreign buyers of U.S. companies: Bayer AG announced its acquisition of Monsanto Co., Danone SA purchased WhiteWave Foods and Enbridge Inc. acquired Spectra Energy, all deals in excess of \$10 billion in equity value.

While deal valuation multiples reached new highs during the quarter, share price movements post-deal announcements headed into positive territory, reversing the negative trend of the last four quarters. Merger arbitrage spreads widened to an average of ~9% from ~7% during the quarter, largely due to continued antitrust enforcement concerns and deal-specific issues. While the quarter saw only one deal terminated — NextEra ending

its pursuit of Hawaiian Electric — U.S. antitrust regulators continued to hold a hard line on mergers they deemed unacceptable. Both the Humana and Cigna deals were challenged by the Department of Justice (DOJ), and Lam Research also ran into issues with the DOJ in their acquisition of KLA-Tencor. Walgreens continues to work with the FTC on its acquisition of Rite-Aid, announced almost one year ago, in yet another example of antitrust scrutiny delaying deals.

In spite of antitrust concerns and the lingering uncertainties of Brexit, deal closures of some largely held positions contributed to a strong quarter for arbitrageurs. Of note, Dell closed its acquisition of EMC Corp, Marriott closed its purchase of Starwood Hotels and Mylan completed its deal for MEDA. The current universe of pending deals has moderate duration risk and moderate antitrust risk, and these continuing antitrust concerns and year-end risk management considerations could weigh on arbitrage spreads in the fourth quarter. While organic growth remains elusive, companies continue to have sizable cash balances and financing remains attractive. We would expect a continuation of this robust M&A cycle into 2017.

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**GARY WOLF**  
*Portfolio Manager*

### Convertible Arbitrage

Helped by continuously supportive central banks, global equity markets managed to brush aside the wide array of geo-political concerns to produce a 4.28% return in Q3 (MSCI World, local currency terms). On an outright basis, convertible bonds continued to outperform, returning 4.84% (BAML G300, local currency terms). Convertible arbitrage strategies also continued to perform well in an environment where valuations remained underpinned by demand from long-only investors. The HFRX FI-Convertible Arbitrage Index gained 3.64% during the quarter.

The primary market stayed very active during the summer, with \$24.4 billion of new convertibles issued globally in Q3, more than twice the amount issued during the same quarter last year, according to UBS data. The U.S. market was once again the leader by volume, contributing a new issue volume of \$15.3 billion, followed by Europe with \$5.0 billion. Asia picked up pace somewhat over the period, recording \$2.9 billion of deals, while the Japan

primary market remained virtually shut. The largest transactions over the quarter included DISH Network, NextEra Energy, Dominion Resources, Symantec and Chesapeake.

With several volatility catalysts on the horizon including the U.S. presidential election, potential tightening by the Fed, the ECB laying out its course beyond the current asset purchase program and a referendum in Italy, the environment should remain attractive for convertible hedge strategies during the final quarter of the year.

## PORTFOLIO MANAGERS' CORNER *(continued)*

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**JONATHAN LIEBERMAN**  
*Portfolio Manager*

### Residential and Consumer Debt (RMBS/ABS)

The second-quarter rally in mortgage credit continued through the third quarter as strong demand brought spreads to the tightest levels in over a year, and nearly all parts of the capital structure participated in the rally. In June, bondholders received most of Countrywide's \$8.5 billion settlement with RMBS investors and, as we expected, the extra cash elevated reinvestment demand into RMBS. The new issue calendar was very active, particularly in July, and the expected summer slowdown did not materialize until the end of August. Mortgage collateral continued to perform well, and home prices maintained mid-single digit year-over-year increases through the quarter. Tight inventory has been cited as a primary driver of home prices in many markets, a technical likely to persist for some time, despite strong homebuilder confidence. Credit card performance was strong during the quarter. Auto performance, however, has been more mixed, as delinquencies and defaults have reached higher levels compared to other post-crisis vintages but otherwise remain consistent with a normal credit cycle.



**ANDREW SOLOMON**  
*Portfolio Manager*

### Real Estate Debt (CMBS)

The CMBS cash market had a volatile but generally positive third quarter. In July, spreads continued the tightening that began in June following the shock Brexit vote, while four new conduit deals came to market after no new issuance in June. Each transaction was generally well-received. Indeed, one deal's 10-year AAA class priced at swaps plus 1.08%, which at the time represented the tightest of the year. Lower down in the capital structure, credit spreads were also significantly tighter than May levels.

The rally continued in the first half of August with one 10-year new issue AAA class pricing at swaps plus 1.00%, a level that marked another new tight print for the year. Several new issue deals priced their BBB- classes at approximately swaps plus 5.00%, levels consistent with those witnessed at the start of the year.

Issuance continued at a robust pace in September, with six new issue conduit deals and four single asset/single borrower deals coming to market. In total, just over \$8 billion of private label transactions priced during the month, representing the highest level this year. The combination of heavy supply, typical quarter-end balance sheet pressures, macroeconomic concerns and slightly lower loan quality all weighed on the market, and by quarter end 10-year AAA spreads widened to swaps plus 1.17% and the last two BBB- bonds to price both cleared at yields wider than swaps plus 6.00%.

Looking ahead, new issue volumes are expected to remain elevated in both October and November as dealers try to clear their loan inventory prior to the implementation of the new risk retention rules that go into effect on Christmas Eve.

Perhaps the biggest CMBS news during the quarter was the August pricing of the first risk retention compliant conduit deal by Wells Fargo. While market participants have generally focused on the effect of the new rules on B-Piece buyers and how they will contend with retaining a horizontal equity strip, this deal utilized a vertical retention approach. Wells Fargo, along with the other loan contributors — Bank of America and Morgan Stanley — collectively retained a total of 5% of each bond class. With the retention requirement thus fulfilled, the remaining 95% of the transaction is free to trade in the same way as any other CMBS deal currently does. It remains unclear whether these banks will be able to classify their retained portions as loans or bonds for the purposes of capital charges. Loan treatment is expected to result in significantly higher adjusted returns on equity for the banks.

The loan quality in the pool was strong, and the transaction was very well received by the market with pricing levels across the capital structure achieving the tightest levels seen this year. We continue to believe that retention will not lead to a one-size-fits-all approach and that managers may be able to take advantage of opportunities as a result of the implementation of the rules.



**GORDON J. WHITING**  
*Portfolio Manager*

### Net Lease Real Estate

As of the third quarter of 2016, the trailing 12-month U.S. single-tenant transaction volume totaled \$52 billion, according to Real Capital Analytics. While transaction volume has declined by 19% from the recent peak in Q4 2015, it remains well above the 10-year average of \$35 billion. The decline in transaction volume was most pronounced in the retail segment where average cap rates are below 6.0%, while industrial and office volumes were more stable. During the quarter, single-tenant cap rates across retail, office, and industrial assets continued to trend downward as financing markets improved.

While the CMBS market has become more attractive in recent months, the implementation of risk retention regulation late this year will have an impact on pricing. Based on early indications and recent issuances, the CMBS market seems equipped to handle the new regulation although market participants assume pricing will increase by 25-30 basis points after it goes into effect. As we look forward to the remainder of 2016, we are expecting an increase in deal volume as buyers and sellers seek to close transactions prior to the implementation of the new rules and prior to year-end for tax purposes. In the current environment, buyers are able to separate themselves from competition by offering certainty of execution and short closing timeframes.





**ADAM SCHWARTZ**  
*Portfolio Manager*  
Head of U.S. and  
Europe Real Estate



**REID LIFFMANN**  
*Co-Portfolio Manager*  
U.S. Real Estate



**ANUJ MITTAL**  
*Co-Portfolio Manager*  
Europe Real Estate

### Real Estate

**United States Real Estate:** Commercial property sales fell 2% year-on-year in the third quarter on total volume of \$115 billion, representing the third consecutive quarter of falling volume, albeit at moderating declines, with year-to-date volume down 9% year-on-year. Portfolio and entity-level transactions led the decline, off by 15% in the quarter (down 32% year-to-date) while individual assets were up 2%. On a relative basis, volumes saw greater growth in the secondary/tertiary markets versus the major metros which saw some declines (e.g., Manhattan down 18%). On a net investment basis (purchases less sales), foreign investors continue to remain the most active, although institutional and private buyers also became net buyers in the third quarter while REITs remained net sellers.

CMBS originations increased towards the end of the third quarter, likely in anticipation of moving inventory before the risk-retention rules come into effect near year-end. Similarly, total debt origination continued at robust levels with outstanding CRE loans now within spitting distance (less than 1%) of their 2008 peaks.

With capital markets activity still at high relative levels compared to prior years, prices continued their upward march albeit at a slower pace. In the quarter, Green Street Advisors tracked property prices up by 1% for REIT assets, 3% year-to-date while Moody's CPPI (all property trades) shows a more lofty year-to-date gain of 9%. The U.S. REIT index (RMZ) gained 12% year-to-date and 20% T12, reflecting a significant recovery from the end of 2015 when REIT share prices implied a potentially significant repricing of private market CRE values.

**Europe Real Estate:** In the third quarter, the public and private real estate markets in Europe continued to look for clarity around Brexit and its implications. Public real estate companies in the UK saw share prices drop and in some cases rebound, however at the end of the quarter the UK composite was still trading 20% below NAV. Transaction volumes were down 40% in Q3, largely as a result of atypically low levels of activity in the early part of the quarter. By September, however, volumes increased to levels approximately 5% higher than those recorded in September 2015. Since Brexit, foreign buyers have accounted for 78% of UK transactions versus the long term average of ~60%. This increase in demand was likely aided by the lower currency and served to cloud true price discovery, with assets ultimately trading not significantly below their pre-Brexit values. At this point, nearly all the open ended funds which quickly gated redemptions have now in fact opened or indicated when they will. Additionally some investors who were quick to take valuation impairments have now reversed course.

On the continent, German residential companies have benefited greatly as they are highly correlated with German government bonds, which in turn have seen falling yields on the Brexit dislocation. With possible economic and political headwinds, however, this could reverse. Economic indicators continue to be mixed with more negative news coming out as Q3 came to a close. Export growth across all major European economies has slowed so far in 2016 and the third quarter was the slowest since 2009, albeit still positive. Unemployment

has been stuck at 10.1% for the last five months and rising unemployment in France over the last four months from 9.9% to 10.1% is cause for some concern.

Across Europe, bank stress tests were finalized in the summer and while only a handful of banks were identified as needing more capital, greater transparency and more consistent classification of impairments led to an increase in non-core and NPL assets. In fact, PwC estimates that European banks possess EUR 2.3trn in non-core assets, including non-performing loans (NPL), reperforming (RPL) loans, as well as repossessed real estate (REO), of which about EUR 1trn is comprised of NPLs on banks' balance sheets.



**WILSON LEUNG**  
*Portfolio Manager*

### Asia Real Estate

Since the Bank of Japan ("BOJ") imposed the nation's first-ever negative interest rates in a bid to beat deflation in January, pushing the 10-year government bond yield to -0.2%, inflationary fiscal and monetary stimulus continued to be a focus for the government and Japan's central bank. In July, Prime Minister Shinzo Abe's ruling coalition won the election for the upper house and quickly proposed a \$270 billion fiscal stimulus package, although it remains to be seen the extent to which structural reforms will be enacted by the government. In the same month, the BOJ announced additional monetary easing although at levels below analysts' predictions, and further monetary stimulus is expected in the second half of 2016. Japan's unemployment rate fell to 3.1% in June, the lowest level in nearly 21 years, and as a result wage increases are anticipated. Japanese tourism remains active and the number of foreign tourists rose by 28% Y-o-Y to 11.7 million people from January to June, despite the yen

strengthening from 120 to 103 JPY per USD. This is a positive sign for the hotel and retail industry and the beginning of a trend which many economists expect will continue until the 2020 Tokyo Olympic Games.

Real estate fundamentals in Central Tokyo remained strong. All-grade office vacancy rates across Tokyo fell below 4.0% in the second quarter. In addition, fundamentals in other large regional cities such as Osaka and Nagoya have shown significant improvement due to recovering tenant demand and limited new supply. The all-grade office vacancy rate in Osaka fell below 5% in the second quarter for the first time since the third quarter of 2008, and there is an expectation that rents may begin rise over the next six to 12 months. On the capital market side, there has been a significant decline in the volume of commercial real estate transactions in the first half of 2016 as compared to 2015, mainly due to a lower volume of properties offered for sale. That being said, there continues to be growing interest from Japanese corporates to sell non-core real estate driven by investor pressure to improve returns on equity and growth.

In Korea, analysts expect the economy to slow in the second half of this year due to the uncertain global economic outlook. The Bank of Korea ("BoK") lowered its 2016 economic growth forecast from 3.0% early this year to 2.7% as of July, reflecting lower than expected growth in the second half of 2016. In order to stimulate the economy, the BoK has continued to encourage further monetary easing by lowering its benchmark policy rate from 1.5% to 1.25% this June. As a result, we may see core, stabilized cap rates compress going forward. In fact, office cap rates have already compressed 70 basis points over the past five years with the five-year Korean government bond yielding only 1.4%, which is near historical lows. Today, the spread between the Korean government bond yields and prime office cap rates has widened to approximately 350 basis points, making stabilized real estate increasingly attractive to core investors. That being said, we take the view that commercial office capital values may not increase as fast as we have seen during the past 12 months, as there needs to be a commensurate improvement in real estate fundamentals to support an increase in asset prices. The overall vacancy rate of commercial office real estate in Seoul remained stubbornly high at 11.7% in Q2 2016 versus 11.0% in Q4 2015, mainly due to slower absorption. However, the major supply wave of commercial office is now behind us, so it is expected that the vacancy rate could decline over the short to medium term. Competition to purchase stabilized core assets continues to be fierce as both domestic and foreign core buyers seek well-located stabilized properties in the current low-rate environment. However, there continues to be significant opportunities to buy non-core, inefficiently operated assets in this market that are only in the early stages of the real estate recovery.

Finally, moving on to China: Q3 2016 GDP growth was recorded at 6.7%, and most economists expect China's economy to gradually slow in the coming years as it continues to transition from an export and investment-led economy to a domestic consumption and services-driven economy. The equity market experienced yet another volatile year and the currency has depreciated about 8.0% since August of last year.

On the flipside, the real estate market has been exceptionally buoyant, with national home prices rising 17% year-over-year. In particular, we have seen residential prices in the first tier cities of Shanghai and Beijing surge by 40% and 25% respectively since 2015. This is largely due to the very limited new supply added in these first-tier cities, as well as a loosening of mortgage policies by the central government. Meanwhile, in the lower-tier cities, we have seen more modest price growth and a continued destocking of the current inventory. Although we do not anticipate a major correction in the real estate market in China, the current robustness of the market is cause for some caution in investing in the market.





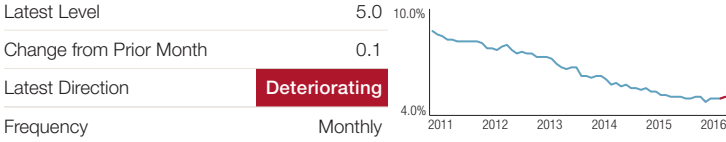
**JOB MARKET**

Macro Economics

Five-Year Trend

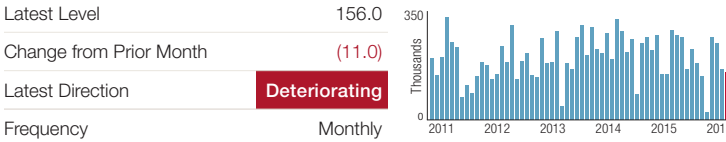
**US – Unemployment Rate**

As of 9/30/2016



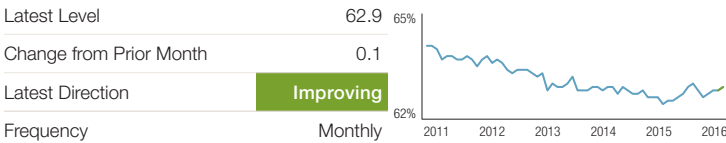
**US – Non-Farm Payroll**

As of 9/30/2016



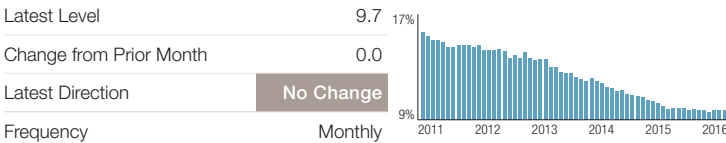
**US – Labor Participation Rate**

As of 9/30/2016



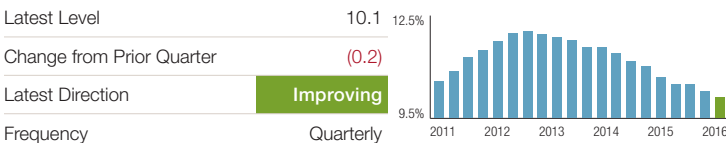
**US – U-6 Unemployed & Margin & Part-Time as % of Labor Force & Margin**

As of 9/30/2016



**Eurozone Unemployment Rate**

As of 6/30/2016



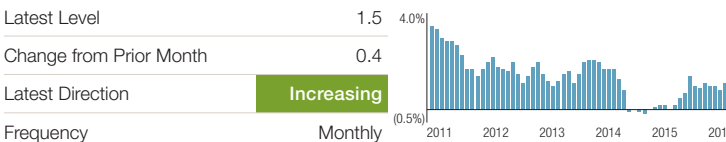
**INFLATION**

Macro Economics

Five-Year Trend

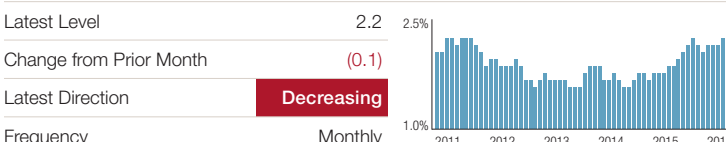
**US Consumer Price Index (CPI) Y-o-Y %**

As of 9/30/2016



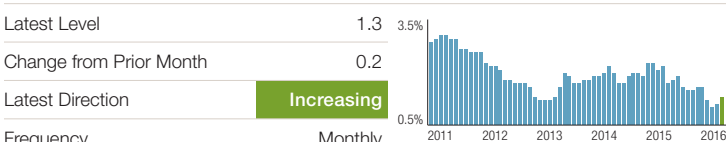
**US CPI Goods Less Food and Energy Y-o-Y %**

As of 9/30/2016



**US Producer Price Index (PPI) Y-o-Y %**

As of 9/30/2016



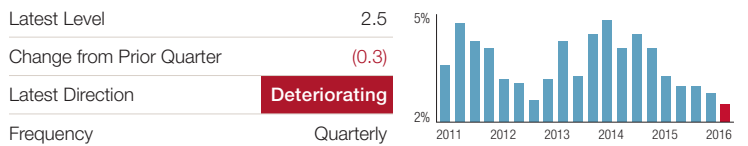
**GDP GROWTH**

Macro Economics

Five-Year Trend

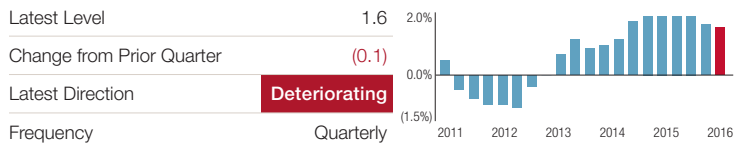
**US – GDP Y-o-Y %**

As of 6/30/2016



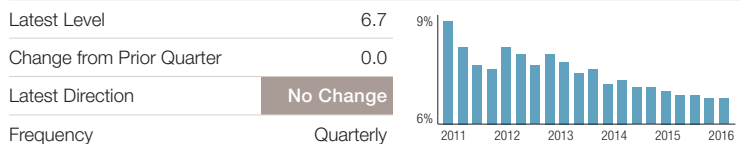
**Eurozone – GDP Y-o-Y %**

As of 6/30/2016



**China – GDP Y-o-Y %**

As of 9/30/2016



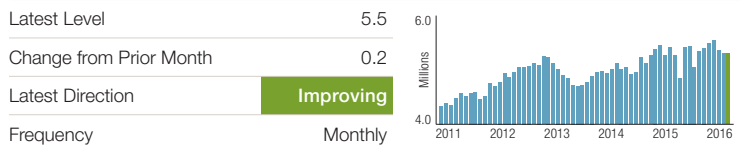
**HOUSING**

Macro Economics

Five-Year Trend

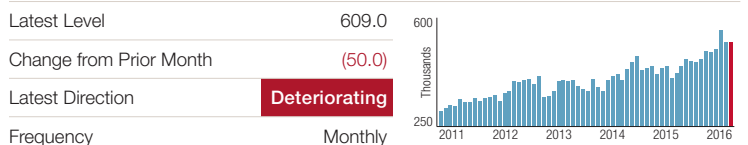
**Existing Home Sales**

As of 9/30/2016



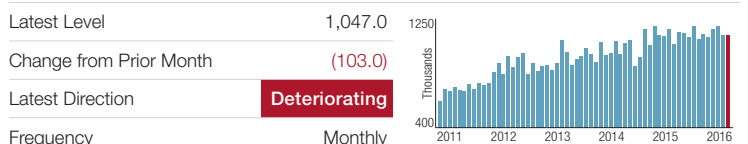
**New Home Sales**

As of 8/31/2016



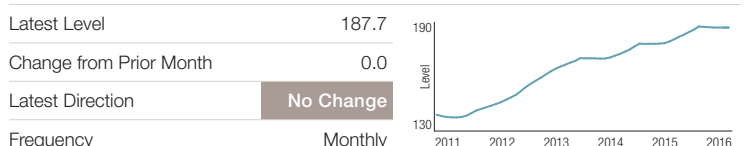
**Housing Starts**

As of 9/30/2016



**Case-Shiller Index of Home Value in 20 Cities**

As of 7/31/2016



# ECONOMIC DASHBOARD *(continued)*

## ECONOMIC & MARKET CONFIDENCE

Macro Economics Five-Year Trend

### Capacity Utilization as a % of Capacity As of 9/30/2016

Latest Level	75.4
Change from Prior Month	0.0
Latest Direction	No Change
Frequency	Monthly

### Private Fixed Investment Nonresidential SAAR As of 6/30/2016

Latest Level	2,304.7
Change from Prior Quarter	12.3
Latest Direction	Improving
Frequency	Quarterly

### Residential Fixed Investment as a % of GDP As of 6/30/2016

Latest Level	3.6
Change from Prior Quarter	(0.1)
Latest Direction	Decreasing
Frequency	Quarterly

### ISM Manufacturing Index As of 9/30/2016

Latest Level	51.5
Change from Prior Month	2.1
Latest Direction	Improving
Frequency	Monthly

### Manufacturing Inventory Change Q-o-Q \$ As of 6/30/2016

Latest Level	(21.6)
Change from Prior Quarter	(26.0)
Latest Direction	Decreasing
Frequency	Quarterly

### Architecture Firms Billings Index As of 9/30/2016

Latest Level	48.4
Change from Prior Month	(1.3)
Latest Direction	Deteriorating
Frequency	Monthly

### Exports of Goods/Services As of 6/30/2016

Latest Level	2,111
Change from Prior Quarter	29
Latest Direction	Improving
Frequency	Quarterly

### Shipping Rates As of 9/30/2016

Latest Level	875
Change from Prior Quarter	164
Latest Direction	Improving
Frequency	Quarterly

### Personal Income Level As of 8/31/2016

Latest Level	16,049
Change from Prior Month	39
Latest Direction	Improving
Frequency	Monthly

## ECONOMIC & MARKET CONFIDENCE *(continued)*

Macro Economics Five-Year Trend

### Michigan Consumer Confidence Sentiment As of 9/30/2016

Latest Level	91.2
Change from Prior Month	1.4
Latest Direction	Improving
Frequency	Monthly

## COMMODITIES

Macro Economics Five-Year Trend

### WTI Crude Oil Price As of 9/30/2016

Latest Level	48.2
Change from Prior Month	3.5
Latest Direction	Increasing
Frequency	Monthly

### Reuters/Jefferies Commodity Index As of 9/30/2016

Latest Level	186.3
Change from Prior Month	6.1
Latest Direction	Increasing
Frequency	Monthly

### Gold As of 9/30/2016

Latest Level	1,315.9
Change from Prior Month	6.9
Latest Direction	Increasing
Frequency	Monthly

## RATES

Macro Economics Five-Year Trend

### LIBOR 3M As of 9/30/2016

Latest Level	0.85
Change from Prior Month	0.01
Latest Direction	Increasing
Frequency	Monthly

### Treasury 10 Yr Yield As of 9/30/2016

Latest Level	1.59
Change from Prior Month	0.01
Latest Direction	Increasing
Frequency	Monthly

### Swaps 2Y vs. 10Y As of 9/30/2016

Latest Level	44.23
Change from Prior Month	4.68
Latest Direction	Steepening
Frequency	Monthly

### 30 Yr Mortgage and 10 Yr Treasury

Source: Bloomberg (All)

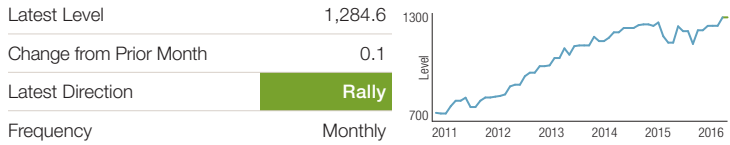
"Latest Direction" is from the last "Frequency" measurement

# ECONOMIC DASHBOARD *(continued)*

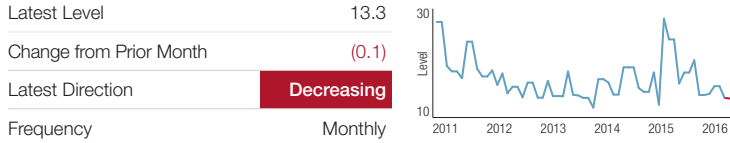
## EQUITY

Macro Economics Five-Year Trend

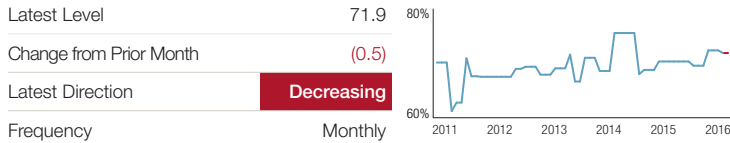
### US Equity Markets – Russell 3000 As of 9/30/2016



### US Equity – VIX As of 9/30/2016



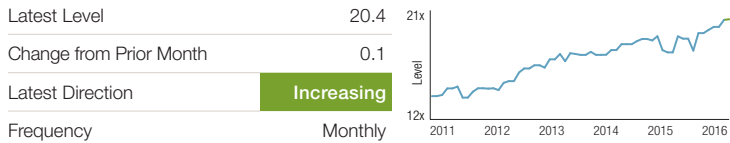
### S&P 500 Percentage Exceeding Earning Estimates As of 9/9/2016



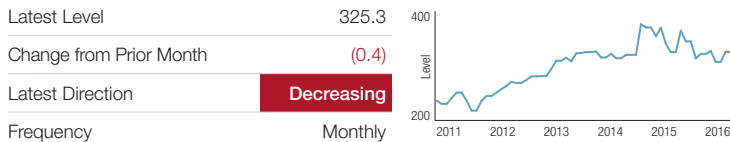
### S&P 500 Historical Valuation Levels



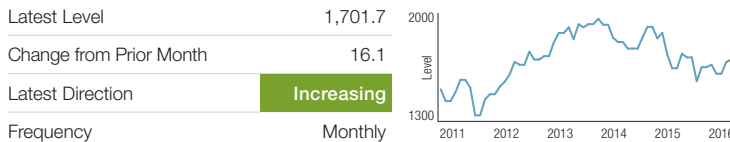
### Trailing P/E on S&P 500 As of 9/30/2016



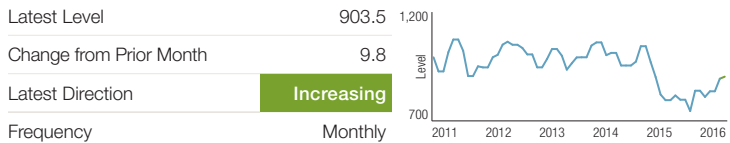
### Equity Markets – Euro Stoxx As of 9/30/2016



### Equity Markets – MSCI EAFE As of 9/30/2016



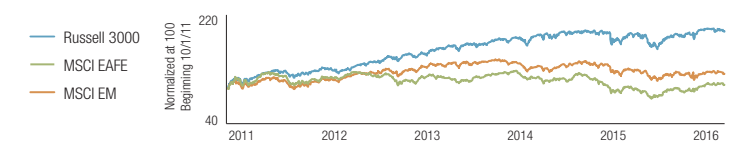
### Equity Markets – MSCI EM As of 9/30/2016



## EQUITY *(continued)*

Macro Economics Five-Year Trend

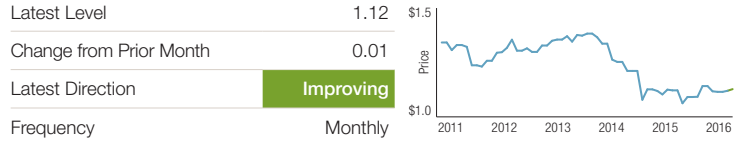
### Russell 3000 – MSCI EAFE – MSCI EM



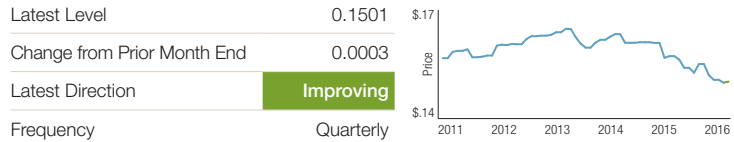
## FOREIGN EXCHANGE RATE

Macro Economics Five-Year Trend

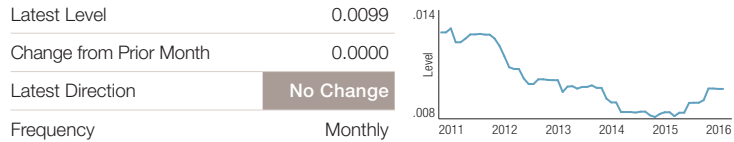
### Euro Spot Rate vs. 1 USD As of 9/30/2016



### Yuan Spot Rate vs. 1 USD As of 9/30/2016



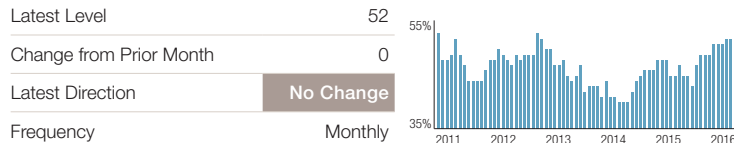
### Yen Spot Rate vs. 1 USD As of 9/29/2016



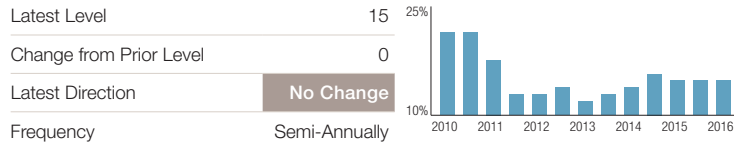
## POLITICS

Macro Economics Five-Year Trend

### NBC NEWS/WSJ Poll Obama Approval Rating<sup>(1)</sup> As of 9/30/2016



### CBS News/NY Times Congressional Approval Rating<sup>(2)</sup> As of 6/30/2016



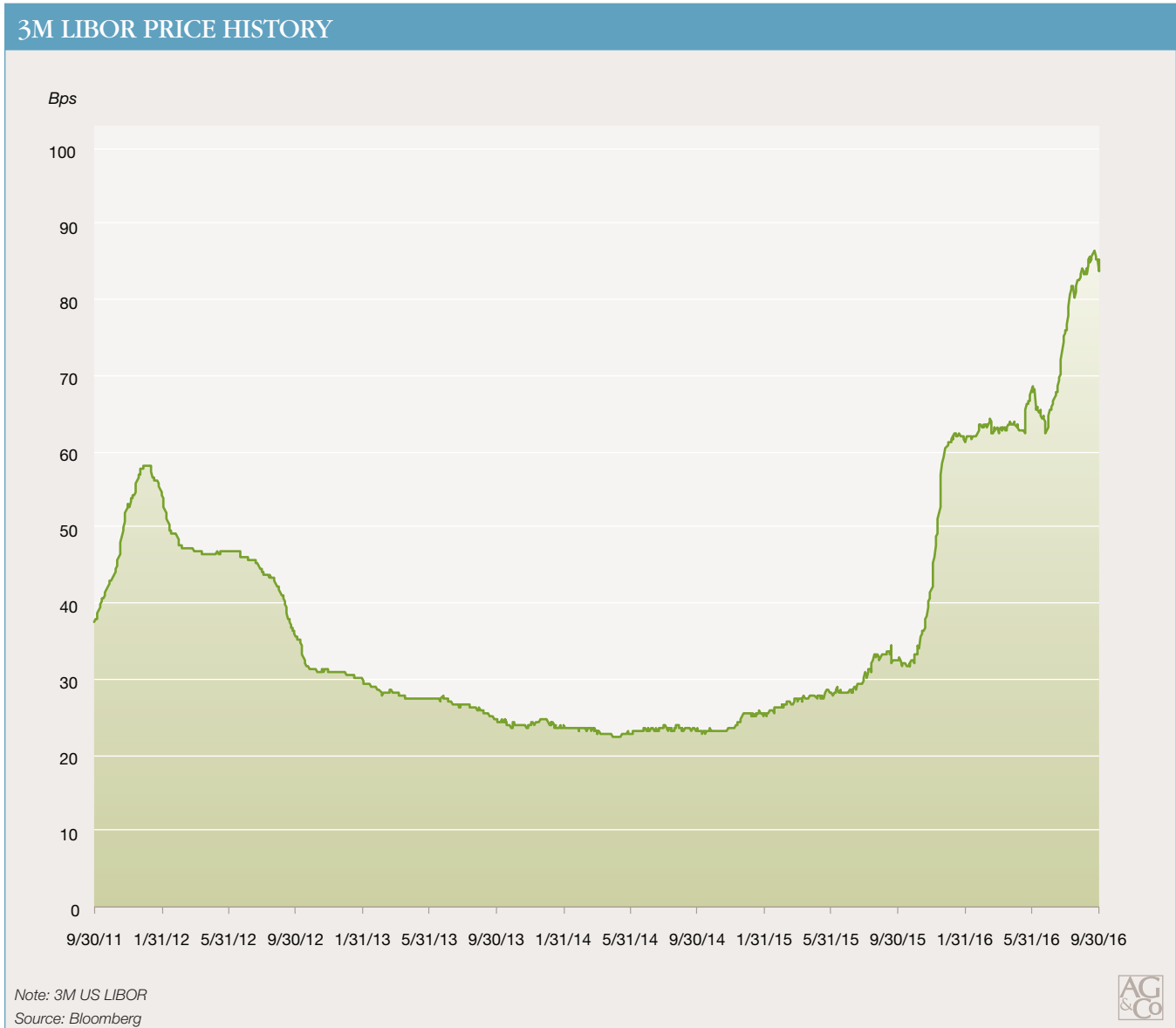
Source: Bloomberg (Except where noted)

(1) NBC News/Wall Street Journal Survey

(2) CBS News/NY Times

(3) Fox News Poll

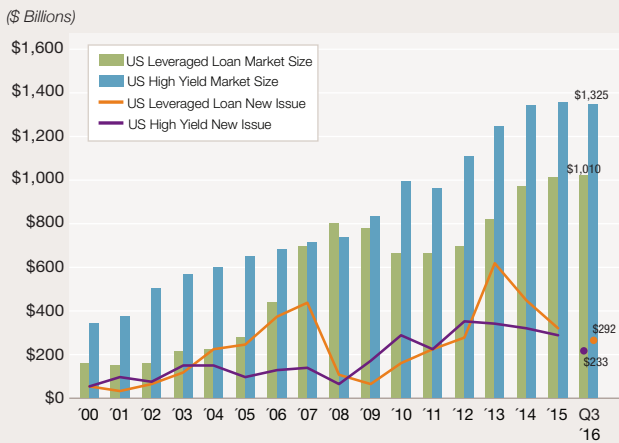
"Latest Direction" is from the last "Frequency" measurement



**Despite compressed global yields, money market reform in the U.S. has resulted in a meaningful rise in three-month LIBOR which in turn has implications for many global securities.**

## NON-INVESTMENT GRADE CORPORATE CREDIT

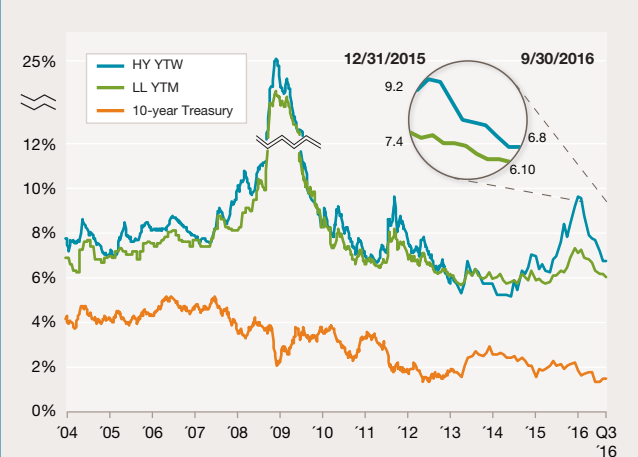
### LEVERAGED LOAN AND HIGH YIELD BOND MARKET SIZE AND NEW ISSUE VOLUME



Source: Credit Suisse, BofA Merrill Lynch, JPMorgan

Leveraged loan and high yield issuance remained strong during the quarter.

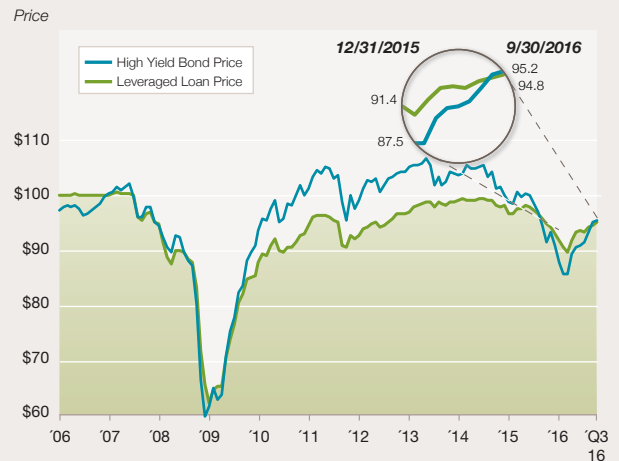
### LEVERAGED LOAN VS. HIGH YIELD BOND VS. 10-YEAR TREASURY YIELDS



Source: Credit Suisse, Bloomberg

Loan and bond yields continued to compress as investor risk appetite continued to be strong. The yield gap between the two asset classes has also compressed year-to-date.

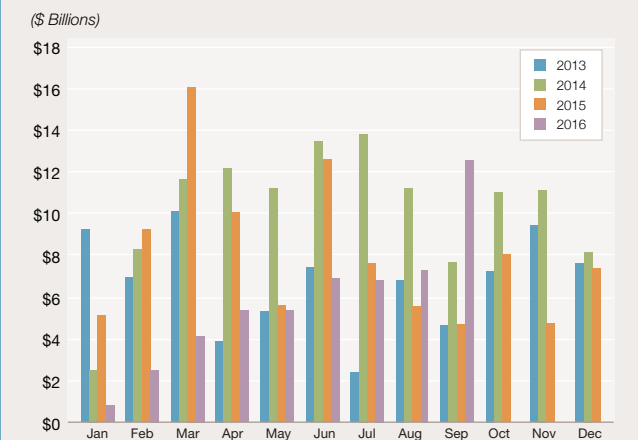
### LEVERAGED LOAN AND HIGH YIELD BOND AVERAGE PRICE



Source: Credit Suisse

High yield bond prices have surged by nearly eight points this year.

### US CLO MONTHLY VOLUMES

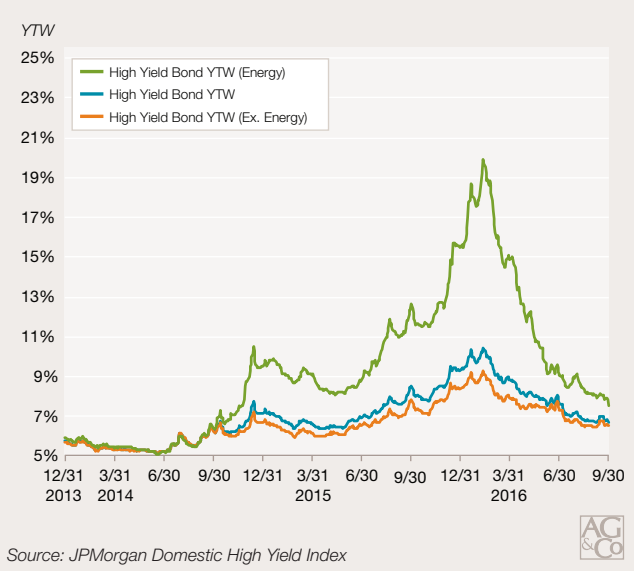


Source: BofA Merrill Lynch

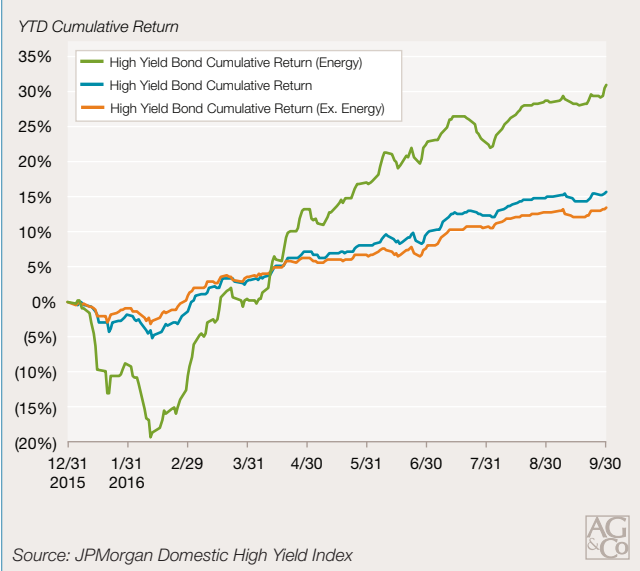
CLO issuance picked up during the quarter with a notably strong September.

# NON-INVESTMENT GRADE CORPORATE CREDIT *(continued)*

## HIGH YIELD BOND YIELDS WITH AND WITHOUT ENERGY

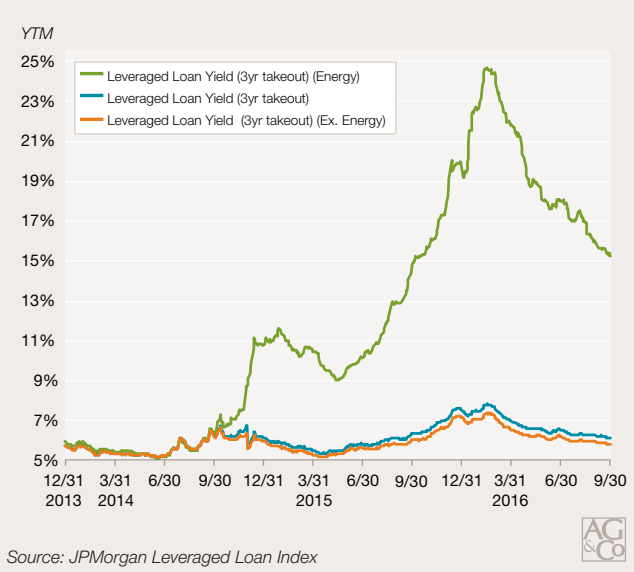


## 2016 HIGH YIELD BOND RETURNS WITH AND WITHOUT ENERGY

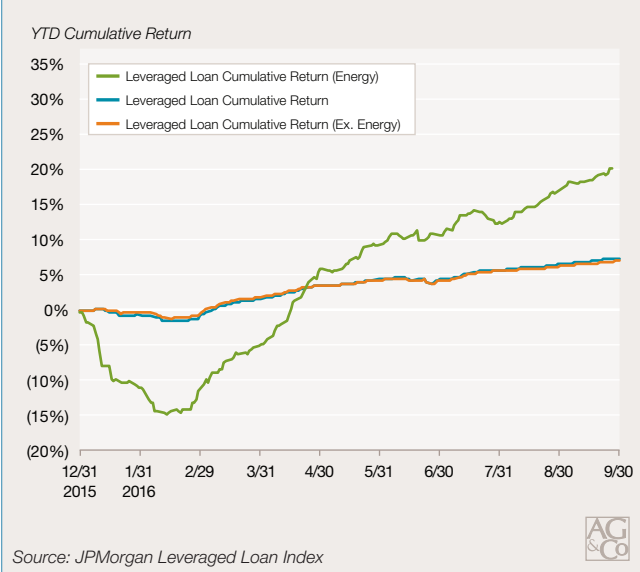


**Yield compression in energy continued to outpace the decline in yields seen in the broader leveraged finance markets. The spread tightening in energy led to strong returns for the energy sector in both high yield bonds and leveraged loans. (Applies to charts above and below.)**

## LEVERAGED LOAN YIELDS WITH AND WITHOUT ENERGY



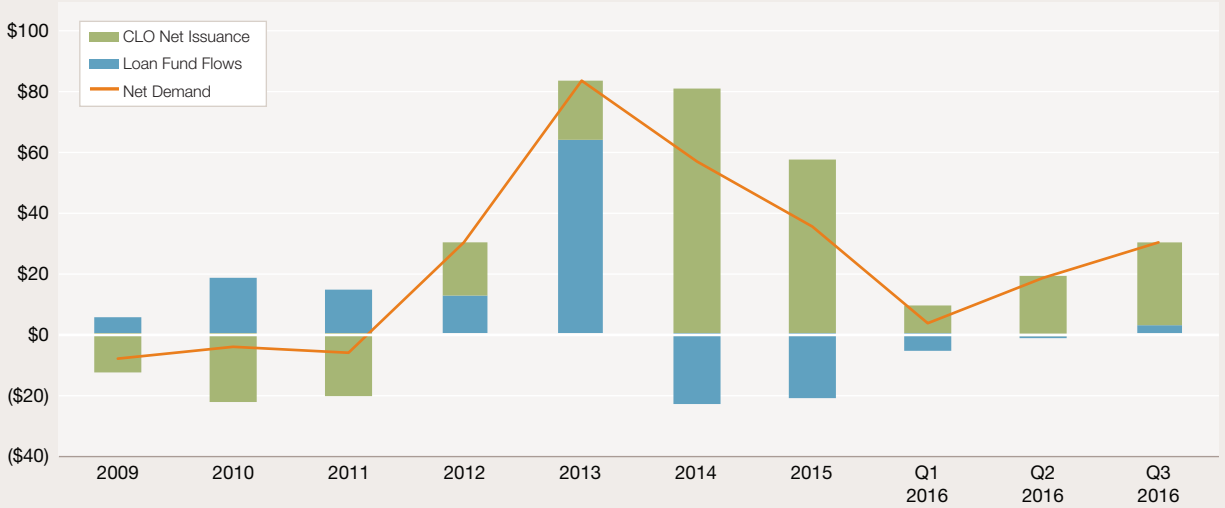
## 2016 LEVERAGED LOAN RETURNS WITH AND WITHOUT ENERGY



# NON-INVESTMENT GRADE CORPORATE CREDIT *(continued)*

## LOAN MUTUAL FUND FLOWS AND CLO ISSUANCE

Fund Flows and CLO Issuance (\$ Billions)

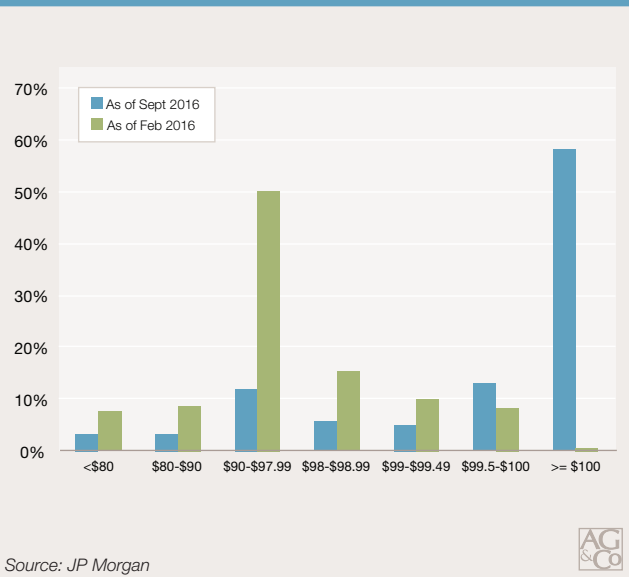


Source: JP Morgan, Wells Fargo



Net demand improved during Q3 as CLO issuance picked up and loan funds enjoyed inflows throughout the quarter.

## LEVERAGED LOAN PRICING BUCKETS

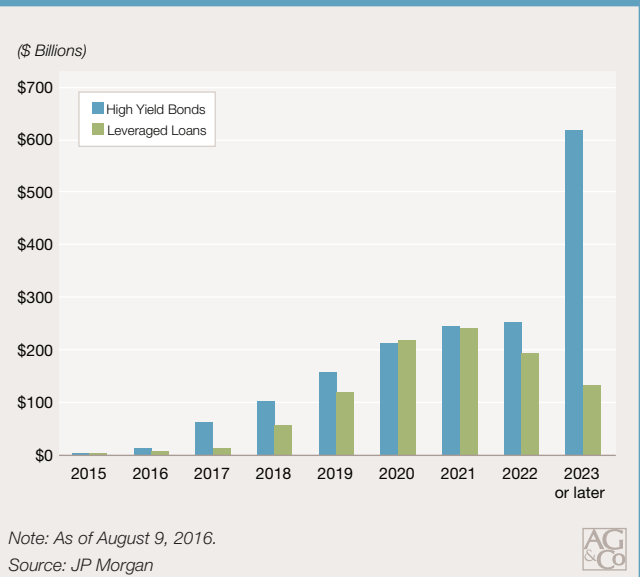


Source: JP Morgan



The rally in the loan market has led to a shift in the pricing distribution for the index. In February of this year, over 60% of the index was trading below \$98, but by the end of Q3 nearly 60% was trading above par.

## MATURITY SCHEDULE



Note: As of August 9, 2016.

Source: JP Morgan

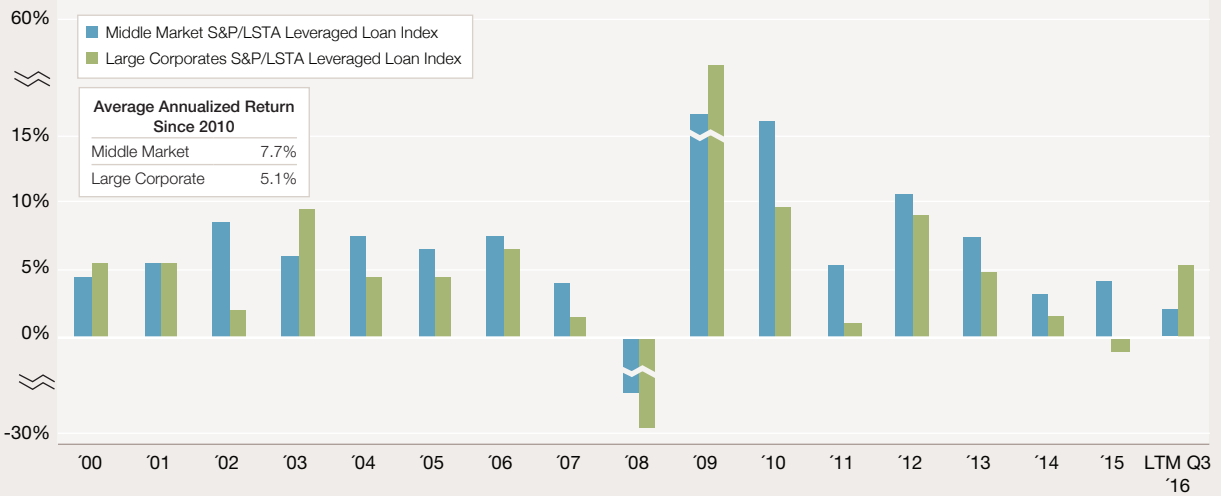


Leveraged loan and high yield bond maturities are very manageable over the next several years.



# MIDDLE MARKET DIRECT LENDING

## ANNUAL RETURNS: MIDDLE MARKET VS. LARGE CORPORATES

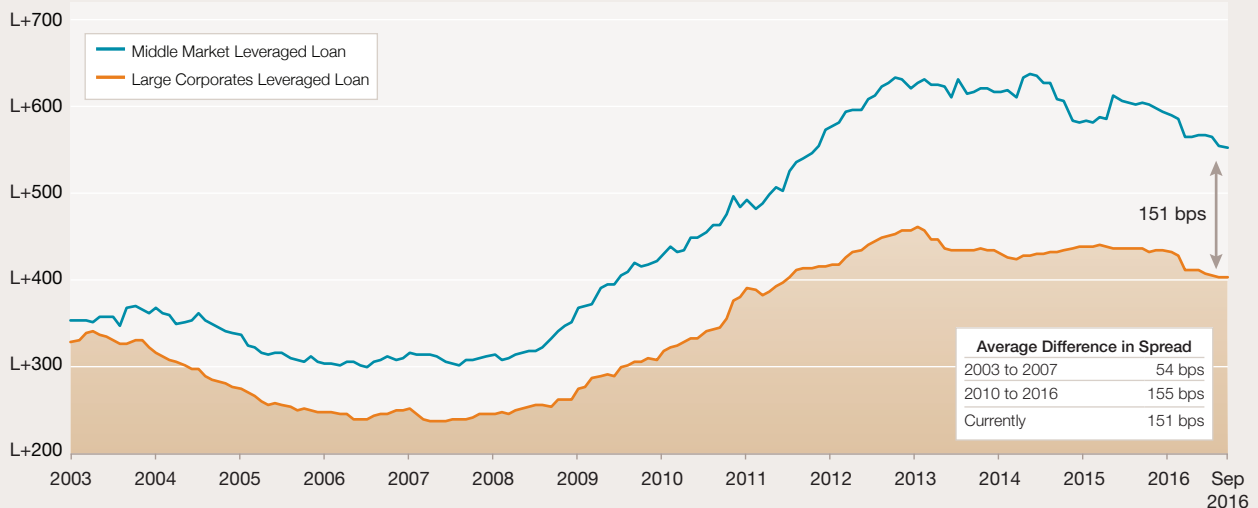


Middle market leveraged loan includes issuers with less than \$50m EBITDA  
 Source: S&P CapitalIQ LCD, S&P/LSTA Leveraged Loan Index



**Middle market loans are on track for their 8th consecutive year of positive performance.**

## AVERAGE LOAN SPREAD: MIDDLE MARKET VS. LARGE CORPORATES



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



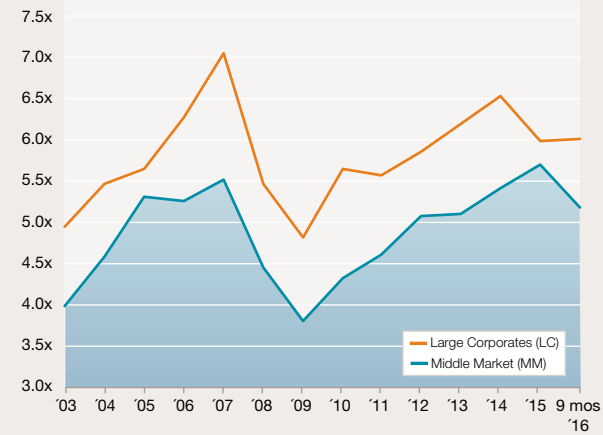
**Middle market borrowers have historically had a higher funding cost than large corporate borrowers, with the gap between the two tripling in the post-financial crisis era. The spread differential at the end of Q3 was in line with the average of the last five years.**





## MIDDLE MARKET DIRECT LENDING *(continued)*

### LBO DEBT TO EBITDA: MIDDLE MARKET VS. LARGE CORPORATES

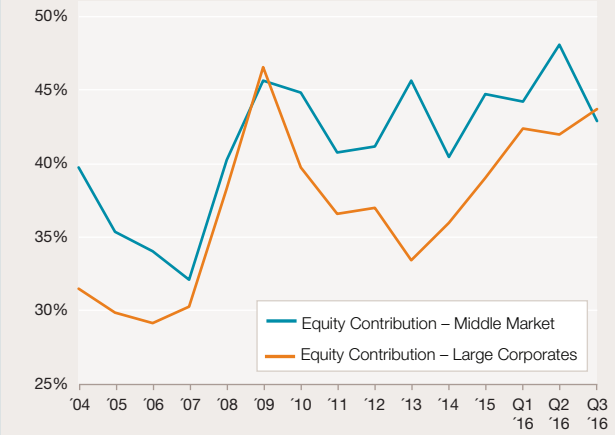


Source: Thompson Reuters



The debt-to-EBITDA multiple differential between the middle market and the large corporate market widened again during the quarter as even more conservative structures prevailed in the middle market.

### AVERAGE EQUITY CONTRIBUTION FOR LBO'S: MIDDLE MARKET VS. LARGE CORPORATES



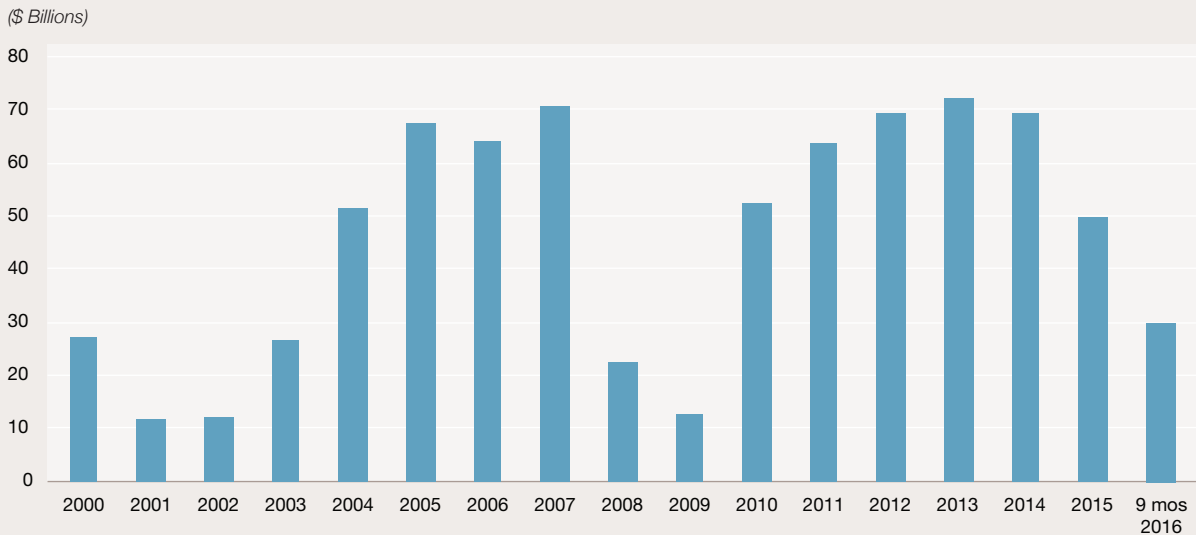
Middle market leveraged loan includes issuers with less than \$50m EBITDA. Average spread includes any LIBOR floor benefit.

Source: S&P CapitalIQ LCD



Sponsor equity contributions in the middle market remain north of 40%.

### MIDDLE MARKET SPONSORED ISSUANCE



Source: Thompson Reuters



While the pace of issuance has slowed somewhat versus last year, the opportunity set in the middle market remains consistent and robust.

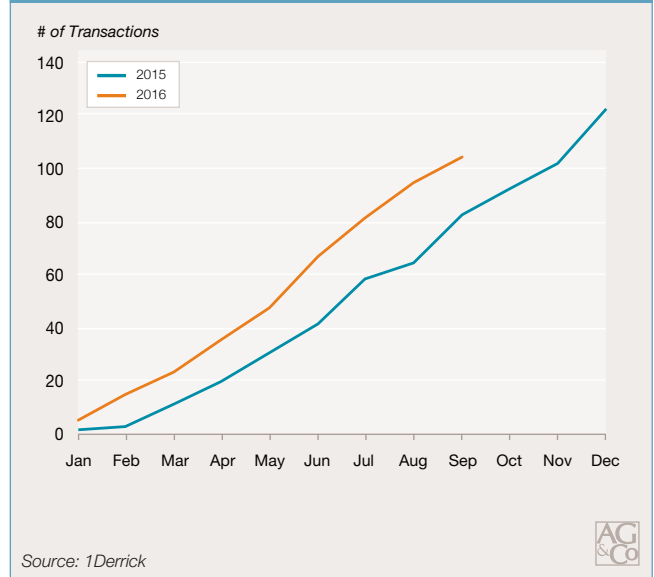


# ENERGY DIRECT LENDING

## COMMODITY PRICES VS. HIGH YIELD ENERGY VS. E&P EQUITY

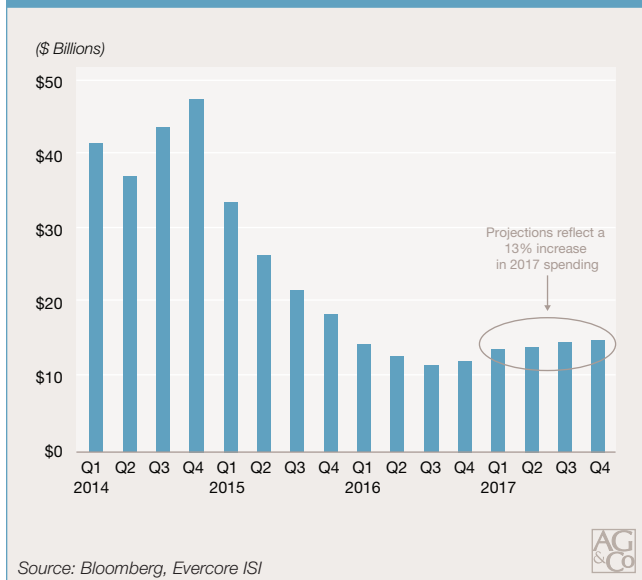


## MONTHLY CUMULATIVE A&D DEAL COUNT

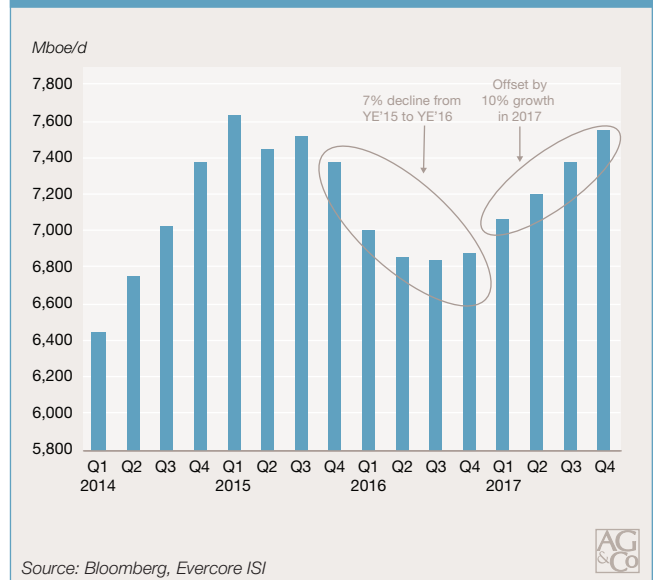


The rebound in oil prices has been met by similar rebounds in both equities and high yield, as well as an increase in A&D activity.

## NORTH AMERICAN E&P CAPITAL SPENDING



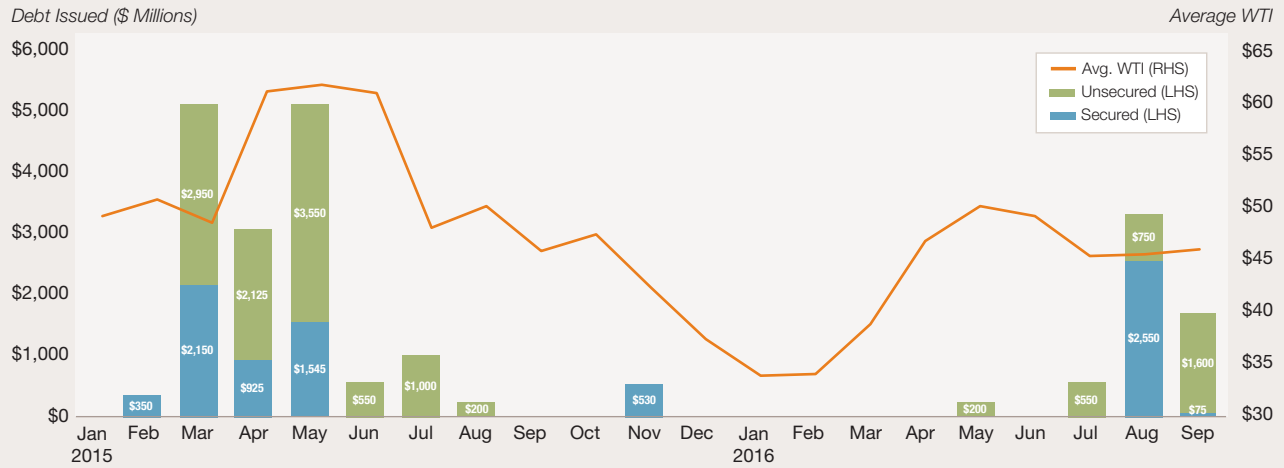
## NORTH AMERICAN INDEPENDENT E&P DAILY PRODUCTION



Spending by E&P companies is expected to increase, which is projected to drive production increases in the Lower 48.

## ENERGY DIRECT LENDING *(continued)*

### NEWLY ISSUED SYNDICATED E&P DEBT BY MONTH

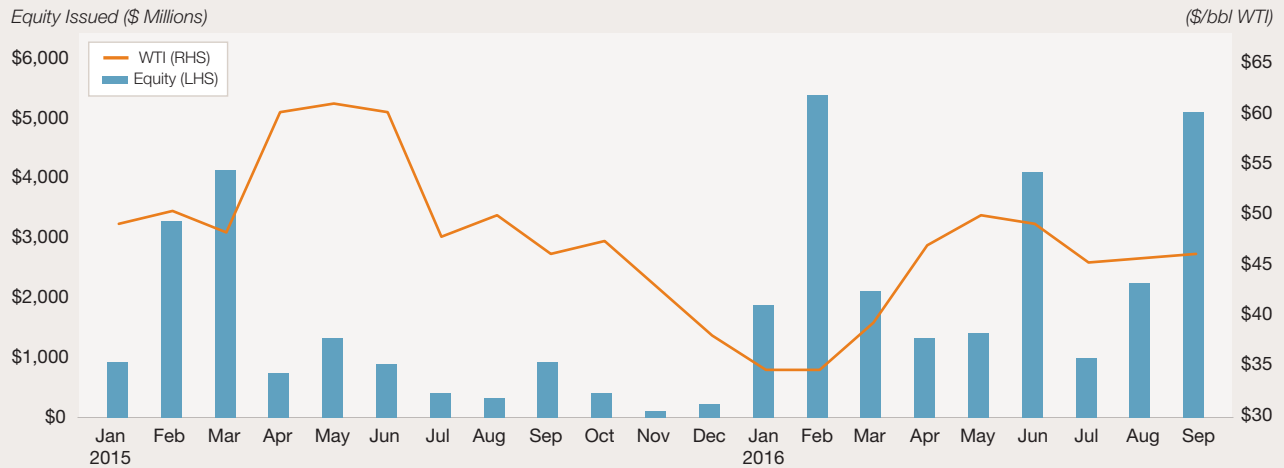


Source: KeyBanc, Seaport



**E&P companies have also benefited from the "all clear" signal from the high yield debt and equity markets.**  
*(Applies to all charts on page.)*

### NEWLY ISSUED E&P EQUITY BY MONTH

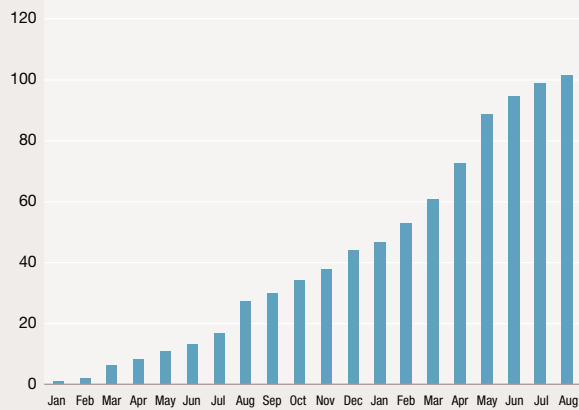


Source: Seaport



## ENERGY DIRECT LENDING *(continued)*

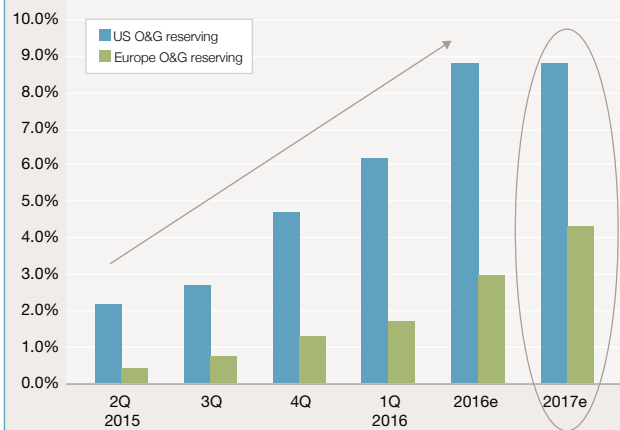
### 2015-16 CUMULATIVE NORTH AMERICAN E&P BANKRUPTCIES



Source: Haynes and Boone, LLP, as of Sept 7, 2016



### ENERGY SECTOR BANK LOAN LOSS RESERVES



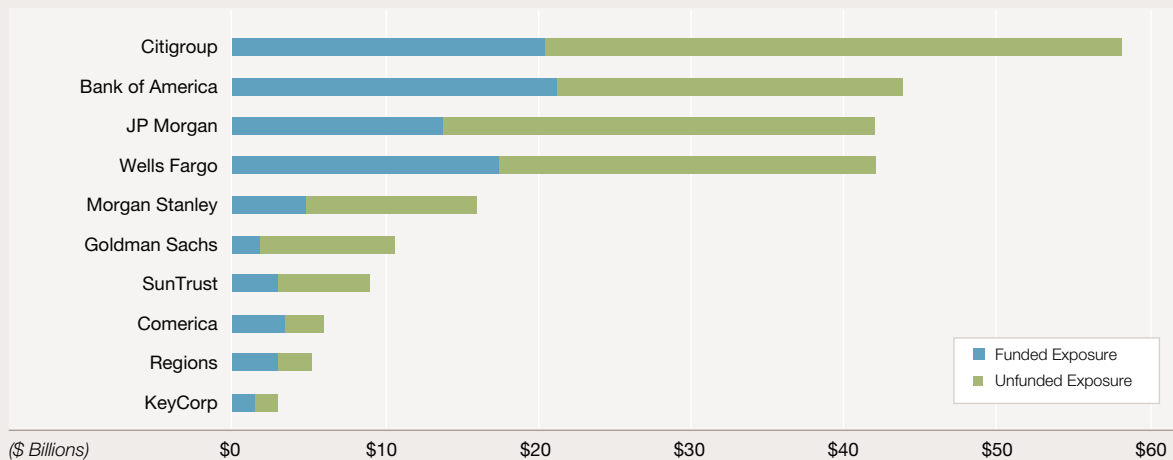
Note: As of August 9, 2016.

Source: Morgan Stanley



**While the larger "regular way" capital markets may be willing to underwrite to more aggressive commodity prices and assumptions, bank debt remains scarce due to the large number of bankruptcies in the space and regulatory pressure as a result of existing energy exposure. (Applies to charts above and below.)**

### BANKS HAVE LARGE LOAN EXPOSURE TO ENERGY COMPANIES

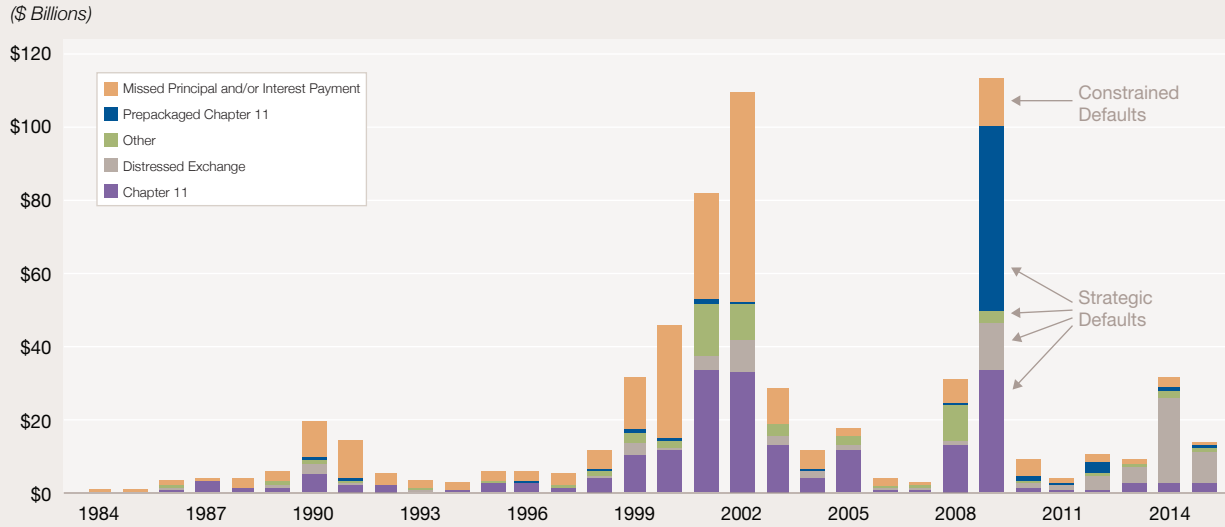


Source: Barclays



# DISTRESSED DEBT - UNITED STATES

## HISTORICAL DEFAULT DRIVERS

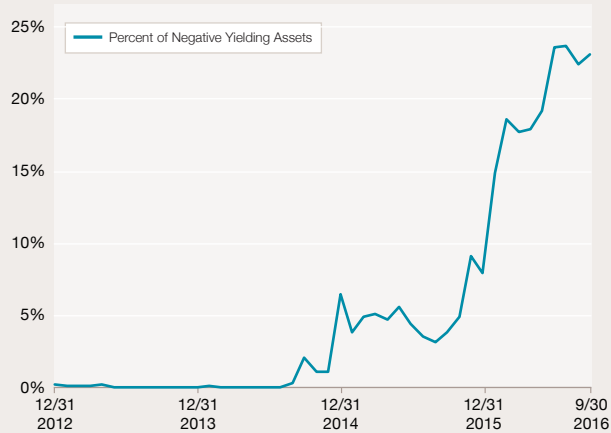


Source: Goldman Sachs, Moodys



**Distressed exchanges continue to comprise the lead restructuring options.**

## NEGATIVE YIELDS ACROSS GLOBAL MARKETS

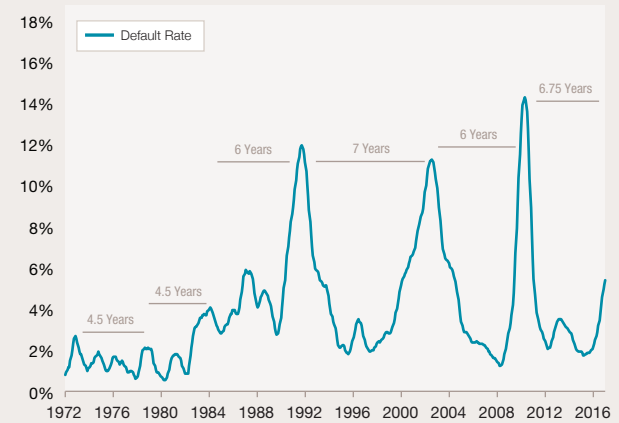


Source: BofA Merrill Lynch



**Rates continue to face compression, with ~25% of global fixed income at negative yields.**

## HISTORIC CREDIT CYCLE LENGTHS



Default Rate: U.S. speculative grade 12-month trailing default rate (6-month average)

Source: Moodys, BofA Merrill Lynch

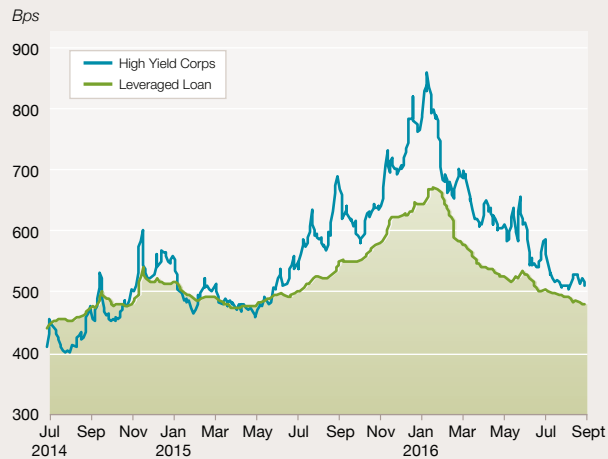


**Despite a moderate recent default uptick, the current credit cycle remains in its later stages.**



## DISTRESSED DEBT - UNITED STATES *(continued)*

### LEVERAGED DEBT SPREADS

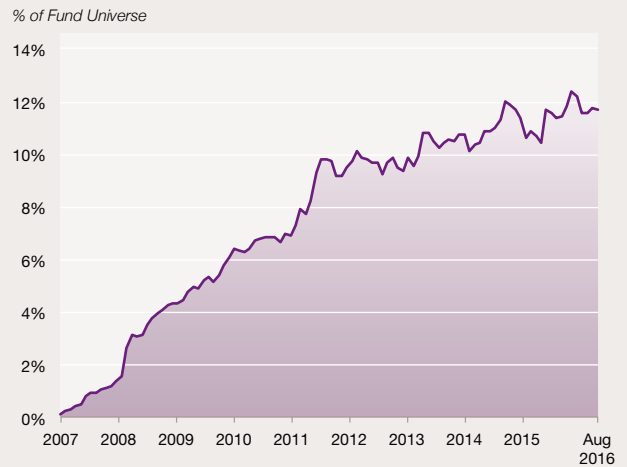


Source: Morgan Stanley Research, the Yield Book, S&P LCD



**U.S. leverage debt instruments priced below LTM lows.**

### THE GROWTH OF ETFs

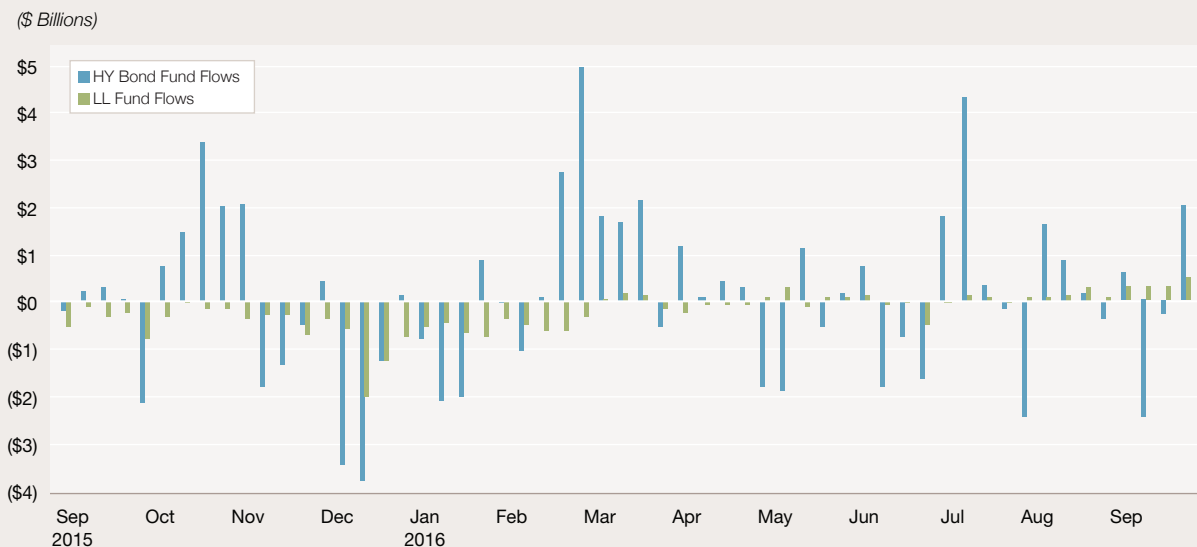


Source: BofA Merrill Lynch



**The recent popularity of ETFs has surged.**

### WEEKLY FUND FLOWS SINCE Q3 2015

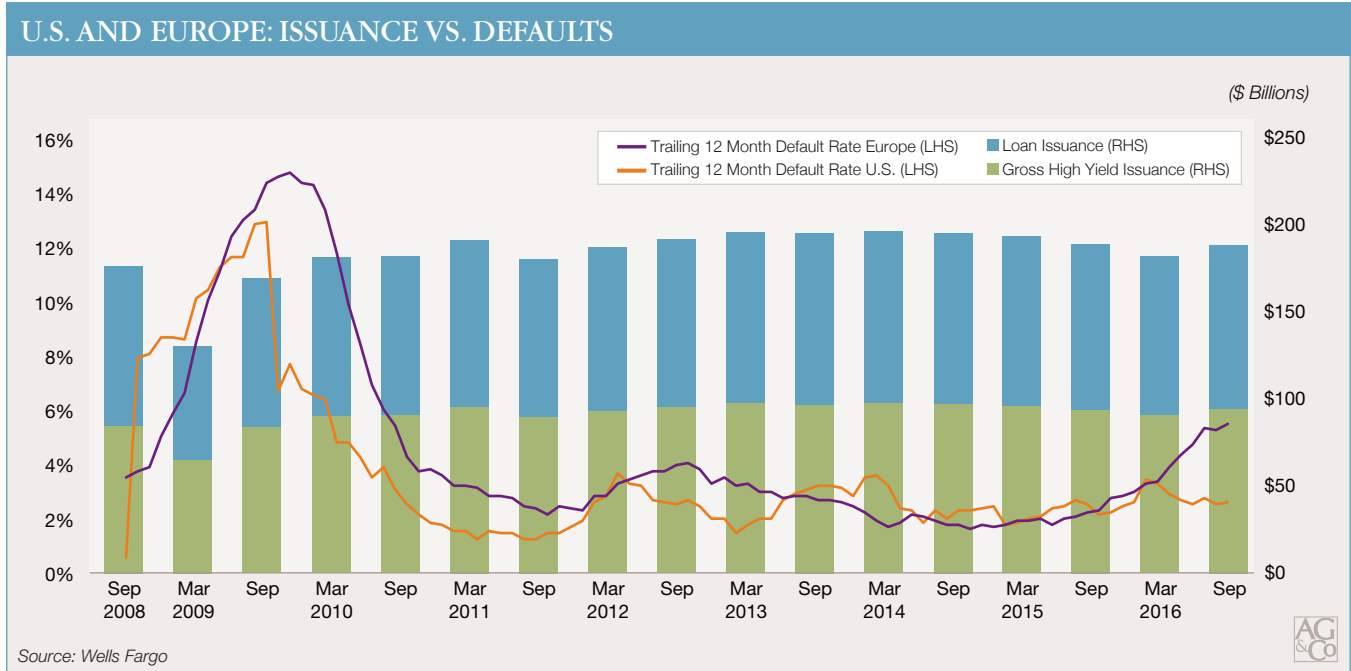


Sources: JP Morgan, Lipper

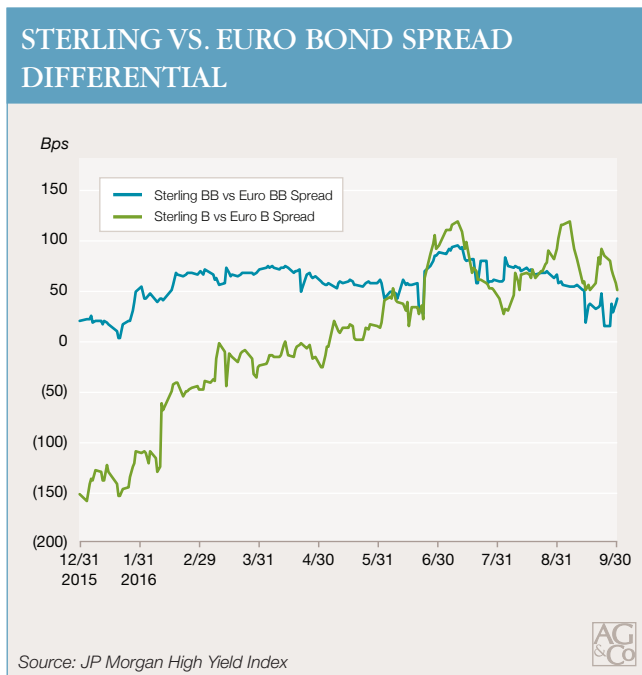


**The growth of ETFs and retail volatility have materially impacted debt market technicals.**

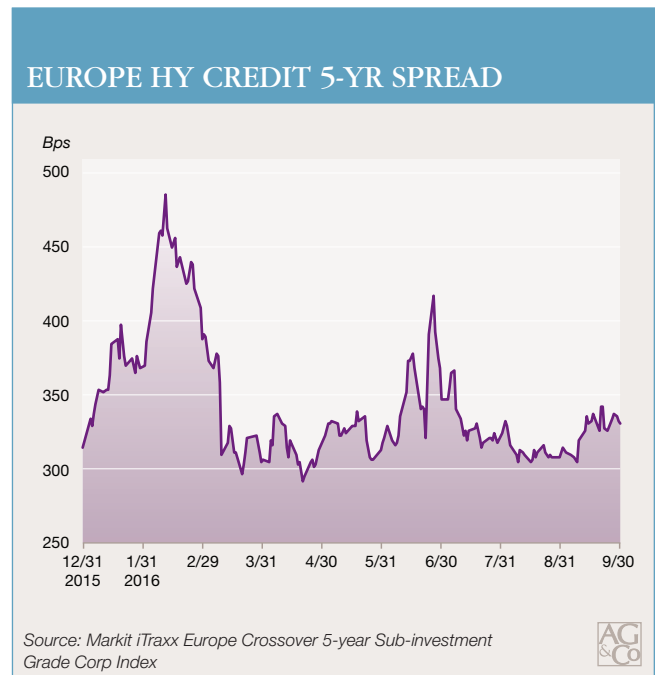
# DISTRESSED DEBT – EUROPE



European defaults remain muted, along with those in the U.S., but have not seen any recent uptick.

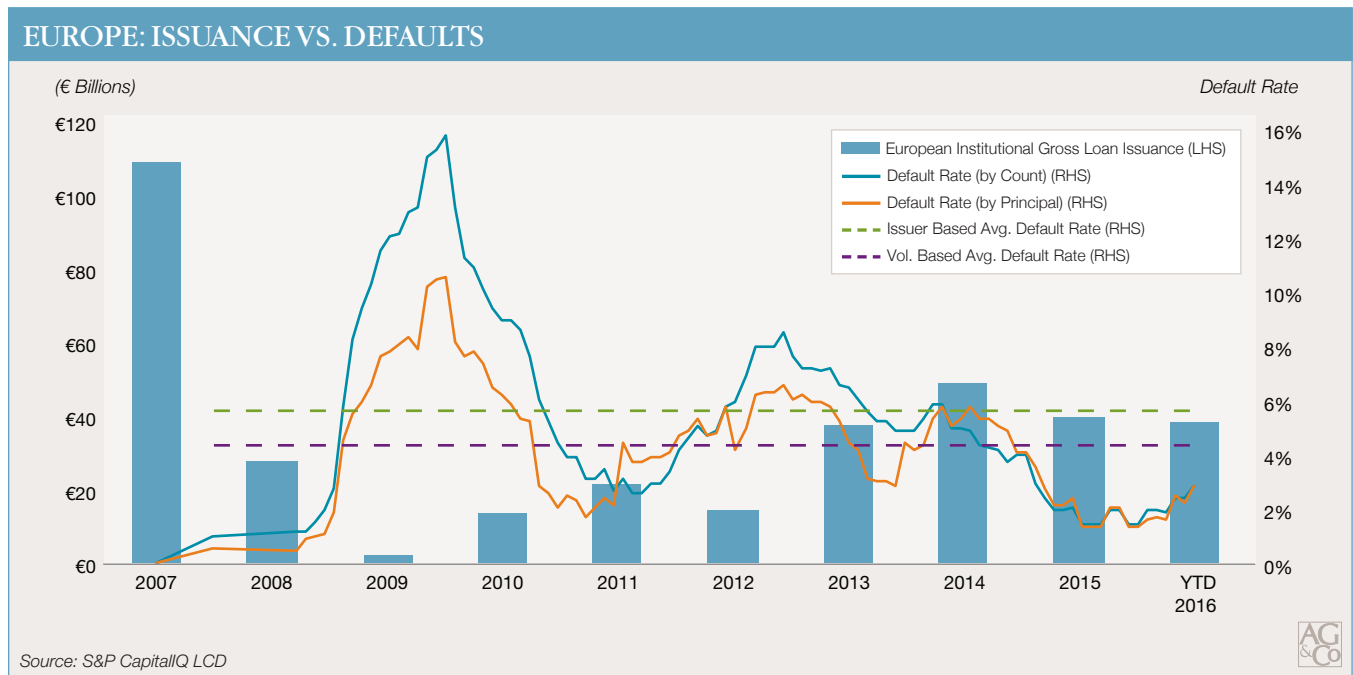


GBP-denominated corporate spreads widened post-Brexit and have remained range-bound since.

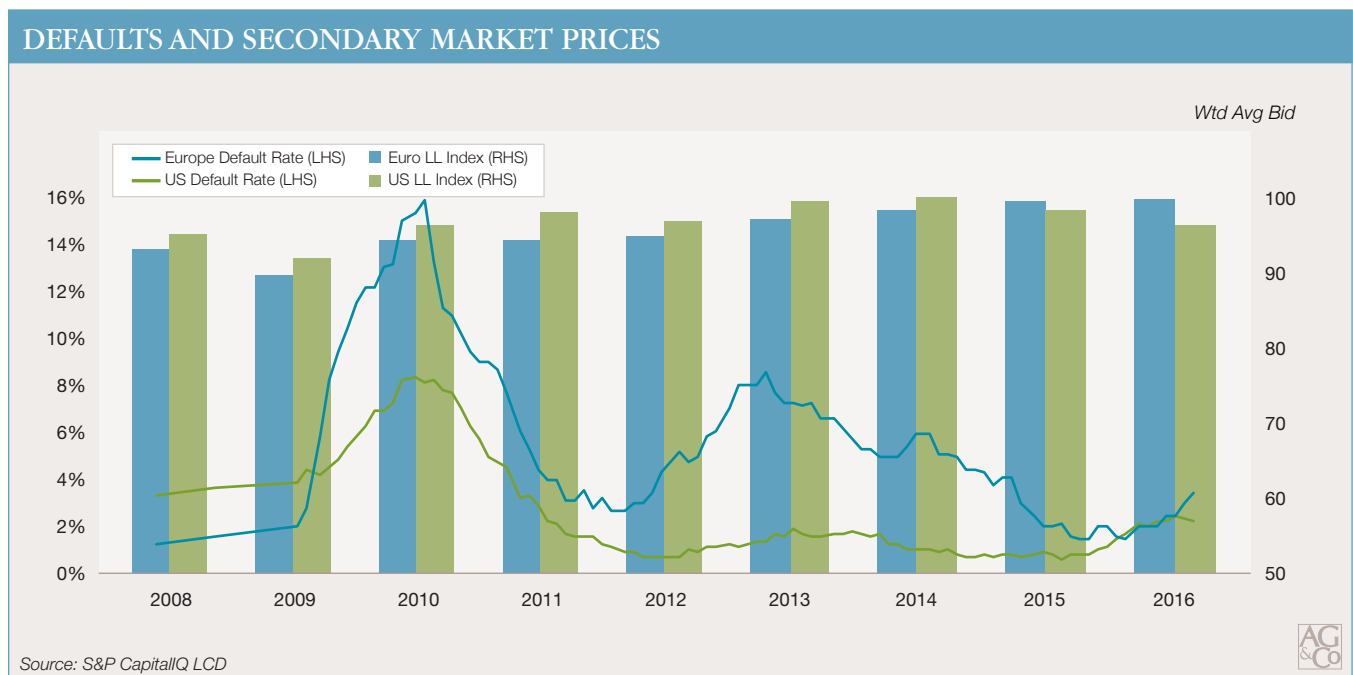


Euro-denominated corporate spreads also blew out at Brexit but have since reversed.

## DISTRESSED DEBT – EUROPE (continued)



Despite ongoing loan issuance, European defaults remain inside of historical levels.

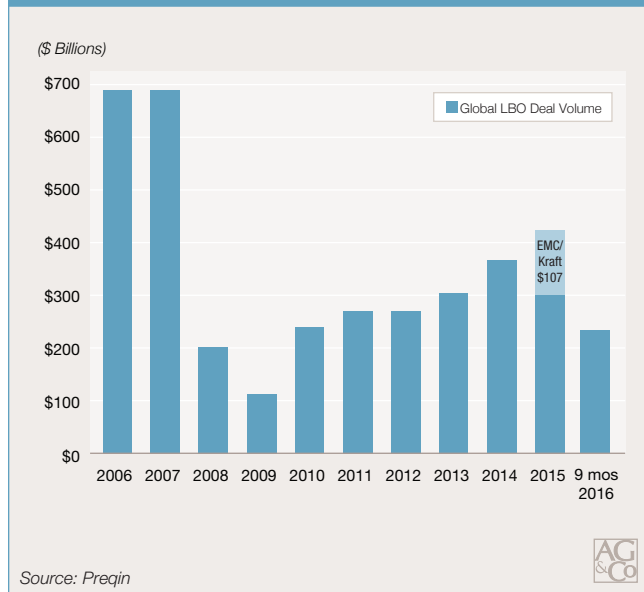


As European secondary markets grind higher and tighter, defaults and distress have generally been contained.

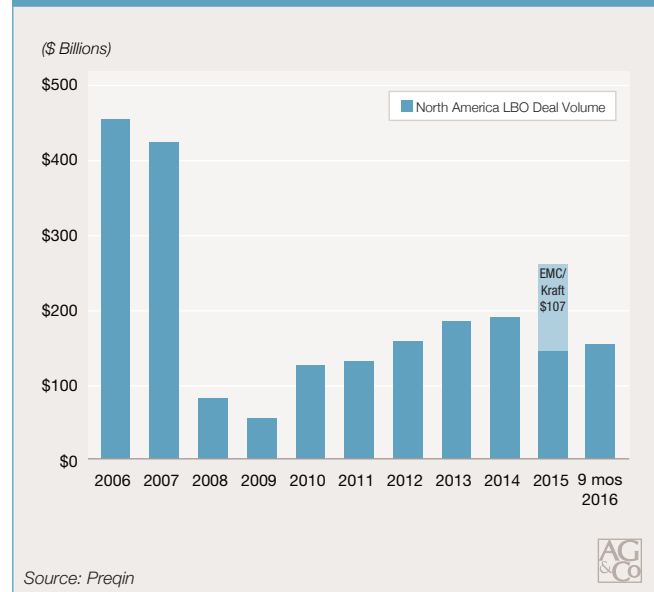


# PRIVATE EQUITY

## GLOBAL LBO DEAL VALUE



## NORTH AMERICA LBO DEAL VALUE



After normalizing 2015 for the anomalous EMC and Kraft deals which represented \$107 billion of transaction value, global deal volume in the first nine months of 2016 is on pace with 2015, while North American deal volume for 2016 could be the strongest since 2007.

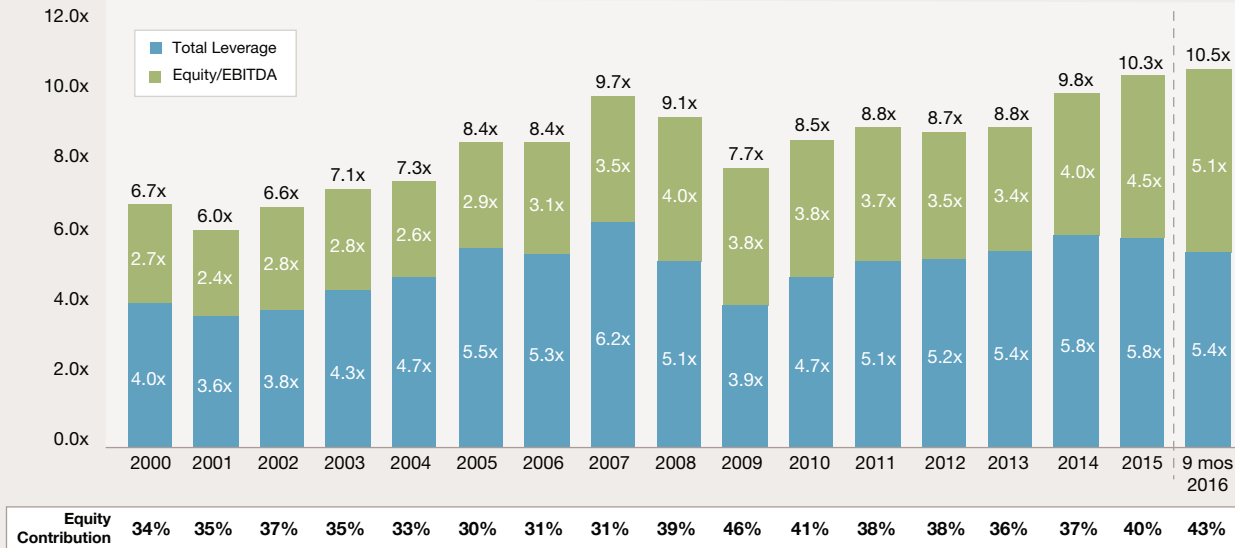
## GLOBAL PRIVATE EQUITY DRY POWDER



Buyout dry powder ended September 30, 2016 at \$534 billion, an all-time record, eclipsing the prior record of \$518 billion set in June.

## PRIVATE EQUITY *(continued)*

### LBO CAPITALIZATION

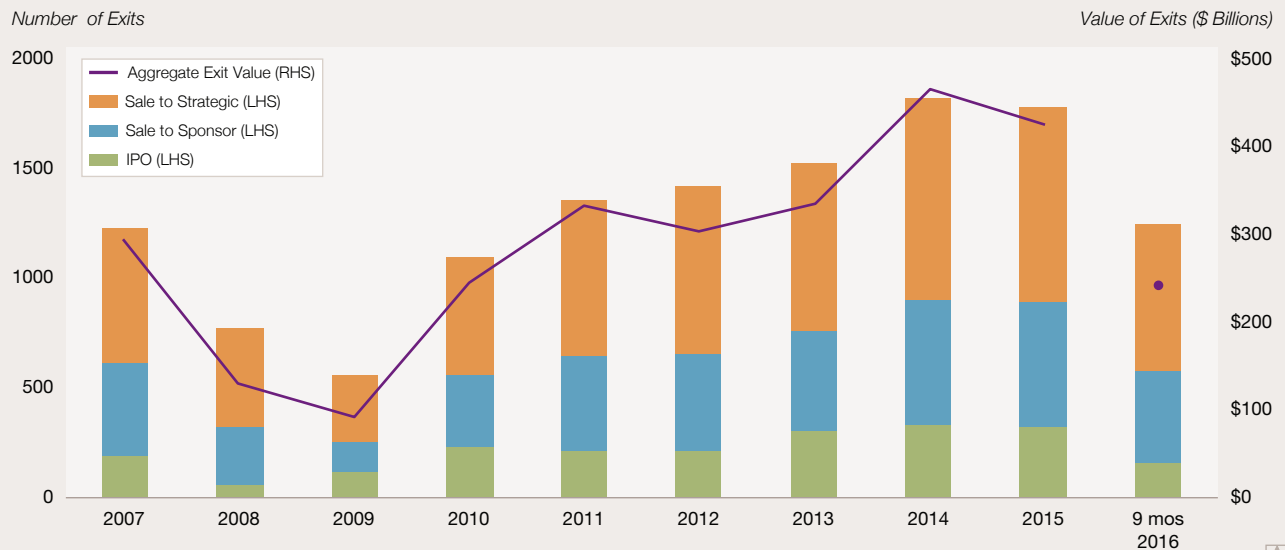


Source: S&P CapitalIQ LCD



LBO multiples in the first nine months of 2016 were a record 10.5x EBITDA. Equity contribution as a percentage of total capitalization also increased to 43%, reflecting the continued competitive environment to acquire assets.

### PRIVATE EQUITY EXITS



Source: Preqin



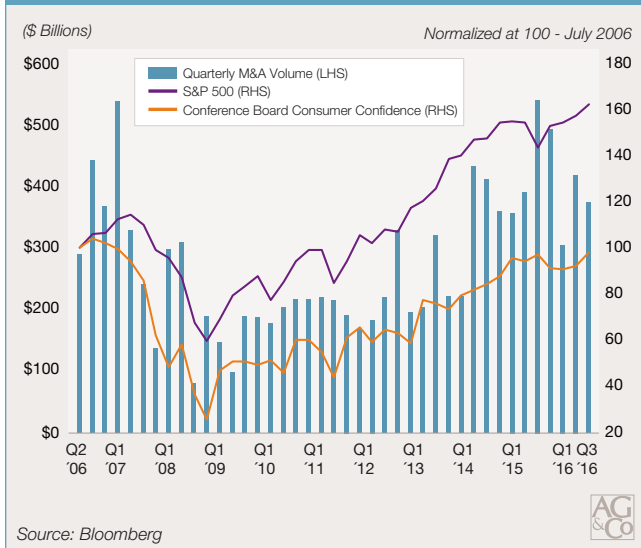
Although the number of exits in the first half of 2016 are on pace with calendar 2015, the dollar volume is significantly lower reflecting a weak IPO environment and smaller dispositions of assets by sponsors to strategic acquirers.



Matching Money with Opportunity™

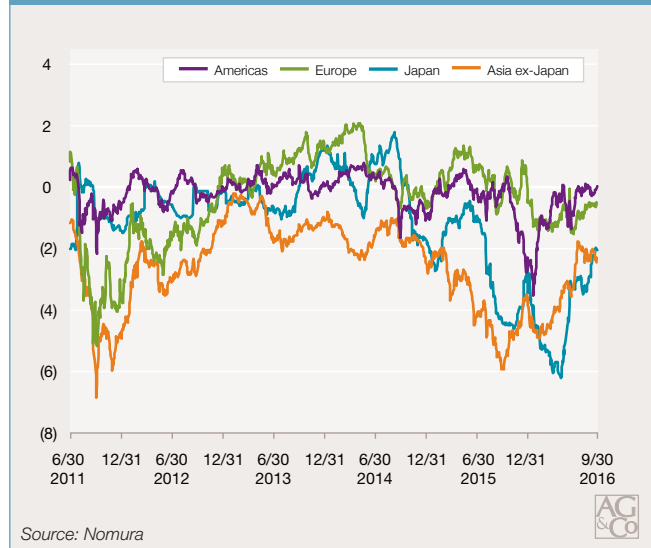
# MERGER & CONVERTIBLE ARBITRAGE

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



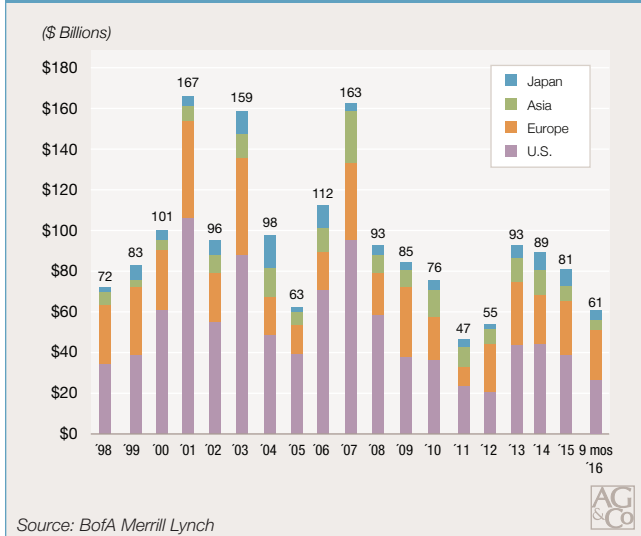
The M&A market is still very healthy as deal announcements neared cycle-highs even though total deal value for Q3 marked the lowest level of the current M&A cycle.

## CONVERTIBLE BOND - RICH / (CHEAPNESS) TO FAIR VALUE (%)



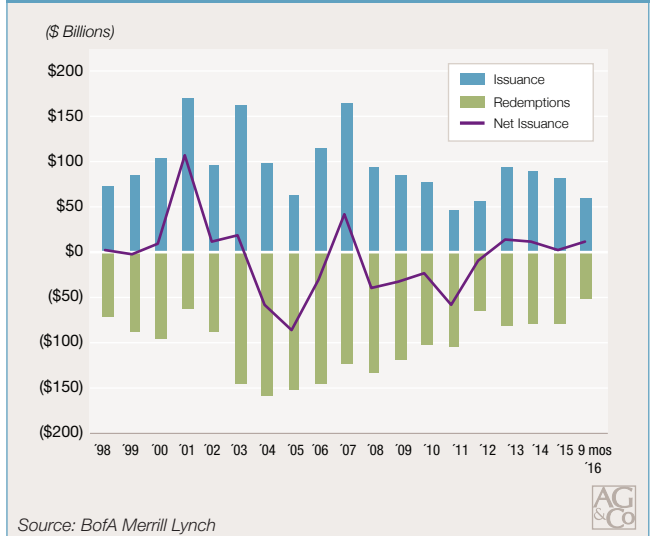
Convertible valuations remain reasonable across all regions.

## CONVERTIBLE BONDS ANNUAL GLOBAL ISSUANCE BY REGION



New issuance picked up strongly during the summer period.

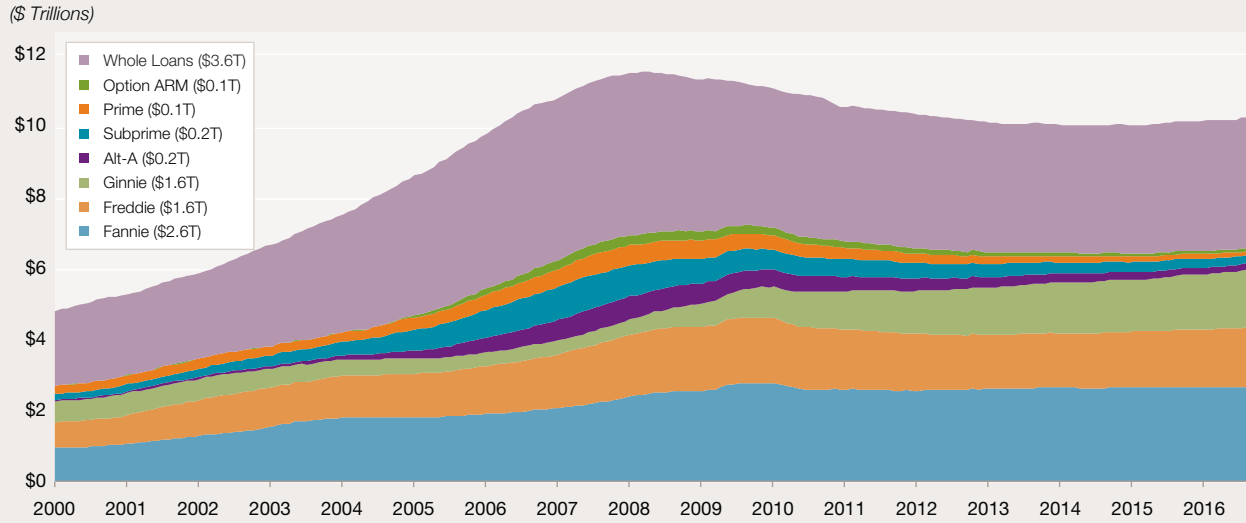
## CONVERTIBLE BONDS GLOBAL NET ISSUANCE



The moderate pace of expansion supports valuations in the secondary market.

# RESIDENTIAL AND CONSUMER DEBT (RMBS/ABS)

## SIZE OF U.S. RESIDENTIAL MORTGAGE MARKET

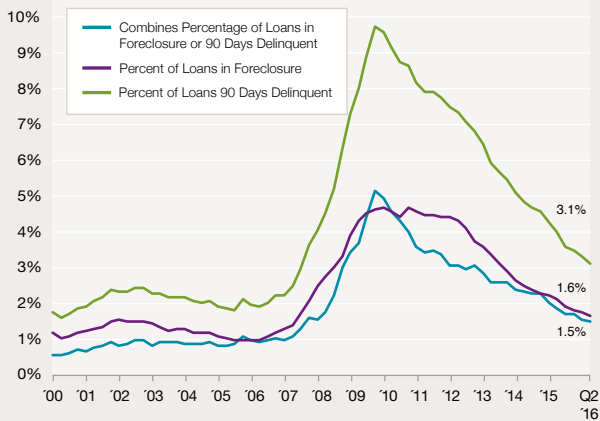


Source: BofA Merrill Lynch



Although mortgage debt has decreased from 2007, the mortgage market remains vast and at \$10.1 trillion, has been modestly ticking higher.

## U.S. RESIDENTIAL MORTGAGES IN SERIOUS DELINQUENCY/FORECLOSURE

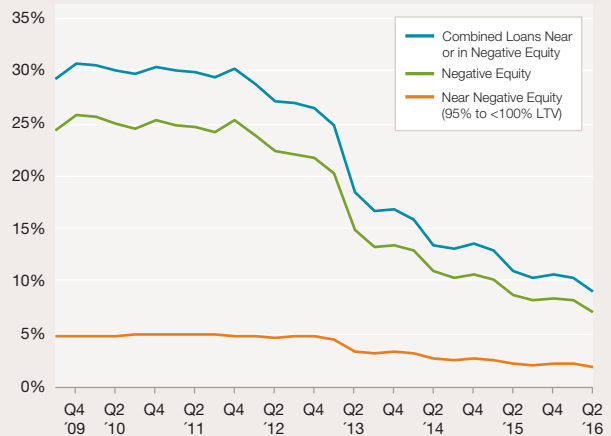


Source: Mortgage Bankers Association and Urban Institute



Serious delinquencies and foreclosures continue to decline as the housing market and economy improve. Loans that are 90 or more days delinquent or in foreclosure fell to 3.1% in Q2.

## U.S. RESIDENTIAL MORTGAGES WITH NEGATIVE EQUITY



Negative Equity: LTV greater than 100%

Near Negative Equity: LTV between 95% and 100%

Source: Corelogic and Urban Institute



Mortgage borrowers with negative equity benefit from sustained home price appreciation. As a share of all residential borrowers, the share of those underwater or near underwater continued to drop from 30% in 2009 to about 10% in Q2.



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

### SUBPRIME PRICE INDEX



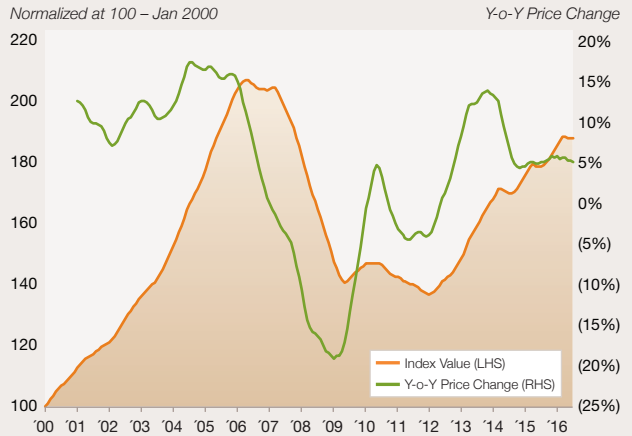
The Index represents a basket of reference obligations of twenty originally rated AAA subprime bonds issued in the first half of 2006, and is treated as a benchmark for similar vintage bonds.

Source: Nomura, Credit Suisse



**Index prices on subprime RMBS have seen an uptick in the last few months.**

### S&P/CASE-SHILLER COMPOSITE - 20 HOME PRICE INDEX



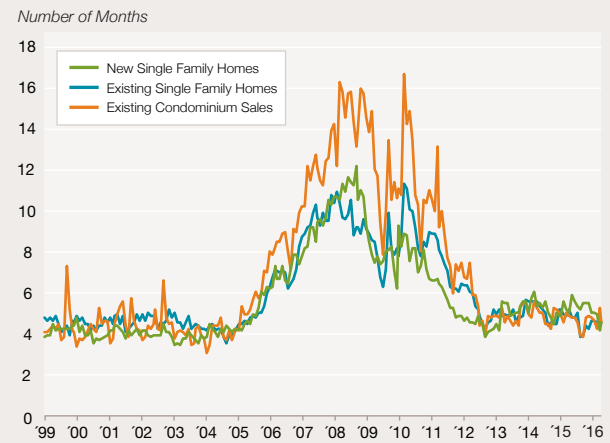
The S&P/Case-Shiller Composite of 20 Home Price Index is a value-weighted average of 20 metro area indices. These metro areas include: Boston, Chicago, Denver, Las Vegas, Los Angeles, Miami, New York City, San Diego, San Francisco, Washington, DC, Atlanta, Charlotte, Cleveland, Dallas, Detroit, Minneapolis, Phoenix, Portland, Seattle and Tampa.

Source: Bloomberg



**The pace of home price appreciation has moderated but remains positive.**

### MONTHS SUPPLY OF HOUSING

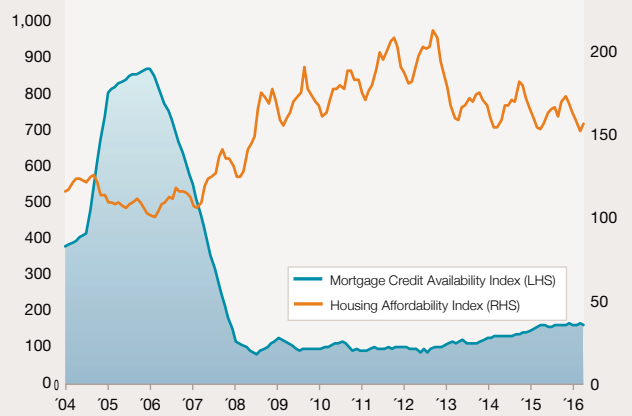


Source: Bloomberg



**Housing supply has returned to more normalized levels as the housing market recovers.**

### MORTGAGE CREDIT AVAILABILITY INDEX VS. HOUSING AFFORDABILITY



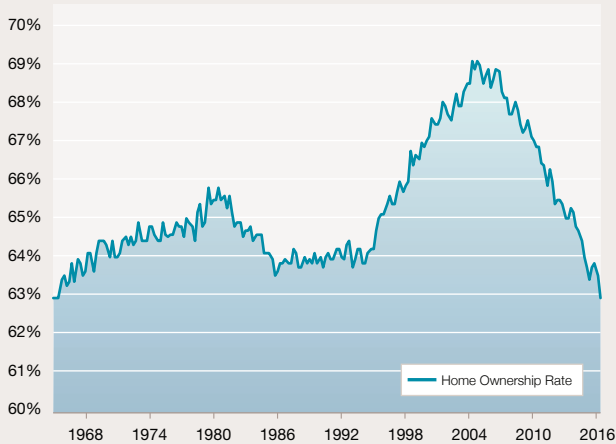
Source: BofA Merrill Lynch, Bloomberg



**Although near historic lows, mortgage credit availability has trended higher. Housing affordability remains reasonably high.**

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

### HOMEOWNERSHIP RATE

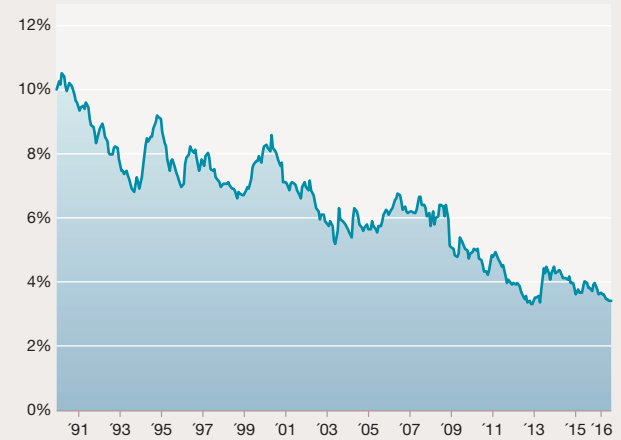


Source: Bloomberg



**Fallout from the crisis amid historically tighter credit conditions and continued home price appreciation have limited homeownership to approximately 62.9%.**

### 30-YEAR MORTGAGE FIXED RATE



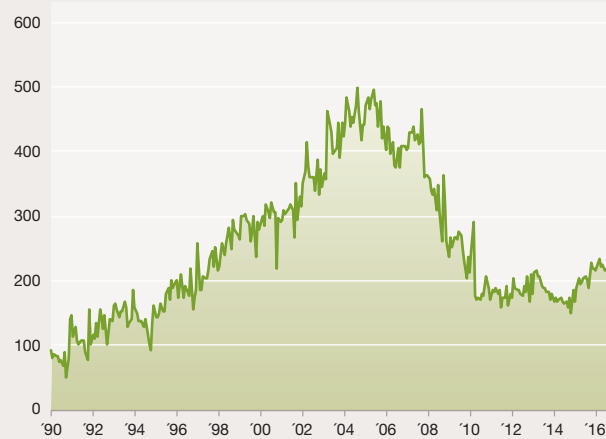
Freddie Mac U.S. Mortgage Market Survey 30-year Homeowner Commitment National: This concept measures movements of interest rates on residential real estate loans that are usually secured by a mortgage.

Source: Bloomberg



**The 30-year mortgage rate continues to sit near historic lows.**

### MORTGAGE APPLICATION INDEX



This concept tracks the volume of mortgage loan applications that have been submitted to lenders. Seasonally readjusted.

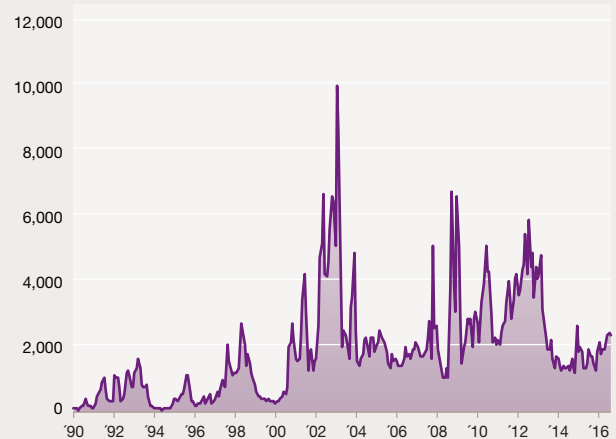
Source: Bloomberg



**Although mortgage applications continue to be hampered by stringent underwriting standards, mortgage credit has slightly expanded and applications have been on the rise since the end of 2014.**

### MORTGAGE REFINANCING INDEX

Normalized at 100 - Jan 1990



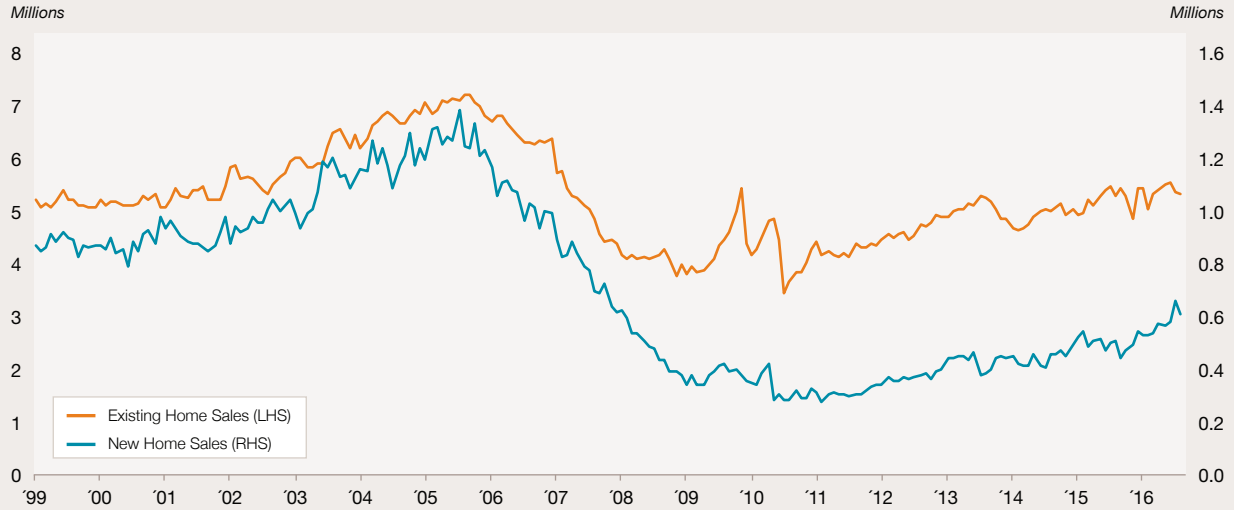
This concept tracks the volume of mortgage refinancing loan applications that have been submitted to lenders. Seasonally readjusted.

Source: Bloomberg



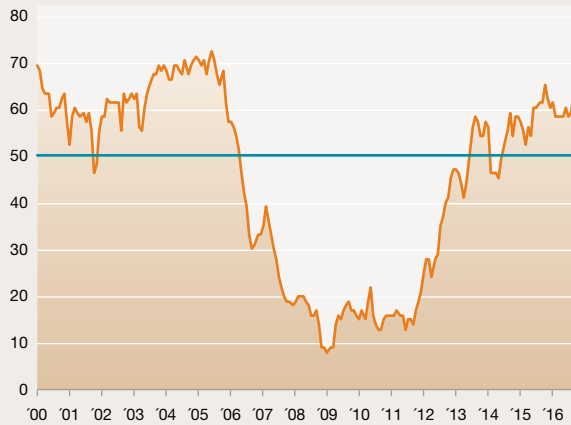
## RESIDENTIAL AND CONSUMER DEBT (RMBS/ABS) *(continued)*

### NEW AND EXISTING HOME SALES



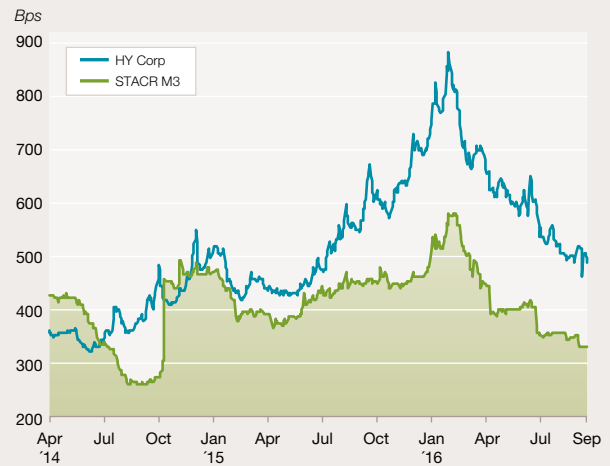
Sales of new and existing homes oscillated through 2015 and 2016 but have advanced since the crisis.

### HOMEBUILDER INDEX



Standing at 65 in September, the Homebuilder Index has remained above 50 for 27 months. A reading above 50 indicates that builders see favorable market conditions.

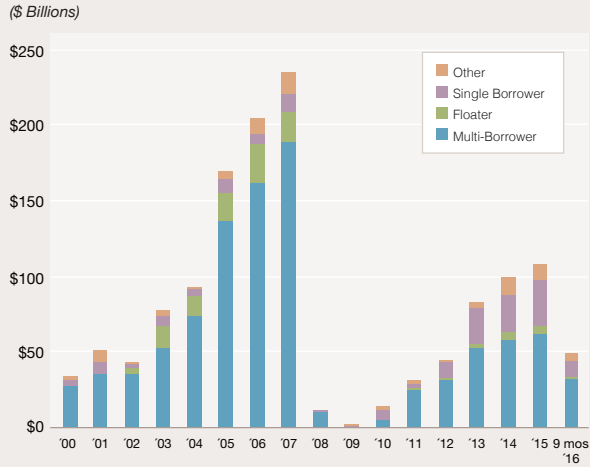
### CREDIT RISK TRANSFER VS. HIGH YIELD CORPORATES



Risk transfer spreads performed well during the third quarter.

# COMMERCIAL REAL ESTATE DEBT (CMBS)

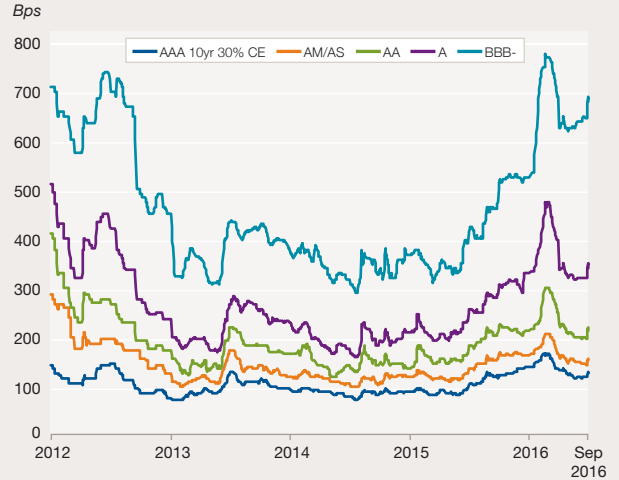
## U.S. CMBS ANNUAL ISSUANCE



Source: Credit Suisse

After steadily increasing for the last several years, CMBS issuance has slowed this year.

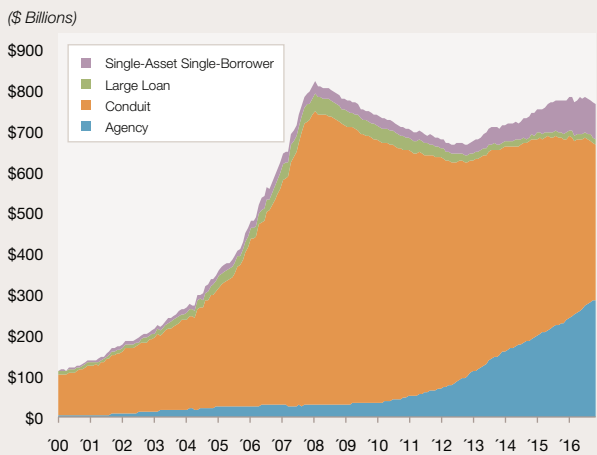
## NEW ISSUE CMBS SPREADS



Source: Credit Suisse

Spreads widened into quarter end as supply and uncertainty weighed on the market.

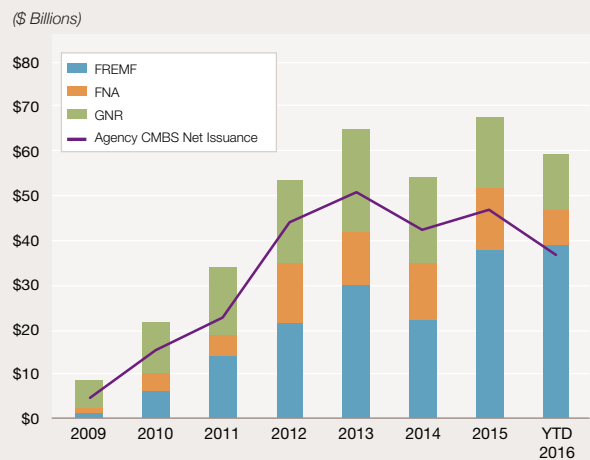
## OUTSTANDING CMBS BALANCES



Source: Morgan Stanley Research, Trepp

The CMBS market remains large, with nearly \$800 billion outstanding. Its composition has been shifting in the last several years as Agency CMBS issuance has steadily increased.

## AGENCY CMBS ISSUANCE



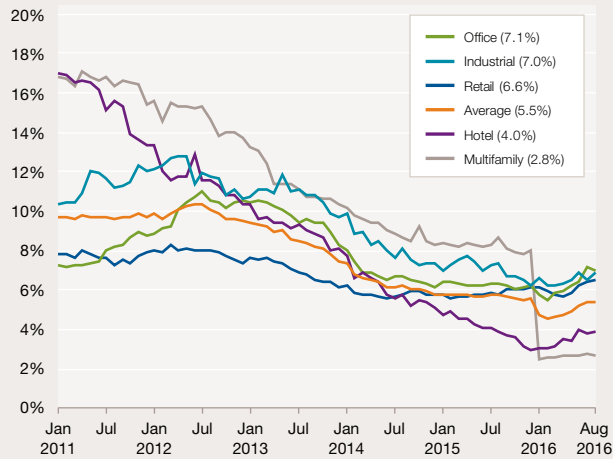
Source: Morgan Stanley Research, Trepp

Agency CMBS issuance has remained strong this year.



## COMMERCIAL REAL ESTATE DEBT (CMBS) *(continued)*

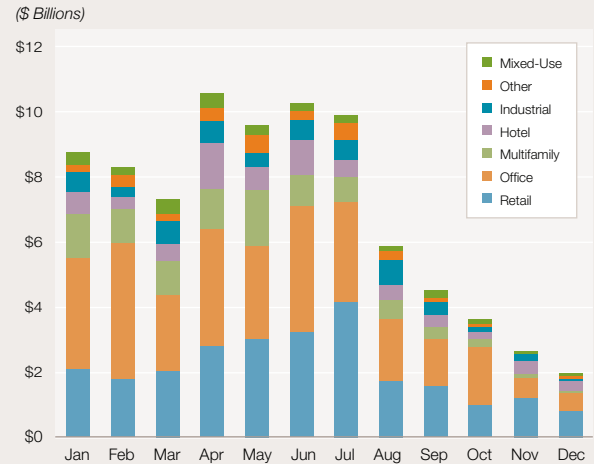
### CMBS FIXED-RATE DELINQUENCY RATE



Source: Trepp, Citi Research

The CMBS delinquency rate ticked up to 5.47% during the first two months of the quarter, with the office sector experiencing the largest increase.

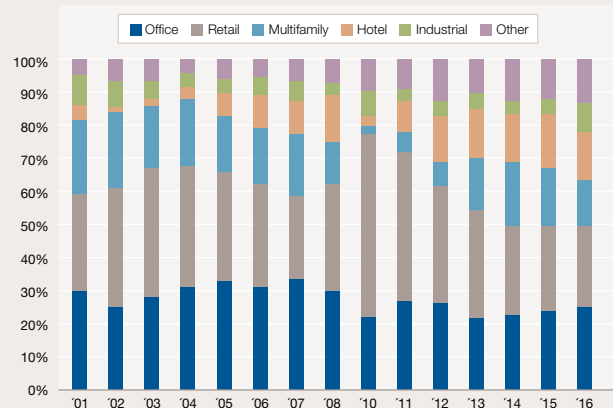
### 2017 MONTHLY MATURITIES



Source: Intex, Wells Fargo

Monthly maturities are set to increase in the first half of 2017.

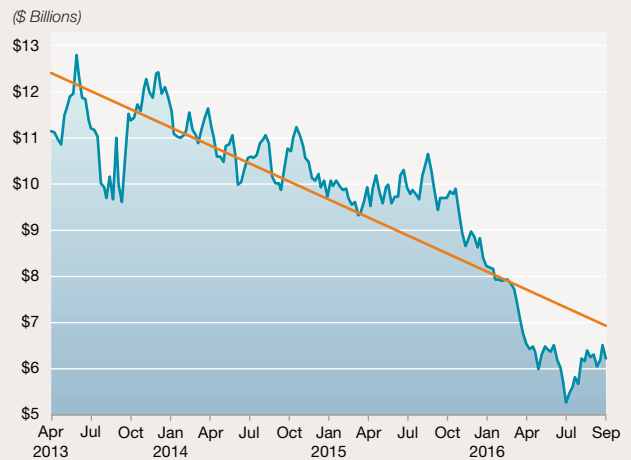
### CONDUIT MARKET: PROPERTY TYPE BREAKDOWN



Source: BofA Merrill Lynch

CMBS conduit deals remain diversified across major property types, although hotels represent a larger portion of the collateral backing deals today than pre-crisis.

### PRIMARY DEALER POSITIONS: PRIVATE LABEL CMBS

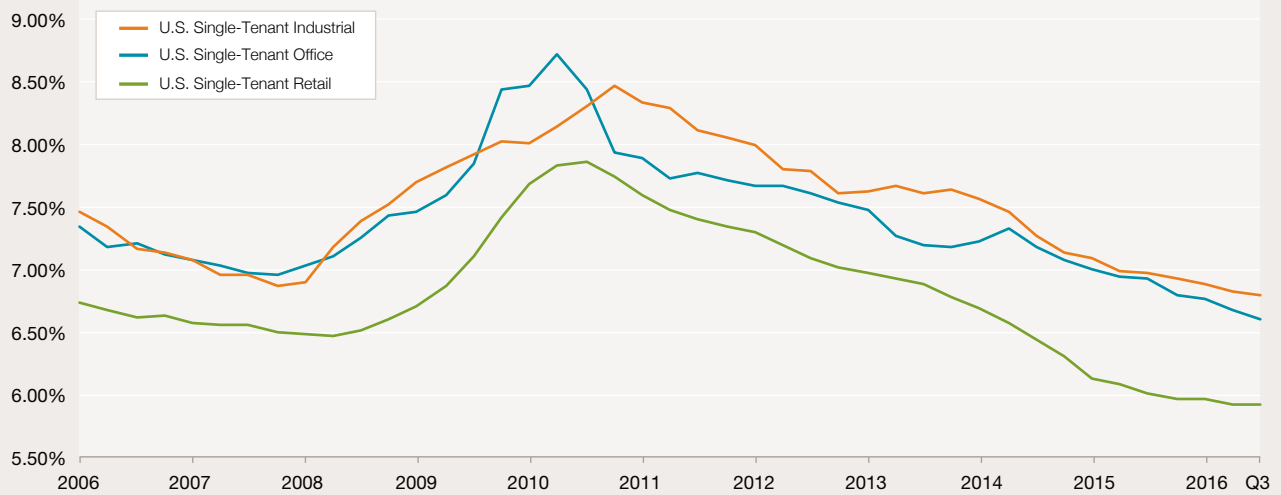


Source: Bloomberg, Federal Reserve Bank of New York

While dealer holdings of private label CMBS have bounced off the lows of mid-year, they still remain at very low levels compared to the prior three years.

# NET LEASE REAL ESTATE

## AVERAGE SINGLE-TENANT CAP RATES

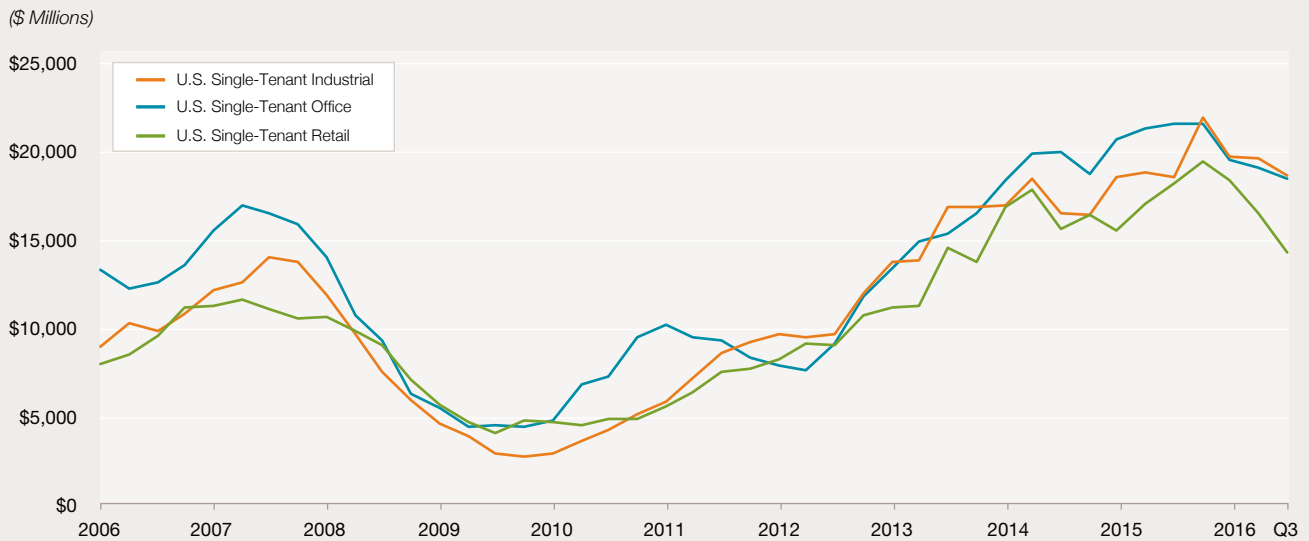


Source: Real Capital Analytics



Pricing continues to strengthen across all three asset classes.

## 12-MONTH ROLLING SINGLE-TENANT DEAL VOLUME



Source: Real Capital Analytics



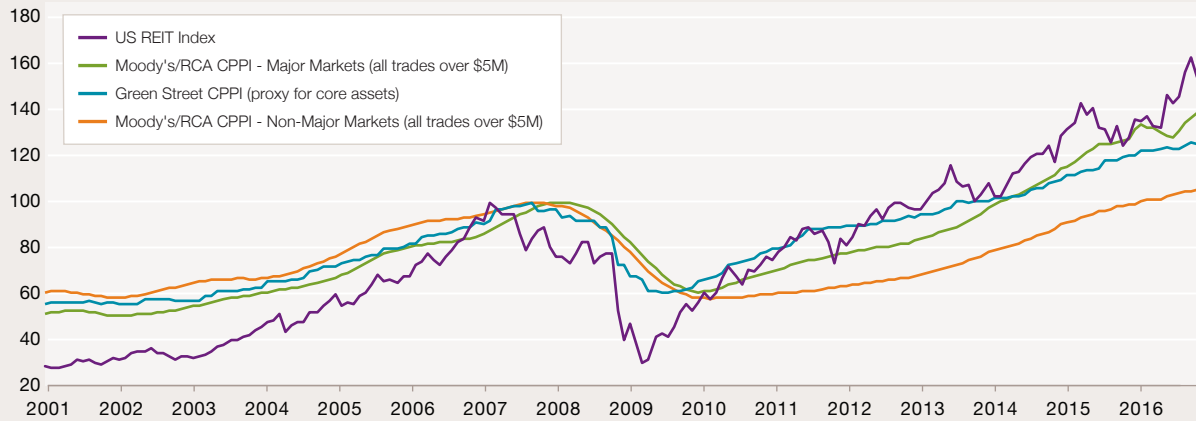
Transaction volume has declined across asset classes in 2016, particularly in retail.



# REAL ESTATE - UNITED STATES

## COMMERCIAL REAL ESTATE PRICE INDICES

Index (Each Set to 100 at 2007 Peak)



Moody's CPPI = Moody's/RCA All Property Types

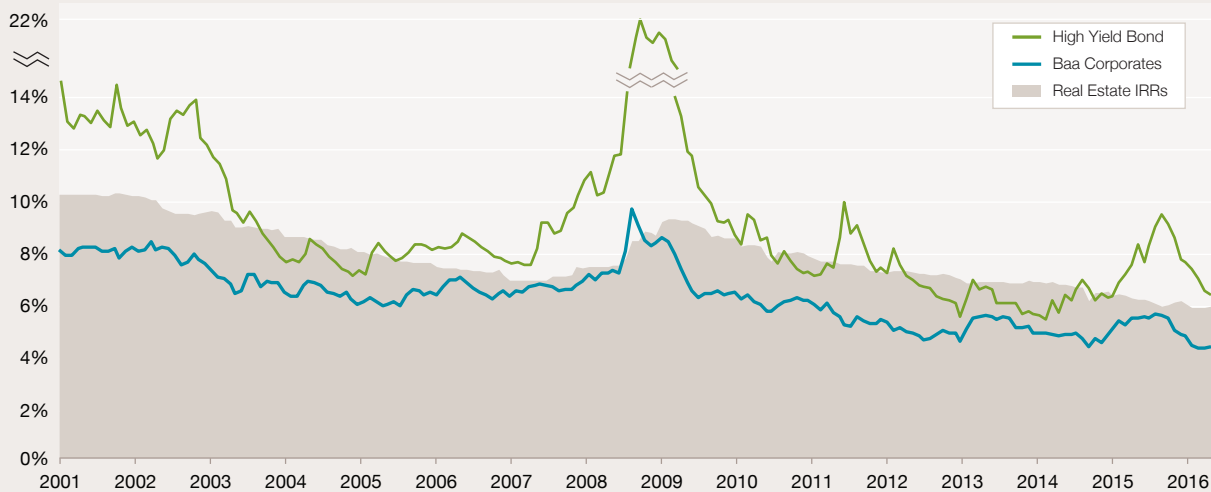
Green Street CPPI = Major Sectors

Sources: Moody's/RCA - Commercial Property Price Index (Moody's CPPI) (data through Aug '16), Green Street Advisors - Commercial Property Price Index (Green St CPPI) (data through Aug '16), US REIT Index - MSCI REIT Gross Index (data through Aug '16). Note: For this chart, all indices were indexed to 100 at their 2007 peaks: Green St CPPI (Aug '07), Moody's CPPI (Dec '07 - Major Markets and Sep '07 - Non-Major Markets) and US REIT Index (Jan '07). Note: Major markets include Boston, Chicago, Washington D.C. Metro, Los Angeles Metro, New York City Metro and San Francisco Metro.



**Private market CRE prices remain up 3% year-to-date while public markets indicate more volatility.**

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



Real Estate IRR 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 (Apr '16), Moody's (Baa Corporates), BAML (High-Yield Bonds)

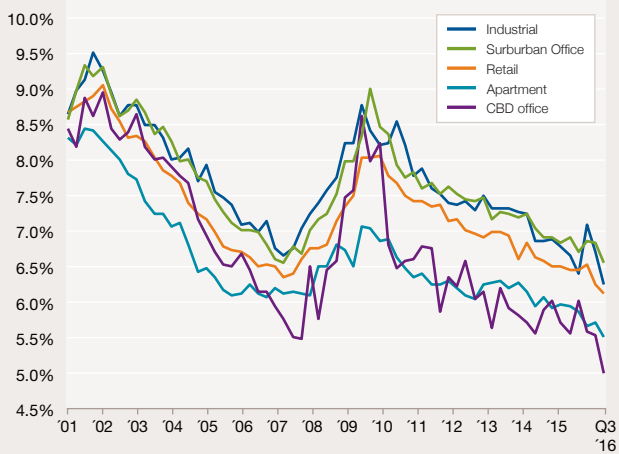


**CRE returns relative to Baa corporates and high yield have improved dramatically over the last 12 months, suggesting continued stability and attractive relative pricing.**



## REAL ESTATE – UNITED STATES (continued)

### AVERAGE CAP RATES BY REAL ESTATE SECTOR

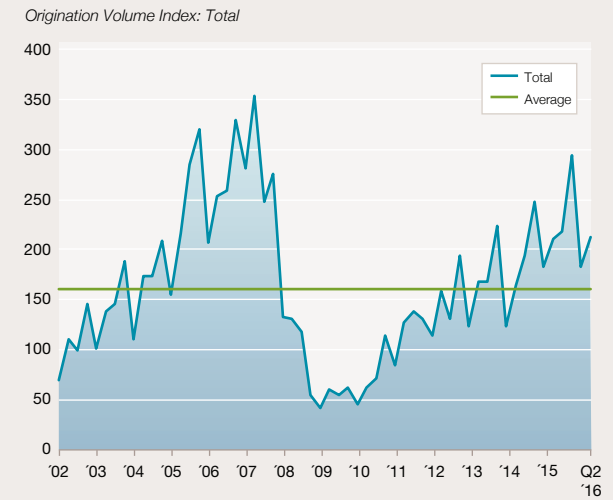


Source: Real Capital Analytics



In the meantime, cap rates remain low.

### ORIGINATIONS VOLUME VS. HISTORICAL AVERAGE

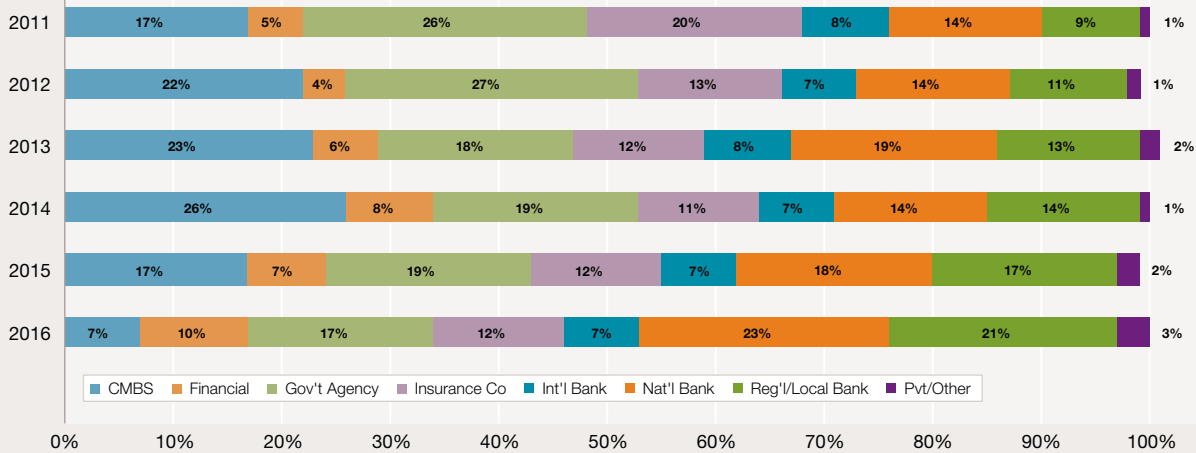


Source: MBA, Morgan Stanley Research



Debt originations remain robust.

### LENDER COMPOSITION



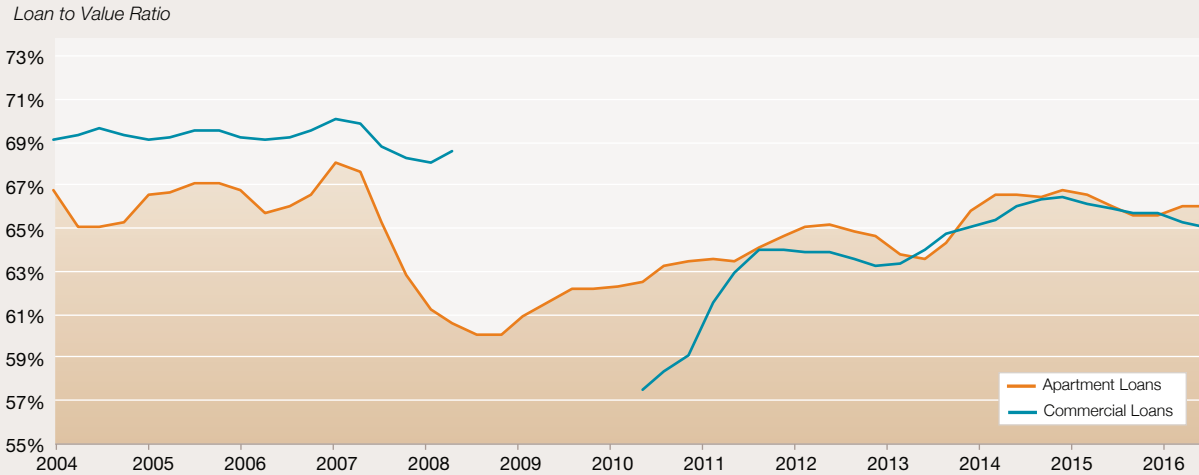
Source: BofA Merrill Lynch as of June 2016



And decreased CMBS originations are being absorbed by increasing bank activity.

## REAL ESTATE – UNITED STATES *(continued)*

### LOAN-TO-VALUE TRENDS DO NOT POINT TO AGGRESSIVE LENDING

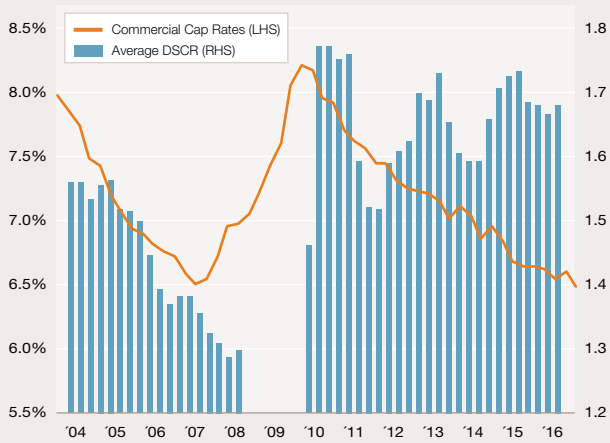


Source: Real Capital Analytics



Despite an active lending environment, underwriting metrics are improving year over year and compare favorably to pre-global financial crisis levels. *(Applies to all charts on page.)*

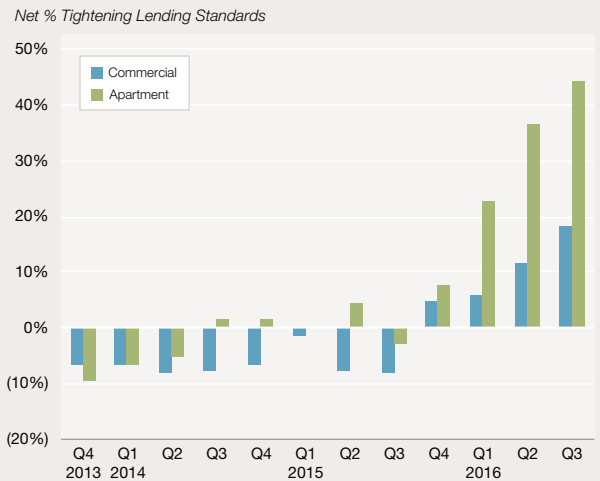
### CURRENT DEBT SERVICE COVERAGE PROTECTS LENDERS



Source: Real Capital Analytics



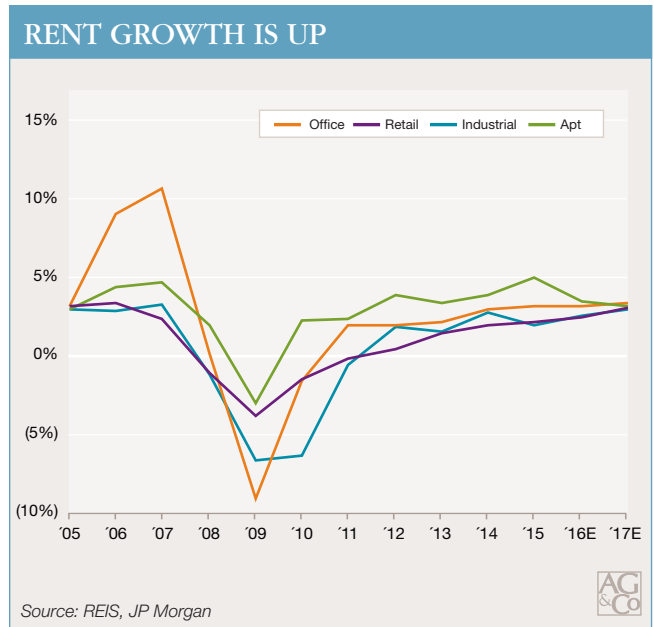
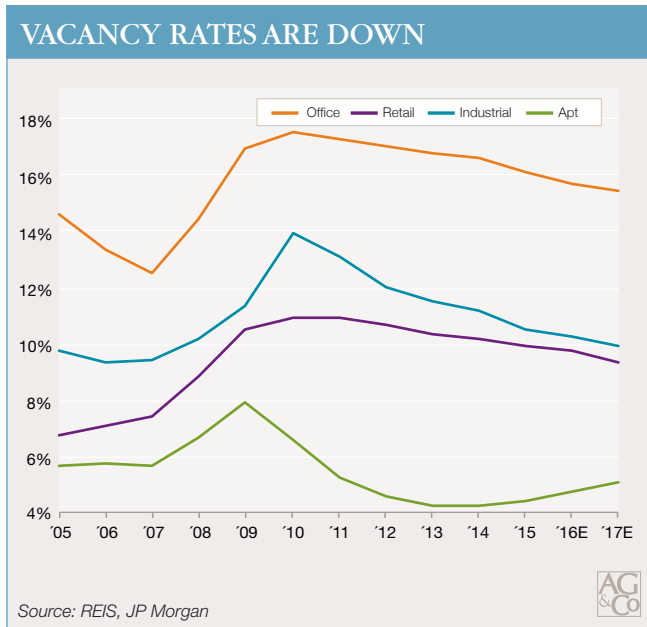
### LENDERS HAVE BEEN TIGHTENING STANDARDS SINCE Q4 '15



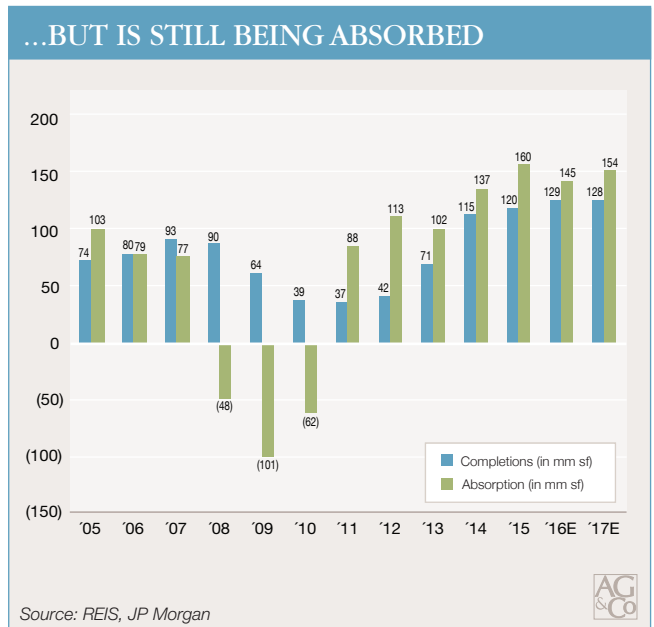
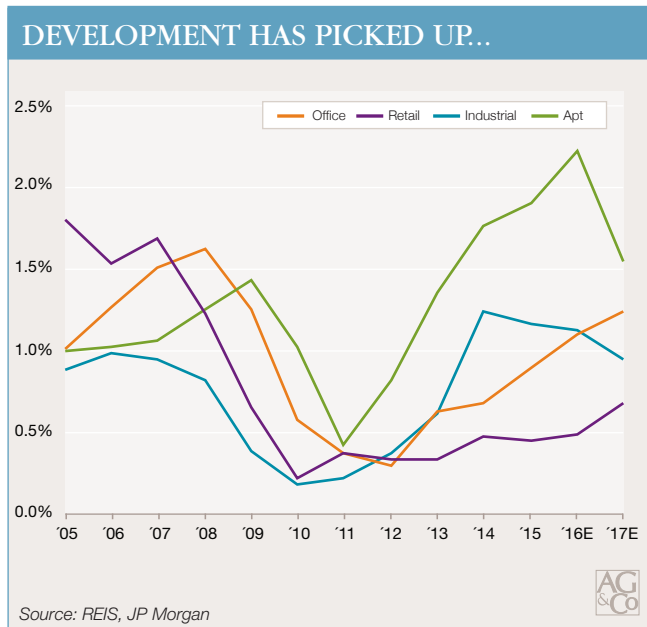
Source: Real Capital Analytics



# REAL ESTATE - UNITED STATES *(continued)*

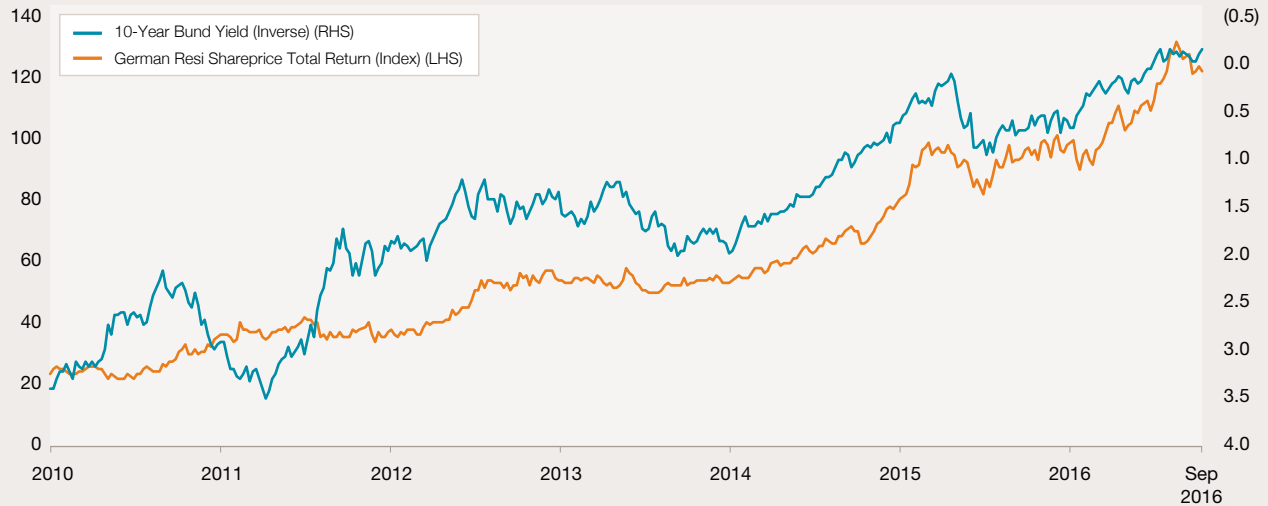


Property fundamentals continue to improve. *(Applies to all charts on page.)*



# REAL ESTATE – EUROPE

## GERMAN RESIDENTIAL VS. 10-YEAR BUND YIELDS

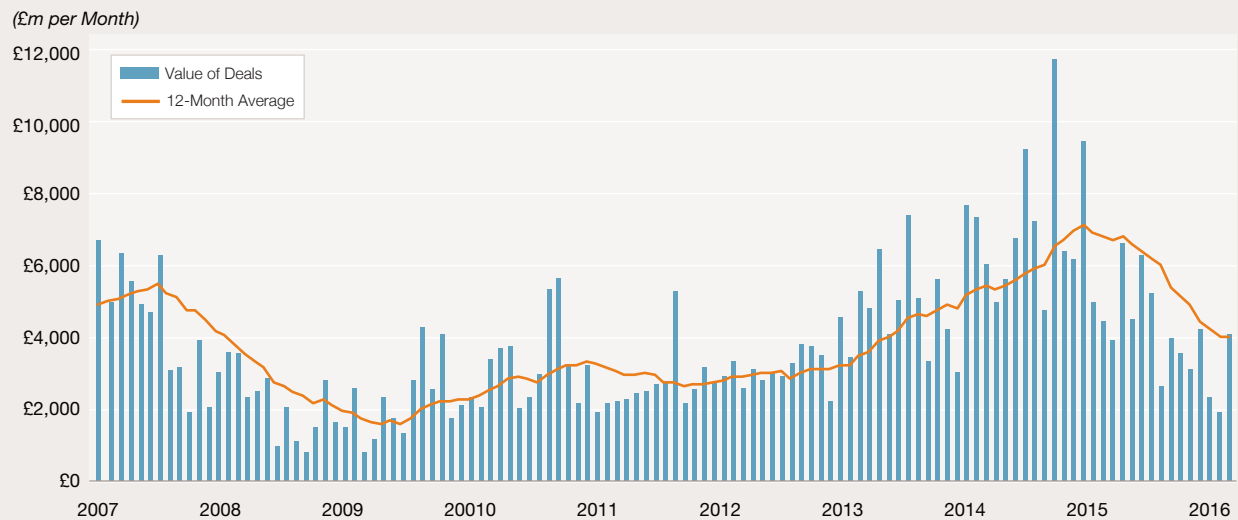


Source: Datastream, Morgan Stanley Research. \*We use Deutsche Wohnen, Vonovia, and LEG Immobilien



**German residential is very correlated to German government bond yields.**

## VALUE OF UK COMMERCIAL PROPERTY DEALS (£M PER MONTH)



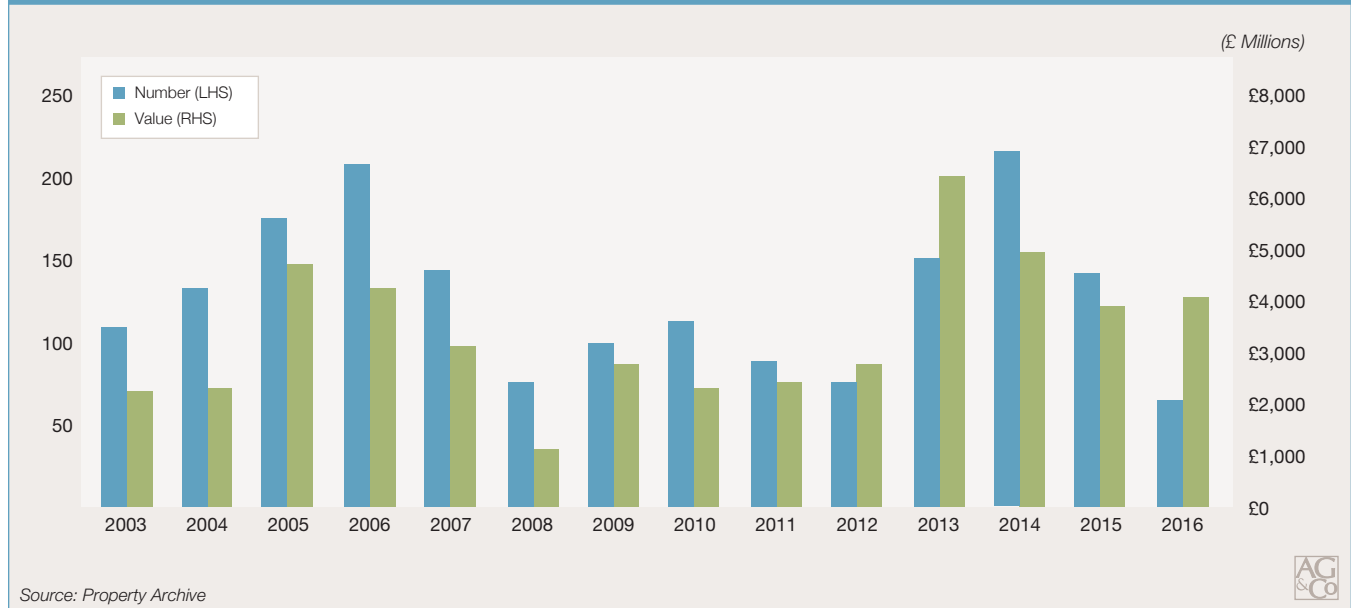
Source: Capital Economics, Property Archive



**Brexit has contributed to lower deal volume in the UK in 2016.**

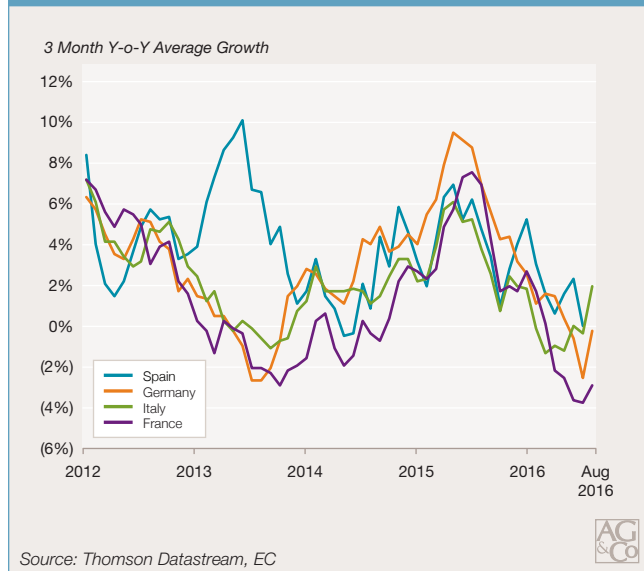
## REAL ESTATE – EUROPE (continued)

### VALUE AND NUMBER OF UK PROPERTY DEALS IN SEPTEMBER



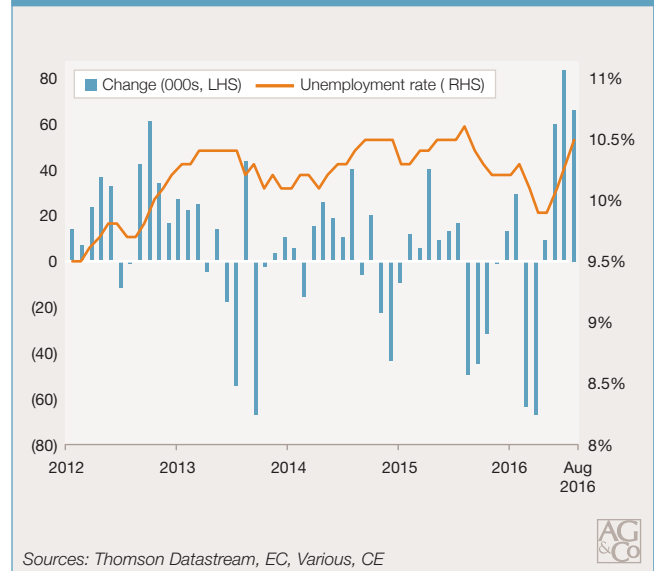
UK volumes in September 2016 were higher than September 2015.

### COUNTRIES' GOODS EXPORTS



Export growth slowed in all of the major European economies.

### FRENCH UNEMPLOYMENT



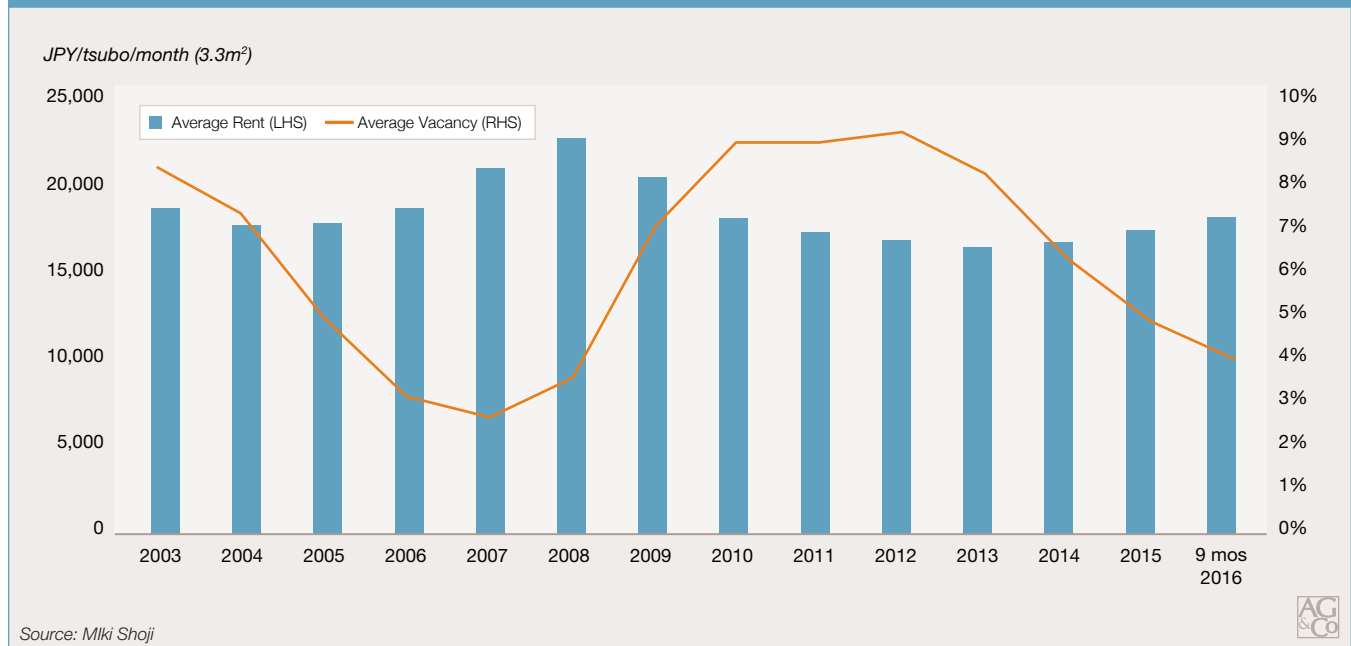
French unemployment has started to increase.



# REAL ESTATE - ASIA

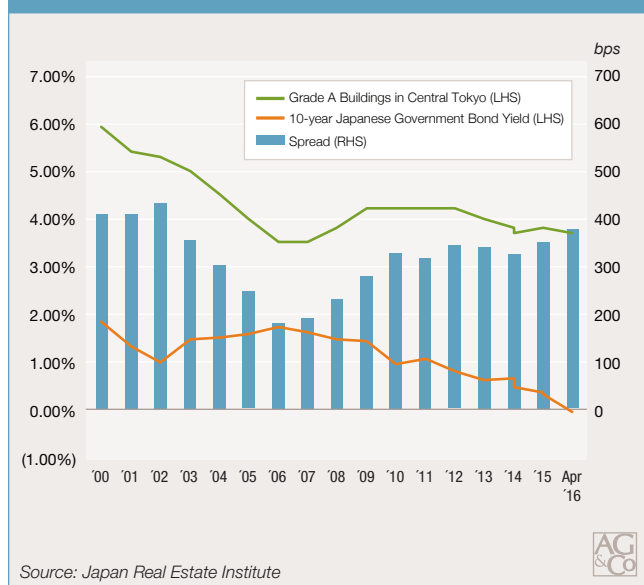
## JAPAN

### TOKYO'S 5 CENTRAL WARDS OFFICE RENT AND VACANCY RATE



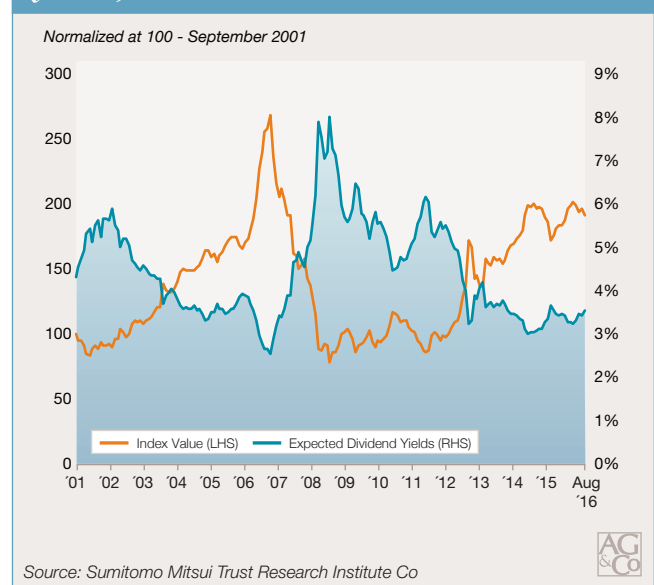
Occupancy in Tokyo continues to improve with vacancy falling below 4.0% for the first time since the global financial crisis.

### CAP RATES OF GRADE A OFFICE BUILDINGS VS. BORROWING COSTS



Cap rate spreads continued to widen to nearly 400 bps as government bond yields fell into negative territory.

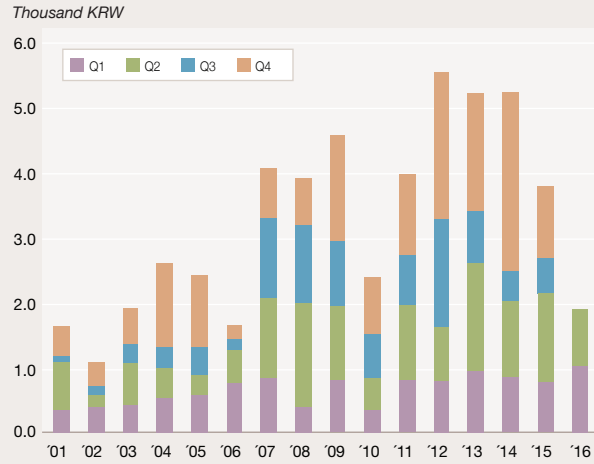
### JAPANESE REAL ESTATE INVESTMENT TRUST (J-REIT) INDEX AND DIVIDEND YIELD



The JREIT index saw some volatility during the year although yields remain low due to negative interest rates.

KOREA

TRANSACTION VOLUME OF PRIME/ SECONDARY OFFICE BUILDINGS IN SEOUL



Source: Savills Research

Transaction volume in the first half of 2016 has been somewhat muted compared to prior years, mostly due to limited available stock for sale.

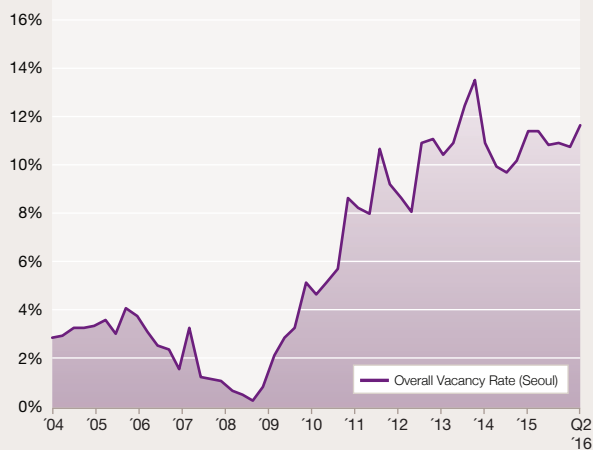
KOREA GDP GROWTH



Source: Bank of Korea

GDP growth improved to 3.3% in Q2 2016.

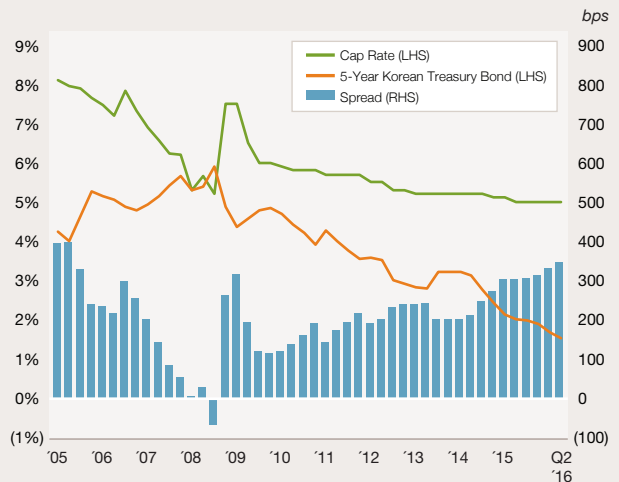
SEOUL OFFICE VACANCY RATE



Source: Jones Lang Lasalle Research

Seoul office vacancy remained stubbornly high at nearly 12% as absorption slowed.

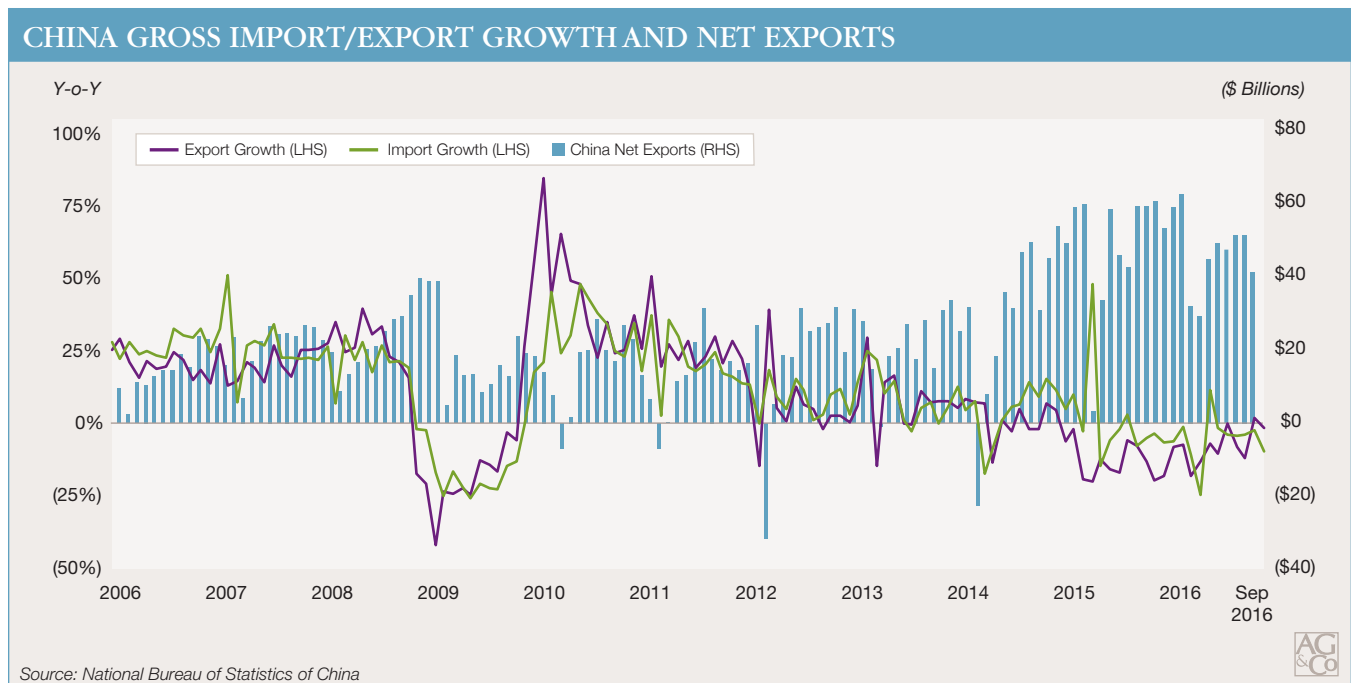
PRIME OFFICE CAP RATE AND SPREAD OVER 5-YEAR TREASURY YIELD



Source: Savills Research

Cap rate spreads widened as government bond yields declined.

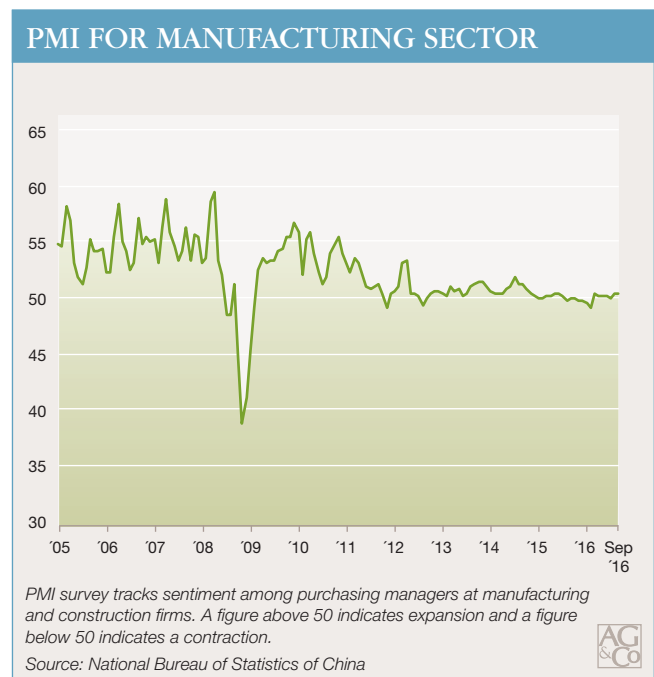
CHINA



The economy showed continued signs of slowing, with both import and export growth declining.



GDP growth continued its gradual decline to below 7.0%.



PMI figures returned to positive territory in March.

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