



ANGELO, GORDON & CO.

CAPITAL MARKET'S PERSPECTIVES

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FOURTH QUARTER 2015

## *In Memoriam*



### **JOHN ANGELO**

*June 3, 1941 - January 1, 2016*

*John Angelo* co-founded Angelo, Gordon & Co. with Michael Gordon in 1988 and served as Chief Executive Officer for 27 years. When John and Michael founded the firm, their most important goals were to operate the business with the highest ethical standards, to hire talented investment professionals who would uphold the firm's ideals and work together collaboratively, and to make clients the firm's first priority. As CEO, John managed the firm's growth and strategic direction. Over the years, Angelo, Gordon has flourished and currently manages investor capital across 12 different alternative strategies and employs nearly 400 people in 12 offices worldwide in the United States, Asia, and Europe.

John's legacy of creativity, collaboration, integrity and client focus will continue to guide Angelo, Gordon. The strength of the firm's culture is reflected in the personal bond that many of our employees felt with John. He had a stake in everyone's success and pushed us to think outside the box and to "never stand still." We will miss him.

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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 \$25 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.



**BRUCE MARTIN**  
*Portfolio Manager*  
Non-Investment Grade  
Corporate Credit

Oil prices, along with the broader technical and macro factors that weighed on non-investment grade corporate credit in the third quarter of 2015, further pressured markets in the final quarter of the year. Fourth quarter returns in the leveraged loan and high yield bond markets were -2.0% and -2.6% respectively, and full-year returns for leveraged loans and high yield bonds were -0.4% and -4.9%, respectively. For those investors who traffic in the riskier ends of the credit markets, the year was exceptionally painful and reminiscent of past default cycles. In 2015, CCC rated high yield bonds returned -15%, second lien leveraged loans returned -5%, and distressed loans returned -41%.

Our mantra for 2015 was "as goes the price of oil, so will go the leveraged finance markets." After reaching over \$60 in the first half of the year, oil fell to \$37 by year-end. The real question for the markets remains whether the initial November 2014 collapse in oil prices was the canary in the coal mine that informed the markets of generally weaker global growth, or was it simply the result of excessive oil production across the globe. The answer appears to be both, as several additional market sectors including metals and mining, general industrials, and retail are all struggling, and early indications for fourth quarter earnings are not promising. Stock markets across

the globe started 2016 off precipitously in negative territory. The health of corporate balance sheets, global demand, the strength of the U.S. dollar and the pace of interest rate increases by the Fed will remain core issues facing the credit markets in 2016, as will a significant increase in defaulted debt securities, particularly in the energy industry but likely in other commodity businesses and retail as well.

Adding to concerns over the fundamental picture, the technical landscape also weakened substantially into year-end as fund flows were consistently negative, several high yield funds liquidated (or in the case of Third Avenue locked investors in), and CLO formation slowed, all of which resulted in a further pull-back in risk appetite. Dealers are now stuck with over \$40 billion of hung commitments that they will need to sell into the market which will add additional pressure to an already stressed market. The universe of stressed credits has continued to grow, and the average dollar price of the loan index dropped meaningfully over the course of the year, from \$96.1 to \$91.4. While we still would not be surprised of more pain to come, we believe we are much closer to a bottoming in prices than we were a year ago.



**TREVOR CLARK**



**CHRIS WILLIAMS**  
*Portfolio Managers*  
Middle Market  
Direct Lending

While the high yield and broadly syndicated loan markets experienced continuing volatility and poor performance in the fourth quarter, middle market leveraged loans proved to be a welcome source of stability. During the quarter, the broader loan market continued to be affected by dark clouds in many areas, including the weakening Chinese economy, plunging oil and commodity prices, rising default rates, and loan mutual fund outflows. This produced plummeting secondary bid levels, pulled transactions, and skyrocketing flex activity, as many new issue transactions had to offer higher coupons and greater original issue discounts in order to clear the market. In contrast, middle market credits with deal size of \$500 million or less witnessed muted volatility, and lower middle market credits with deal sizes of \$100 million or less experienced little volatility. Middle market debt issuance reached \$40.3 billion in the fourth quarter, up 26% from the third quarter but still down 25% from the fourth quarter of 2014. On a year-over-year basis, 2015 issuance of \$143.1 billion was down 29% from 2014. The fall-off in 2015 debt issuance was driven by both "new money" transactions, which decreased 34%, and also by refinancings, which dropped 29% from 2014 levels. Spreads on middle market credits increased approximately 25bps in the fourth quarter, to an average spread of L +475 with a 1.0% LIBOR floor. As an illustration of the stability of the middle market, this fourth quarter pricing was on par with that of the first quarter of 2015.

With questions surrounding domestic economic growth, most middle market lenders are projecting 2016 loan volume to be in line with 2015 volumes. Lender expectations for 2016 pricing and leverage levels compared to 2015 are very much dependent on the size and credit quality of the middle market companies they target. Lenders who focus on upper middle market credits (borrowers with EBITDA over \$35 million) expect the volatility in the broader loan market to affect pricing. This will result in meaningful swings in upfront fees and interest rates. In contrast, lenders to the lower middle market (borrowers with EBITDA of under \$35 million) expect pricing and fees to remain solely dependent on the credit worthiness and leverage of the borrower.

## PORTFOLIO MANAGERS' CORNER *(continued)*

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**TODD DITTMANN**  
*Portfolio Manager*  
Energy Direct Lending

"Lower for longer" is real, at least according to NYMEX. In early January, the NYMEX curve did not offer an oil price greater than \$45 until 2018 and a price greater than \$50 until 2022. Consequently, there has been a substantial loss in asset value. In year-end reserve reporting, oil and gas borrowers will endure a significant write-down as non-producing reserves are taken off the books, reflective of the fact that few development projects remain profitable at current prices. Recent research suggests that drilling in 28 of 32 U.S. onshore oil plays is uneconomical. Most borrowers will have asset values fall and become concentrated in the least risky though still valuable category of production (as opposed to more speculative undeveloped acreage or drilling locations). What asset value now remains to the typical public company is often profitable down to prices as low as \$20 per barrel.

The current and longer low price environment will likely result in a financing realignment for the industry, as longstanding capital providers withdraw and new world financing terms tighten to reflect both a more volatile commodity price environment and the increased demand for a reduced supply of capital. Because commercial

banks are unable to price risk beyond certain artificial, regulatory-determined levels, new debt capital now faces the opportunity of bank debt replacement – the purchase of discounted bank debt and/or the making of new high yielding senior secured loans where low single-digit capital currently resides. Larger borrowers are seeking such loans at an escalating pace.

With "lower for longer" leading to declining asset values, the energy credit problem has only deepened. Many capital providers have retrenched to address existing portfolio problems at precisely the same time larger borrowers are seeking greater access to capital. In such an environment, bank debt replacement appears to be a growing opportunity that has the potential to offer well-covered senior secured risk, with high current yields, hedging requirements and terms that facilitate amortization as remaining lower risk proved producing reserves are monetized. In this environment, attractive yields appear available without a commodity price recovery or the need for any reliance on the speculative valuation of non-producing collateral.



**GAVIN BAIERA**  
*Portfolio Manager*  
Distressed Debt

The markets for lower rated and distressed U.S. credits hit an air pocket during the fourth quarter of 2015, with the CS Distressed Cash High Yield Index declining by 40% for the year. Technical factors including broad illiquidity and retail outflows (\$13 billion for high yield and \$20 billion for loan funds) combined to increase volatility and challenge credible bids. Though speculative default rates ticked up to roughly 3% by year-end, they still are well below long term averages. Preliminary 2016 estimates call for a ~6% default rate, with the increase coming predominantly from the dislocation in the commodity sector. The mining and energy sectors have been particularly hard hit, with more than 40% of issuance in each trading at distressed levels. In fact, default rates in those commodity sectors are expected to reach nearly 11% over the next 12 months, with extremely low expected recovery rates (15% for outstanding bondholders). Overall, a flight to credit quality continued during the fourth quarter and into early 2016 as investors flocked to better rated paper, resulting in a pronounced bifurcation between the "have" and "have not" credits. Crystallizing this trend was CCC bond performance in 2015, which came in at -15% compared to BBs, which were down just -0.4%. The environment of low commodity prices and pronounced market volatility is providing distressed managers with robust pipelines.

In contrast to the rates liftoff in the U.S., European markets were subject to a deepening fourth quarter QE policy as the ECB lowered its deposit facility rate to -0.30% in early December. However, even this measure fell short of market expectations with European bond fund inflows accelerating towards the end of the year, and cumulative annual inflows doubling those of 2014. Regarding private transactions, distressed credit sales from European banks continued during the quarter, albeit uncharacteristically slower relative to the fourth quarter of 2014. After Greek concerns abated, China-related volatility hampered sale expectations and widened valuation gaps. While each of the major eurozone economies continued to show signs of growth at small but steady rates, currency headwinds countered fundamental improvement. The year was a tale of two halves, with mid-year expected bond and loan issuance declining dramatically into the last quarter. In the face of deteriorating market conditions, European leveraged loan issuance came in 19% lower than in 2014, and bond volumes were down 10%. Notably, more than half of European institutional syndicated loans issued during 2015 lacked maintenance covenants, still trailing the 74% cov-lite issuance of the U.S., but nonetheless indicating relaxed credit standards. Looking ahead, many European market participants expect the low inflationary environment to encourage further ECB easing and continued artificial support of the markets. However, with the upcoming Brexit referendum, historically high correlation with the U.S. credit markets, concerns about China, poor secondary market liquidity, and oil price uncertainty, we would expect volatility to increase.

## PORTFOLIO MANAGERS' CORNER *(continued)*



**ARTHUR PEPONIS**  
*Portfolio Manager*  
Private Equity

2015 proved to be another strong year for the private equity market. Although deal volume, exits and multiples paid were very strong, the private equity industry enters 2016 with a fair bit of trepidation. North American and global deal volumes for 2015 were each the highest level since 2007 but still well below pre-financial crisis levels. For the year, global deal volume was \$411 billion, up 18%, with North American deal volume of \$255 billion, an increase of 35% driven by the EMC and Kraft acquisitions, which together represented over \$100 billion of volume in 2015. Although “dry powder” declined by \$21 billion during the fourth quarter, it remained high by historical standards at \$460 billion, which is approximately 5% below the all-time high set in 2008. Average leverage for buyouts remained high relative to historical standards. For the year, leverage as a multiple of EBITDA was 5.8x, identical to 2014’s multiple. Despite the difficult financing markets, EBITDA multiples achieved by sellers in 2015 remained very strong. The average multiple paid by private equity firms in 2015 was 10.3x EBITDA, an all-time high. Exits also had a strong year. In both quantity and deal volume, 2015 was the second-best year ever, trailing only 2014.

However, there are certainly storm clouds as we enter 2016. Geo-political concerns, the slowing Chinese economy and yuan devaluation, declining oil prices, general economic malaise, as well as significant volatility in the equity and credit markets, all bring uncertainty to the private equity landscape. A significant concern is the current “risk off” posture of banks and institutional investors have as it relates to credit. Banks are currently trying to work off their inventory of commitments from 2015 and are demonstrating a degree of reluctance in making new commitments. Also, the Leveraged Lending Guidelines set forth by the Fed, OCC, and FDIC in 2013, which outlined what are deemed to be appropriate credit standards for underwriting loans, are being more fully embraced by Wall Street firms. The “risk off” mentality is also prevalent on the investor side. Credit managers who have faced challenges in their portfolio are shying away from increasing their positions as they fear there will be a continued decline in prices. While this sentiment should be beneficial to non-bank lenders, it will, broadly speaking, have a dampening effect on access to leverage in the private equity market. As a result, deal volume and pricing may be affected. As it relates to exits, a volatile and declining stock market should translate into fewer IPOs and secondary stock sales. Stability in the markets will be the needed catalyst to have strong activity in the private equity space in 2016.



**DAVID KAMIN**  
*Portfolio Manager*  
Merger Arbitrage

It was a record year for merger activity, both globally and in the U.S., as all regions surpassed the previous highs set back in 2000. A global total of \$4.7 trillion was announced, propelled by 137 “mega deals,” those of \$5 billion or more in value. The fourth quarter was not left out of this M&A frenzy as U.S.-announced deal activity in the period increased significantly, posting its highest quarterly level since the second quarter of 1998. The three largest U.S. deals announced in 2015 all came in the last quarter – Allergan, EMC Corporation and Dow Chemical. A few headwinds were present as fourth quarter deals were more complex, both structurally and mechanically. The trend of aggressive antitrust regulators continued, with the FTC suing to block the acquisition of Office Depot by Staples Inc., and the DOJ leaving Halliburton Inc.’s purchase of Baker Hughes in limbo. Despite these challenges, along with a volatile market, median spreads narrowed during the quarter, finishing the year at 8.5% as investors gravitated towards high-conviction strategic deals. The current opportunity set for merger arbitrage remains attractive with investors focused on the deals closing in the near-term. Looking into 2016, M&A will continue to provide companies with a path to overcome lackluster organic revenue growth and the ability to

gain market share. Companies have demonstrated their intentions to tackle these issues through mergers and acquisitions, even through the use of complex corporate structures – tracking stocks and “merging to spin-off.” Additionally, corporate balance sheets remain healthy with S&P 500 companies holding \$1.8 trillion of cash. Our concerns which could possibly derail the continued strength in merger activity in 2016 include the Federal Reserve’s path of rate increases, equity market volatility, which usually depresses M&A as boards pause to better understand the shifts, and another lock-up in the credit markets.



**GARY WOLF**  
*Portfolio Manager*  
Convertible Arbitrage

Markets continued to experience pain in the fourth quarter as many asset classes experienced volatility and poor performance. The quarter started off strong with a significant bounce in October, however, November and December, particularly in Europe, were noticeably weaker. Nevertheless, convertibles were the best global asset class for the year 2015. Breaking down the global return of 1.25% into geographical components points to very strong Japanese domestic returns and weak U.S. returns. Total issuance for the year was a bit of a disappointment coming in just above \$80 billion globally, which was down by more than 10% from 2014. Although issuance was weak in the U.S. during the fourth quarter, it was better in Europe and Japan. Notably, almost half of the issuance in the U.S. was in the form of mandatory securities. These securities do not exhibit the same convexity profile as traditional convertible securities, but they do offer attractive yields which are sought-after in today’s low interest rate environment, especially by equity income funds. The five largest deals in 2015 were in health care and telecom. Issuance could pick up from continued merger and acquisition activity and/or a need for capital in the energy and mining space, though only BB-rated companies and above would be able to

issue securities in today’s environment. As equities have come under pressure, convertible securities have performed as advertised. However, the market is bifurcated with solid credits performing exceptionally well, and lesser credits, especially those in the energy space, performing quite poorly.



## PORTFOLIO MANAGERS' CORNER *(continued)*

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**JONATHAN LIEBERMAN**  
*Portfolio Manager*  
Residential and Consumer  
Debt (RMBS/ABS)

It was a tough fourth quarter for credit markets, and a disappointing second half of the year for RMBS and ABS assets. Credit concerns, underperformance and lack of liquidity in other credit markets overwhelmed the mortgage and asset backed sectors. MBS and ABS credit spreads leaked wider during the quarter as fears of a global slowdown accelerated, the price of oil continued to slide, and a lack of liquidity spread across most capital markets. By December, most market participants went to the sidelines for the year and began to contemplate better days in 2016. Primary issuance was anemic and many issuers were forced to postpone new deals until market demand improved. Broker-dealers also remained on the sidelines with scant interest in positioning securities or making markets. Mortgage credit continued its pattern of stable to modest improvement in borrower performance. Home prices also continued to modestly rise and inventory levels remained light to tight in many major markets. Consumer appetite for housing continued to remain stable with expanding mortgage credit availability taking hold in the markets. Meanwhile on the consumer side, collateral performance for auto, equipment, and student loans exhibited modest weakness whereas credit card delinquencies remained at historical lows. Agency MBS continued to materially underperform due to higher

levels of volatility in both credit and interest rate markets. In December, the Federal Reserve finally adjusted monetary policy with a small 0.25% increase to Federal Funds rate. Markets generally responded well to this change in monetary policy. One area of stress was the interest rate derivative market where, similar to the third quarter, interest rate swaps used by most mortgage and ABS investors underperformed relative to their MBS and credit positions. Capital flight from emerging markets and broker-dealers hedging their ballooning balance sheets were the primary suspects in swap spread underperformance.

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**ANDREW SOLOMON**  
*Portfolio Manager*  
Real Estate Debt (CMBS)

U.S. equities started the quarter in very strong fashion, posting their best month in four years in October. Unfortunately, CMBS pricing moved in the other direction. New issue BBB- bonds were down approximately 4 points and legacy junior AAAs ("AJs") were one point lower. The trend continued in November with newer vintage BBB-s and legacy AJs both down about a point. Anyone looking for a December recovery in the sector was disappointed as AJ prices continued to decline and new vintage BBB-s treaded water on very light volumes.

The key word for the quarter was liquidity, or more accurately the lack thereof. (If solidity is not a generally recognized financial term by now, it should be.) We believe that liquidity in the CMBS market is actually quite good relative to other asset classes, but it is certainly materially worse than it was a year or two ago. As with other sectors, banks have been forced to curtail their market-making activities in the CMBS space and this is now being reflected in lower prices, wider bid/offer spreads and lighter transaction volumes. Private label U.S. CMBS issuance totaled approximately \$105 billion in 2015. This is slightly more than the prior year, but still

about 20% lower than average expectations at the start of the year. Pricing volatility in the second half of the year had a meaningful impact on issuance volumes. We expect issuance to increase further in 2016 with our base case expectation of approximately \$120 billion.

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**GORDON J. WHITING**  
*Portfolio Manager*  
Net Lease Real Estate

As of the fourth quarter of 2015, U.S. single-tenant transaction volume totaled \$55 billion, according to Real Capital Analytics. While this volume is robust and represents a roughly 300-400% increase from five years ago, this sharp run-up has begun to decline from the multi-year peak of \$58 billion exhibited in the previous quarter. In 2015, single-tenant cap rates were below those seen in 2007; however, similar to the flattening of volume levels, cap rate compression has slowed. The declining volume and flattening of cap rates during the quarter were driven by volatility in the credit markets, including a widening of CMBS spreads. Although CMBS loans became more expensive, borrowers continued to have access to CMBS financing and other sources of financing, such as life insurance companies and banks. Looking to 2016, the spread between cap rates and borrowing costs continues to remain attractive and is sufficient to make net lease investments promising relative to shorter-term fixed income securities that are more volatile. During periods of volatile credit markets, sale-leaseback financing may be viewed as an attractive, alternative source of financing for corporations, which could help bolster near-term transaction volume.

## PORTFOLIO MANAGERS' CORNER *(continued)*

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

Property values posted another year of robust gains in 2015 with the Green Street index (a proxy for core) increasing 10% and the Moody's/RCA index (a broader tracking of all sales over \$5 million) increasing 12.5%. The index suggests that valuations are up 16% vs. the pre-crisis peak or 2.9% higher on an inflation-adjusted basis. A gap remains between major markets (up 17.3% in 2015 and 36.8% since prior peak or 21.2% inflation adjusted) and non-major markets (up 8.2% in 2015, down 0.4% since prior peak or -11.7% inflation adjusted). Despite increasing prices, things could cool down in 2016. While cap rates have been low for some time now, they still appeared reasonable when compared to the yields available on longer-dated investment grade bonds or high yield bonds. However the last few months' movement of bond prices has caused the spread to look too low on a relative basis, and could mark the beginning of an increase in cap rates which we have been expecting for some time. In addition, headwinds stemming from declining oil prices, a strengthening U.S. dollar and continuing China concerns, may deter foreign capital from further U.S. investment at the same time as financial market volatility and concern over the stability of real estate prices shrink the domestic buyer pool. Recent legislation eliminating FIRPTA taxation for foreign pensions could help fill some of these demand gaps. REIT performance did not keep

up with the private market increases, up only 2.5% in 2015. REITs now trade at an average 8% discount to private market NAV, implying further uncertainty on private market values.

CRE fundamental performance was exceptionally strong and broad-based in 2015. Rent growth continued to accelerate in most geographies and product types. Development activity is accelerating, with the exception of apartment starts, which have moderated slightly. Total transaction volume in 2015 is expected to be around \$500 billion, its best year since 2007.

CMBS issuance in 2015 totaled \$105 billion, a slight increase over 2014 and approximately 20% above 2013. Credit metrics in 2015 were slightly better than 2014 on a weighted average basis; LTVs fell 1 percentage point to 64.5% and the debt service coverage ratio rose 0.7 points to 1.80x, but debt yield (NOI divided by debt balance) dropped 0.2 percentage points to 10.6%. Assets encumbered by legacy CMBS will present potential distressed buying opportunities as they approach their maturity and require capital to deleverage. Refinance success in 2015 for CMBS maturities was 78% with similar projections expected for upcoming 2016 and 2017 loan maturities.

European transaction volumes ended 2015 very strongly with overall volumes approaching the 2007 peak of €250 billion. With leasing take-up volumes increasing only 1.6% and with vacancy rates largely stagnant, occupational markets in the eurozone reflected musical chairs rather than net absorption. Not surprisingly, rental values in the eurozone were still well below pre-crisis levels although some capital cities such as Paris and Berlin saw vacancy come to structural levels and rental growth might soon follow. In the UK, transaction volumes were also near record highs and in 2015 it became clear the momentum expanded to the regions ex-London. Office rents across the UK have been growing and are now 1.9% above the pre-crisis peak, although industrial is 2% below and retail still lags at 12% below. NPL sales of €85.9 billion closed in 2015, the highest volume to date. The current year will continue to be busy with €78.6 billion in sales volume already being tracked. The macro news in Europe was not very encouraging; most of the lackluster GDP growth in the region was driven by consumers. Unemployment improved though there is a massive divergence between the best and worst countries. CPI was near zero and credit availability remained well below pre-crisis levels. There is talk of further QE in 2016 which would put the eurozone effort more in line with QE programs undertaken in the U.S. and UK.



**WILSON LEUNG**  
*Portfolio Manager*  
Asia Real Estate

Japanese real estate fundamentals continued to improve with office vacancy in Tokyo falling to 4.2% and rents growing 4.6% in 2015. Cap rate spreads continued to be wide as Japanese government bond yields stayed low. Japan remains in an early phase of recovery, a number of years behind most of the Western real estate markets, which should favor investors entering the market today. In addition, Japanese corporates are beginning to shed non-core holdings as they look to improve shareholder returns and return on equity metrics. In fact, sales from these property owners have doubled in the last five years. This should lead to more buying opportunities of inefficiently managed real estate assets.

The Korean real estate market continued to be in a state of distress as the market tried to digest the tremendous office inventory that was delivered from 2009 to 2015. Office vacancy in Seoul has stayed constant at 10.9%, which is almost twice the ten year average vacancy rate, and rental rates fell during the quarter. Korean treasuries continued to stay low as cap rates for prime office property continue to compress.

We are currently witnessing a slowing in China's economy, continued volatility in the domestic stock market, and significant currency movements; however, we have yet to see a dramatic decline in asset values in China. As a result, we have not observed a significant increase in distressed situations – opportunities that would be interesting entry points into the China real estate market. That said, an extended period of this volatility could lead to some attractive buying opportunities.



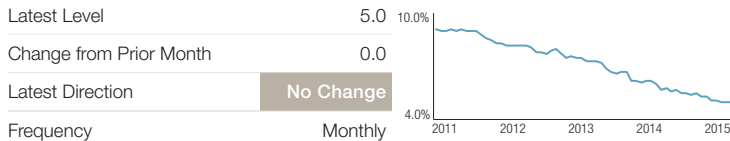
## JOB MARKET

Macro Economics

Five-Year Trend

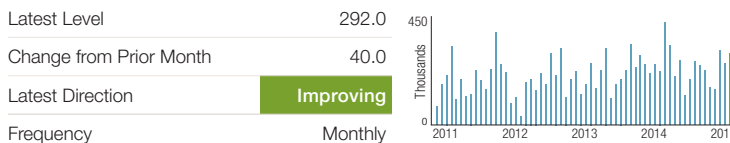
### US – Unemployment Rate

As of 12/31/2015



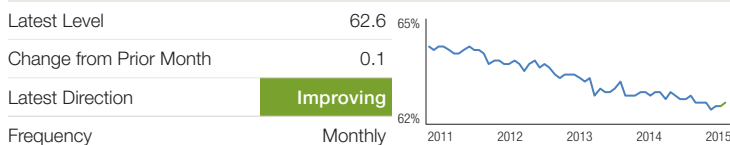
### US – Non-Farm Payroll

As of 12/31/2015



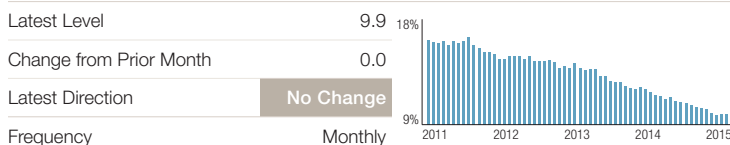
### US – Labor Participation Rate

As of 12/31/2015



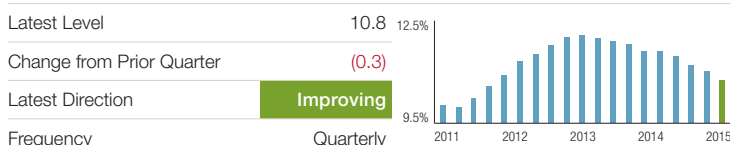
### US – U-6 Unemployed & Margin & Part-Time as % of Labor Force & Margin

As of 12/31/2015



### Eurozone Unemployment Rate

As of 9/30/2015



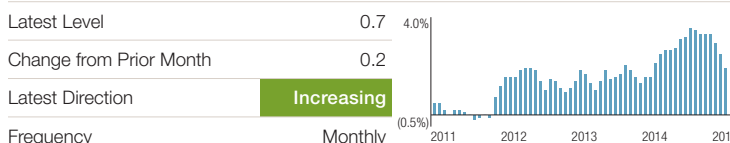
## INFLATION

Macro Economics

Five-Year Trend

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

As of 12/31/2015



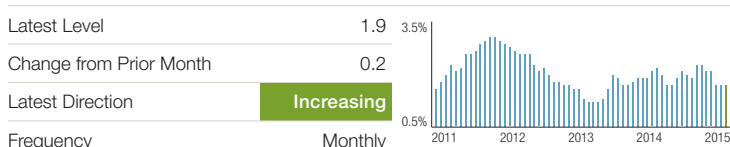
### US CPI Goods Less Food and Energy Y-o-Y %

As of 12/31/2015



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

As of 12/31/2015



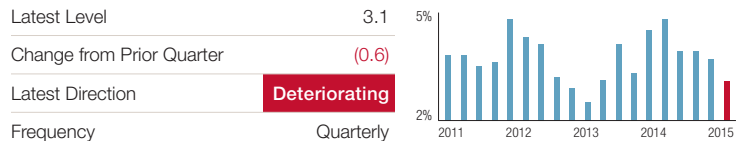
## GDP GROWTH

Macro Economics

Five-Year Trend

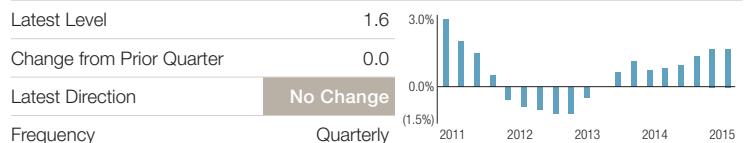
### US – GDP Y-o-Y %

As of 9/30/2015



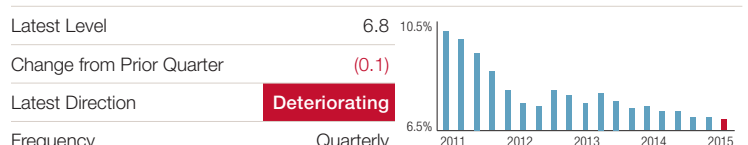
### Eurozone – GDP Y-o-Y %

As of 9/30/2015



### China – GDP Y-o-Y %

As of 12/31/2015



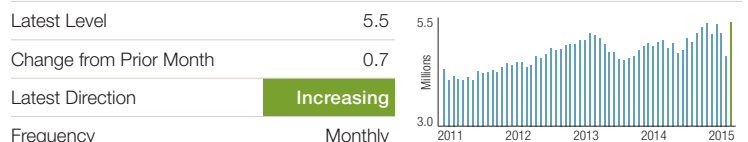
## HOUSING

Macro Economics

Five-Year Trend

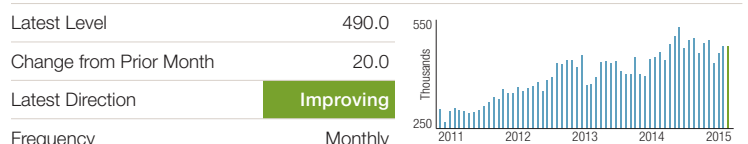
### Existing Home Sales

As of 12/31/2015



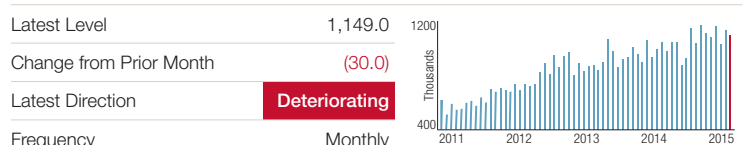
### New Home Sales

As of 11/30/2015



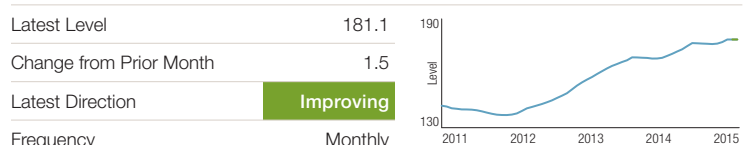
### Housing Starts

As of 12/31/2015



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

As of 10/31/2015



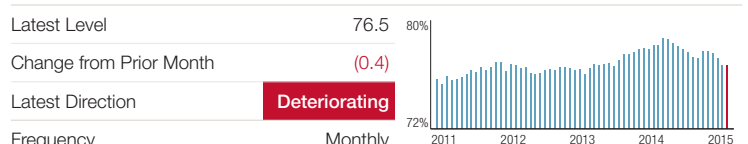
## ECONOMIC & MARKET CONFIDENCE

Macro Economics

Five-Year Trend

### Capacity Utilization as a % of Capacity

As of 12/31/2015



## ECONOMIC DASHBOARD *(continued)*

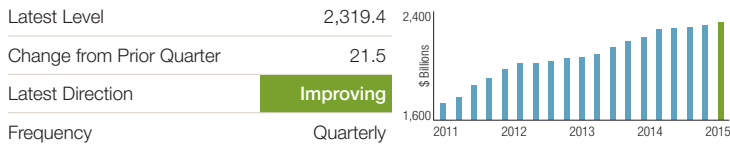
### ECONOMIC & MARKET CONFIDENCE *(continued)*

Macro Economics

Five-Year Trend

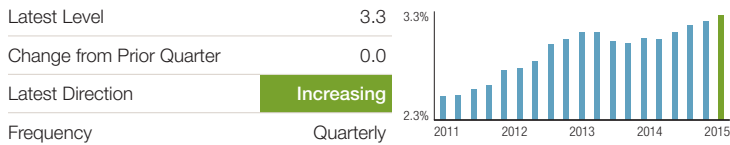
#### Private Fixed Investment Nonresidential SAAR

As of 9/30/2015



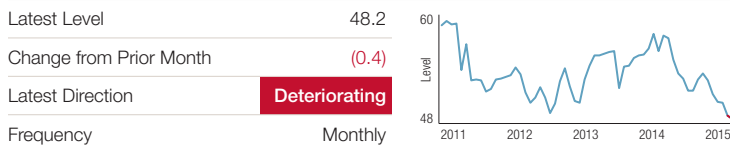
#### Residential Fixed Investment as a % of GDP

As of 9/30/2015



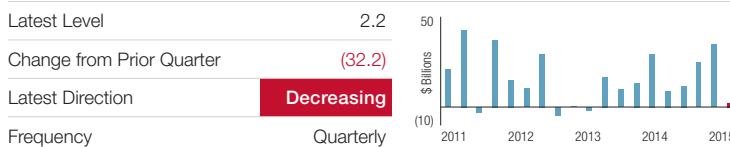
#### ISM Manufacturing Index

As of 12/31/2015



#### Manufacturing Inventory Change Q-o-Q \$

As of 9/30/2015



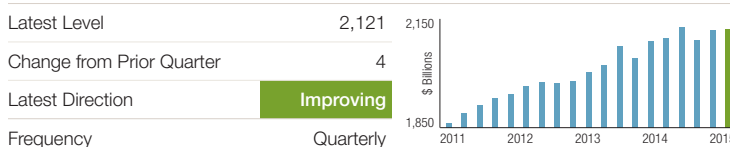
#### Architecture Firms Billings Index

As of 12/31/2015



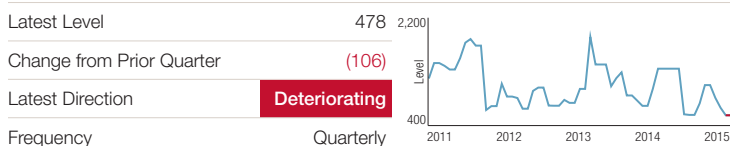
#### Exports of Goods/Services

As of 9/30/2015



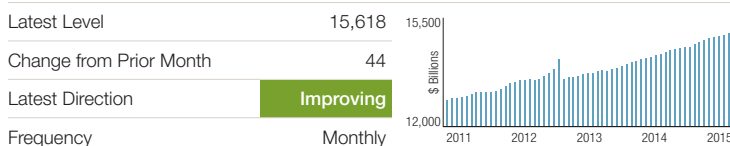
#### Shipping Rates

As of 12/31/2015



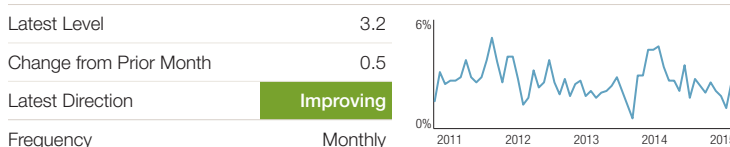
#### Personal Income Level

As of 11/30/2015



#### US Retail Chain Store Sales Y-o-Y

As of 11/30/2015



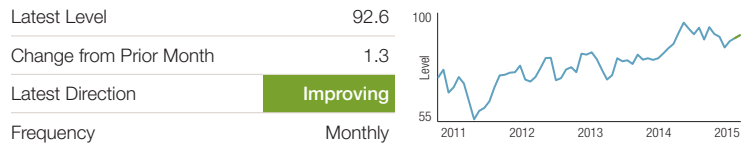
### ECONOMIC & MARKET CONFIDENCE *(continued)*

Macro Economics

Five-Year Trend

#### Michigan Consumer Confidence Sentiment

As of 12/31/2015



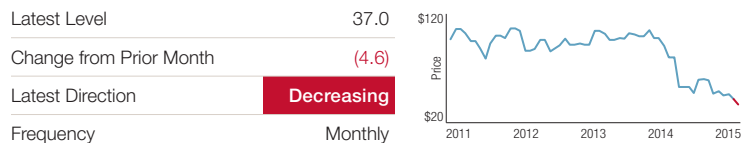
### COMMODITIES

Macro Economics

Five-Year Trend

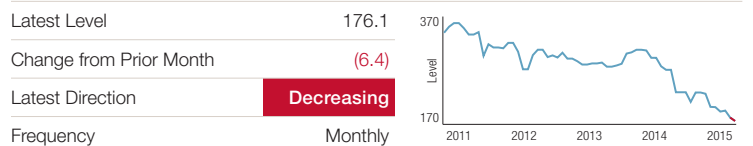
#### WTI Crude Oil Price

As of 12/31/2015



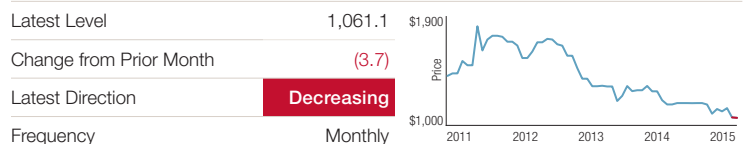
#### Reuters/Jefferies Commodity Index

As of 12/31/2015



#### Gold

As of 12/31/2015



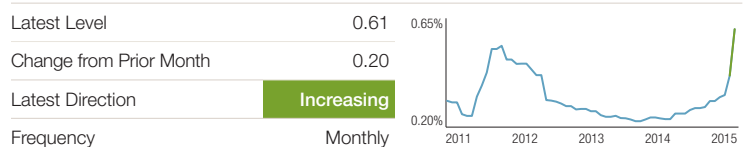
### RATES

Macro Economics

Five-Year Trend

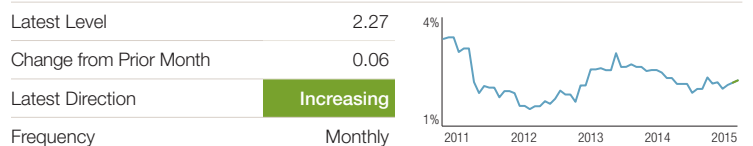
#### LIBOR 3M

As of 12/31/2015



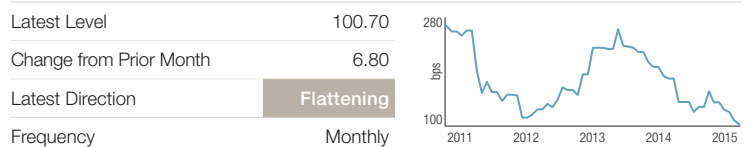
#### Treasury 10 Yr Yield

As of 12/31/2015

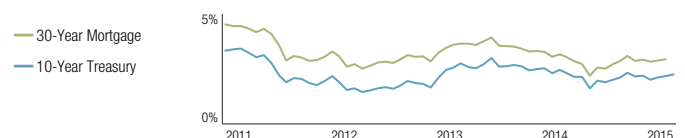


#### Swaps 2Y vs 10Y

As of 12/31/2015



#### 30 Yr Mortgage and 10 Yr Treasury



Source: Bloomberg (All)

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

# ECONOMIC DASHBOARD *(continued)*

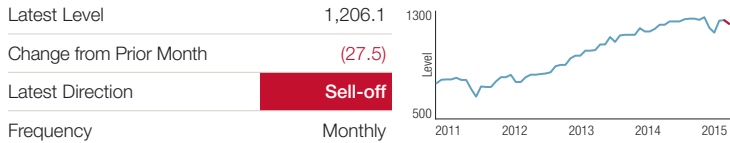
## EQUITY

Macro Economics

Five-Year Trend

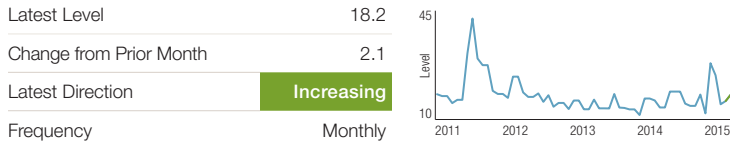
### US Equity Markets – Russell 3000

As of 12/31/2015



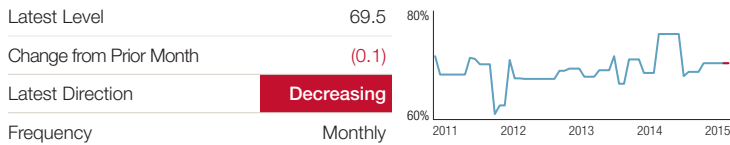
### US Equity – VIX

As of 12/31/2015

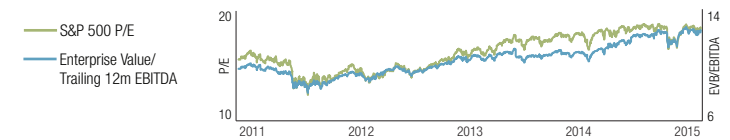


### S&P 500 Percentage Exceeding Earning Estimates

As of 12/16/2015

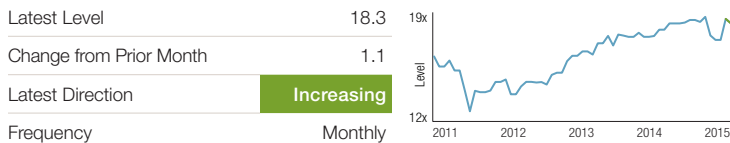


### S&P 500 Historical Valuation Levels



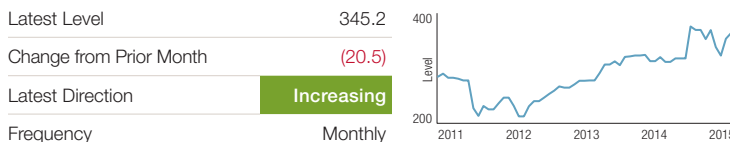
### Trailing P/E on S&P 500

As of 12/31/2015



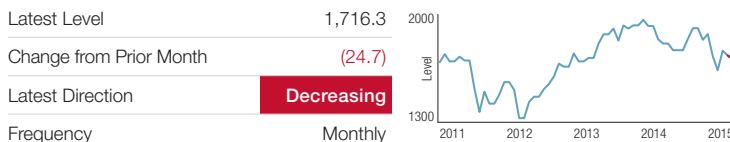
### Equity Markets – Euro Stoxx

As of 12/31/2015



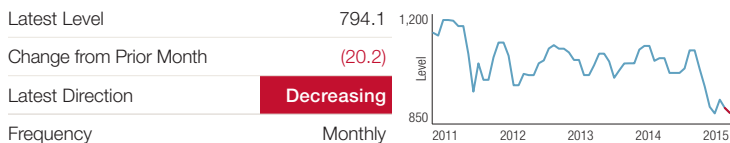
### Equity Markets – MSCI EAFE

As of 12/31/2015



### Equity Markets – MSCI EM

As of 12/31/2015



### Russel 3000 - MSCI EAFE - MSCI EM



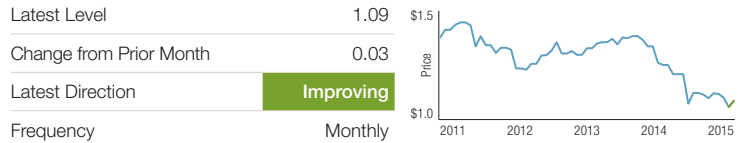
## FOREIGN EXCHANGE RATE

Macro Economics

Five-Year Trend

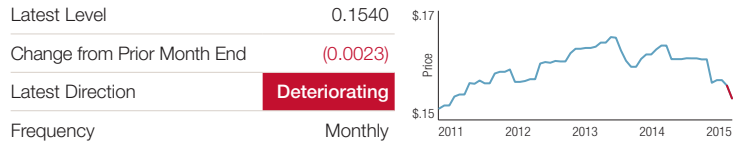
### Euro Spot Rate vs 1 USD

As of 12/31/2015



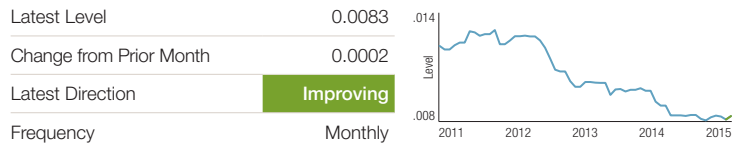
### Yuan Spot Rate vs 1 USD

As of 12/31/2015



### Yen Spot Rate vs 1 USD

As of 12/31/2015



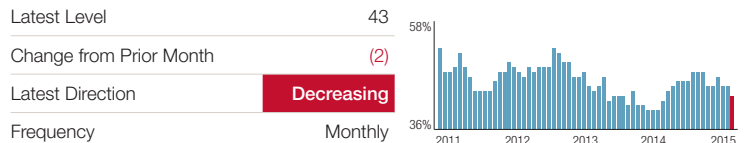
## POLITICS

Macro Economics

Five-Year Trend

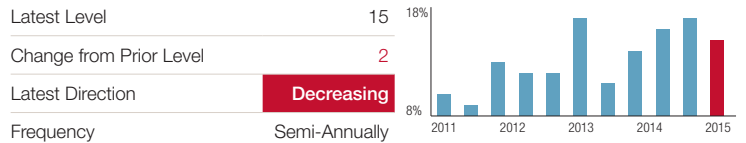
### NBC NEWS/WSJ Poll Obama Approval Rating<sup>(1)</sup>

As of 12/31/2015

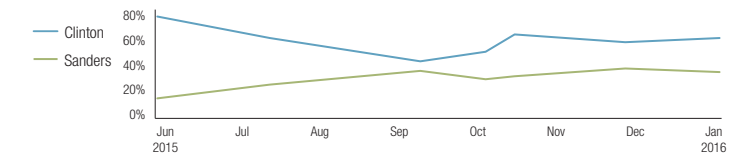


### CBS News/NY Times Congressional Approval Rating<sup>(2)</sup>

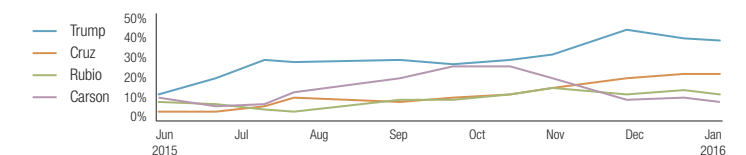
As of 12/31/2015



### 2016 Democratic Presidential Nomination<sup>(1)</sup>



### 2016 Republican Presidential Nomination<sup>(3)</sup>



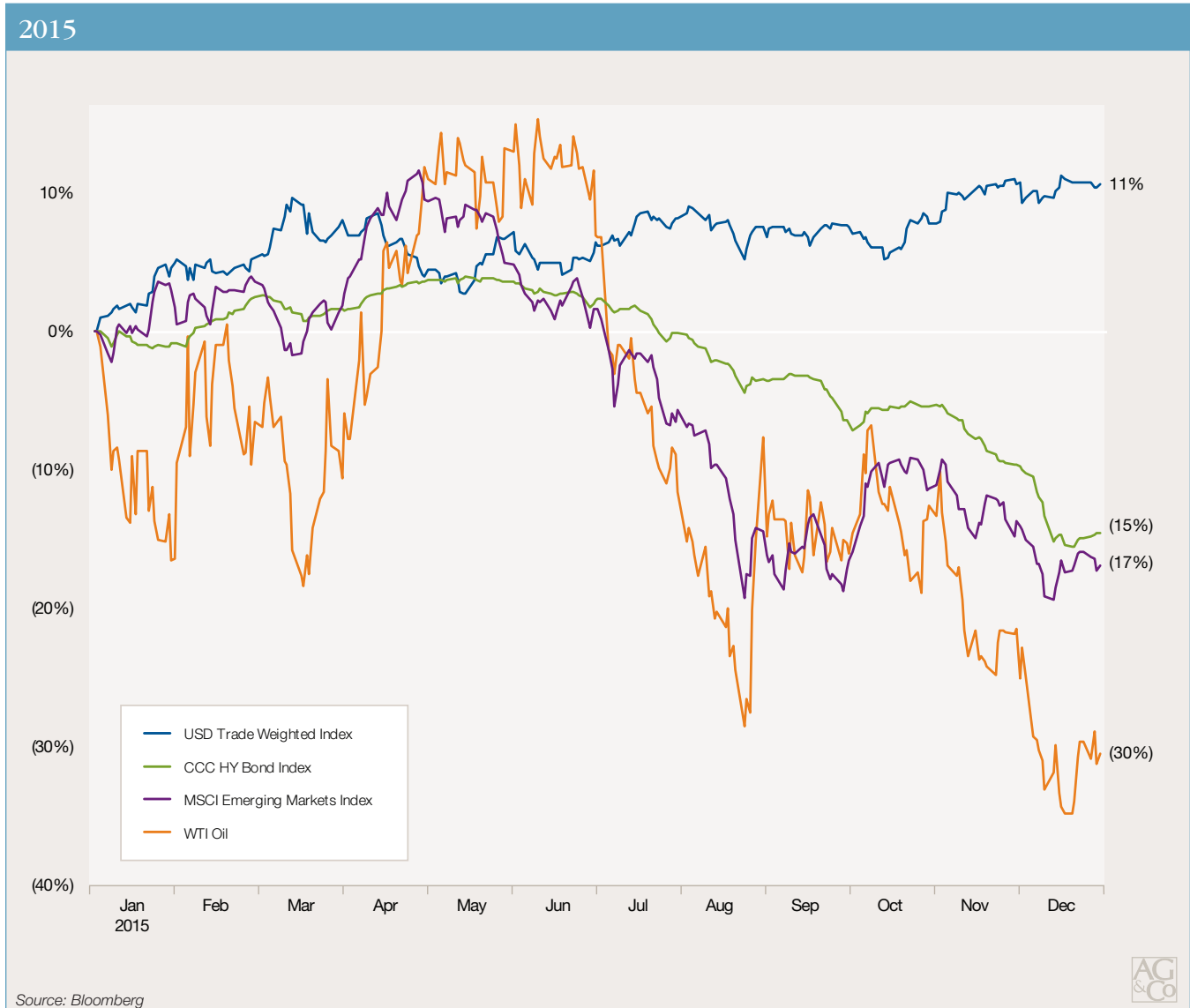
Source: Bloomberg (Except where noted)

(1) NBC News/Wall Street Journal Survey

(2) CBS News/NY Times

(3) Fox News Poll

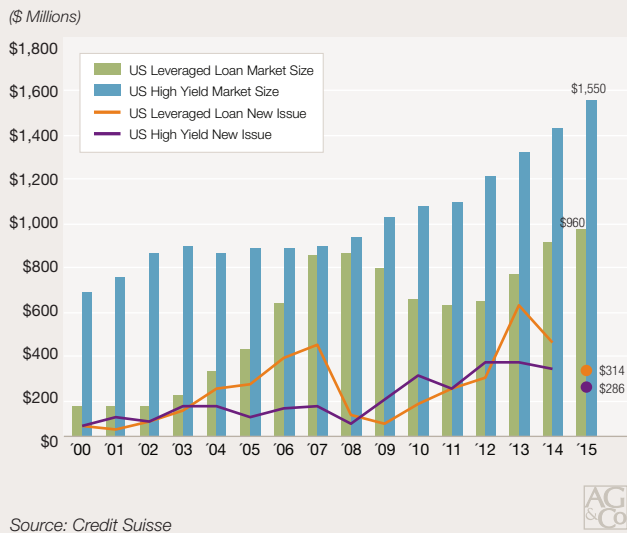
"Latest Direction" is from the last "Frequency" measurement



The continued decline in oil prices pressured many markets. As risk aversion grew pervasive into the latter part of the year, CCC high yield bonds tumbled, resulting in 2015 returns of -15%. Contagion spread to many other asset classes as a “lower for longer” mentality took hold, resulting in heightened illiquidity and volatility. Fears of slowing Chinese and global growth, declining commodity prices, and a strengthening dollar contributed to extremely weak emerging market equity performance.

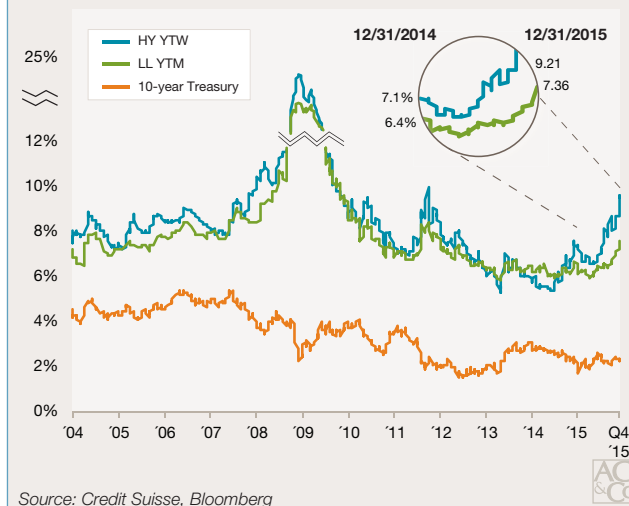
## NON-INVESTMENT GRADE CORPORATE CREDIT

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



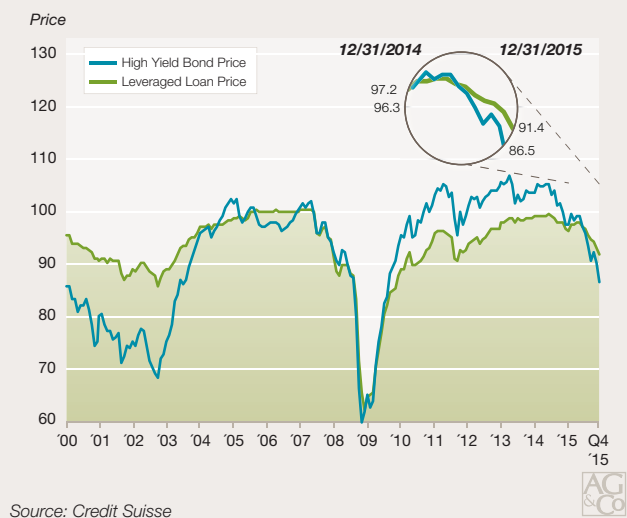
High yield bond and leveraged loan markets continued to expand despite a year-over-year decline in new issue volume.

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



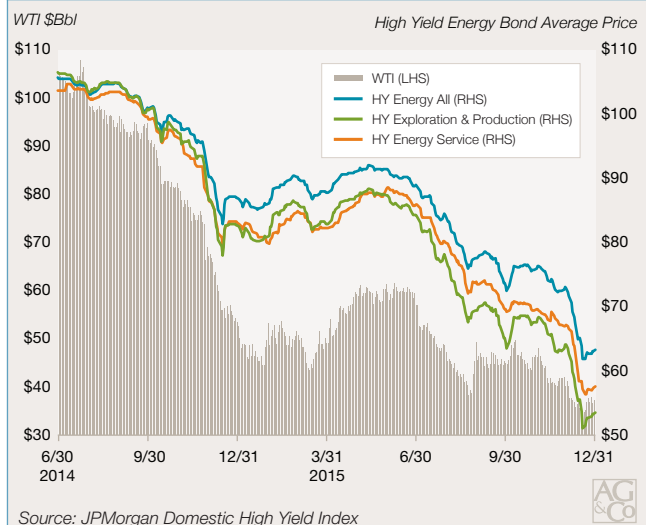
Uncertainty and risk aversion during the quarter resulted in the high yield bond and leveraged loan markets reaching their highest yields of the year, while the yields on the 10-year remained stable.

### LEVERAGED LOAN AND HIGH YIELD BOND AVERAGE PRICE



High yield bond and leveraged loan prices continued their decline during the quarter. Year-over-year price drops tallied ten and six points in the respective markets.

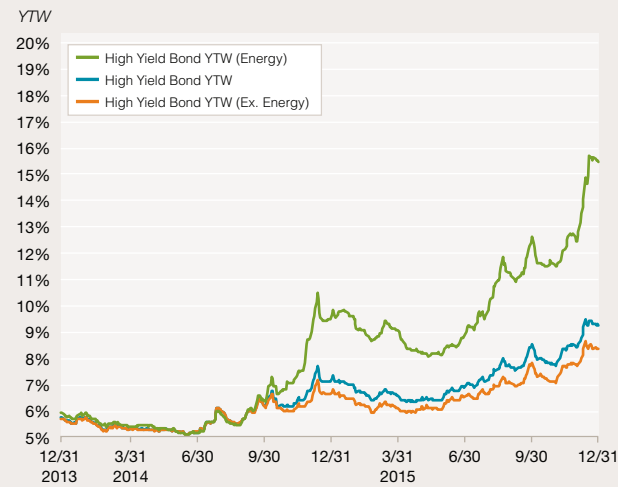
### HIGH YIELD ENERGY AVERAGE PRICE VS. WTI



The tight correlation between WTI and high yield energy remained in place in the fourth quarter. High yield energy credits ended the quarter near their lowest prices since the recent energy induced dislocation began.

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

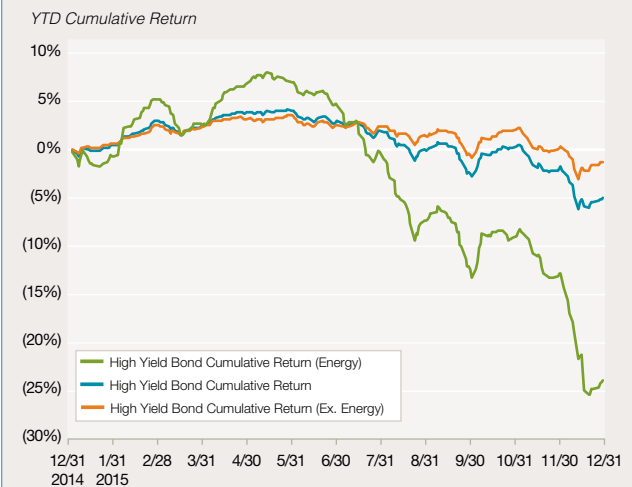
### HIGH YIELD BOND YIELDS WITH AND WITHOUT ENERGY



Source: JPMorgan Domestic High Yield Index

**Energy yields spiked during the quarter and remained much higher than those in the overall market, indicating uncertainty about the risk/reward profile of energy-related credits (applies to charts above and below).**

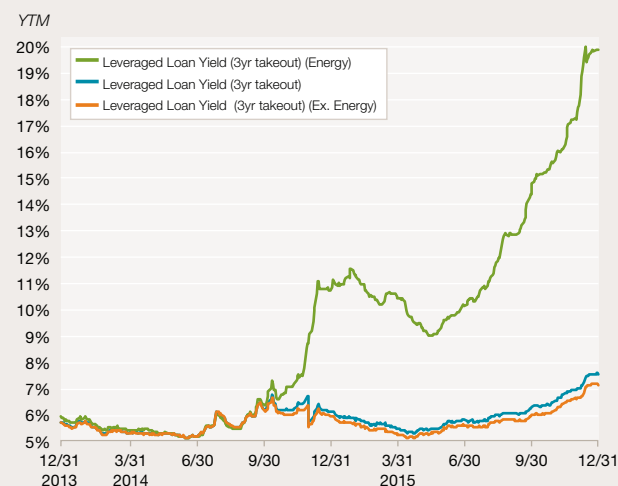
### 2015 HIGH YIELD BOND RETURNS WITH AND WITHOUT ENERGY



Source: JPMorgan Domestic High Yield Index

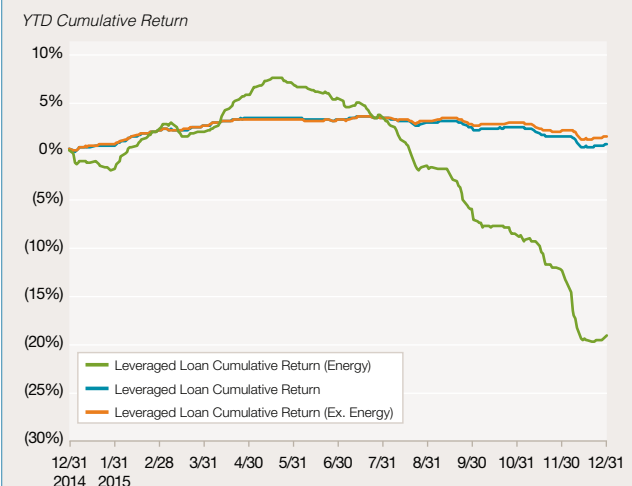
**The energy sector meaningfully underperformed the broader leveraged finance markets during the year (applies to charts above and below).**

### LEVERAGED LOAN YIELDS WITH AND WITHOUT ENERGY



Source: JPMorgan Leveraged Loan Index

### 2015 LEVERAGED LOAN RETURNS WITH AND WITHOUT ENERGY



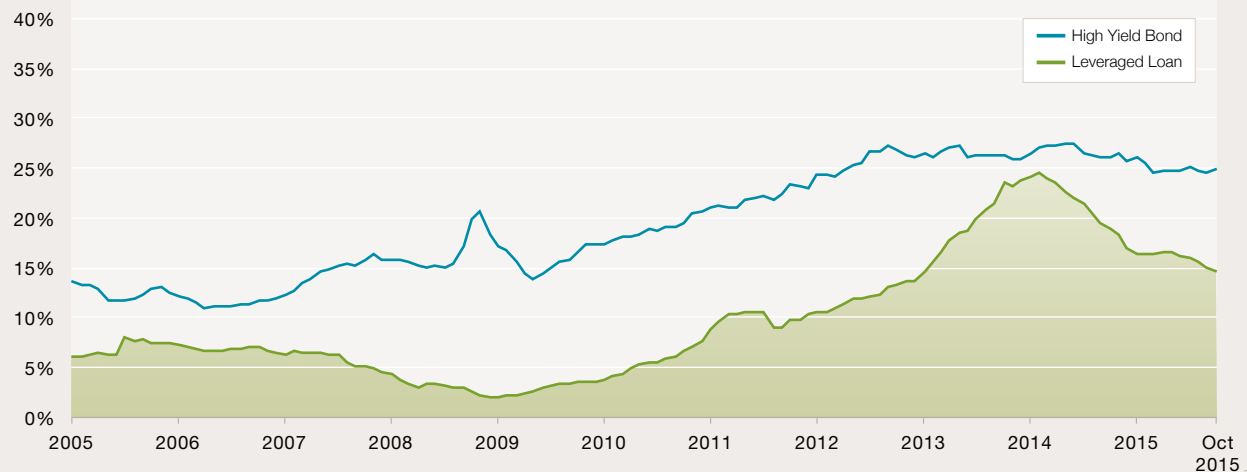
Source: JPMorgan Leveraged Loan Index



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

### MUTUAL FUND OWNERSHIP IN THE HIGH YIELD AND LEVERAGED LOAN MARKETPLACE

Mutual Fund Assets as Pct of Market Size

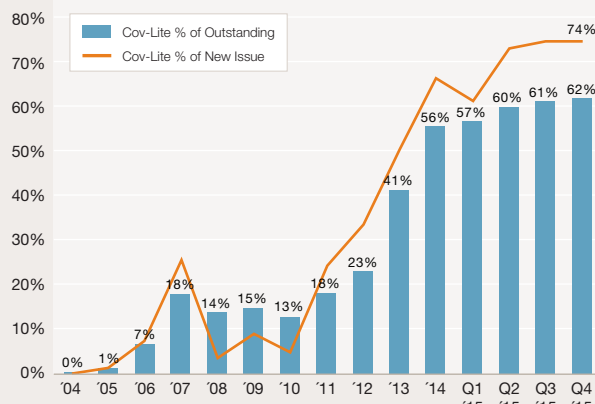


Source: BofA Merrill Lynch



Mutual fund ownership in the loan market declined for a second consecutive year while ownership in the high yield market remained relatively stable.

### COV-LITE PERCENTAGE OF NEW ISSUE LOANS AND PERCENTAGE OF OUTSTANDING LOANS



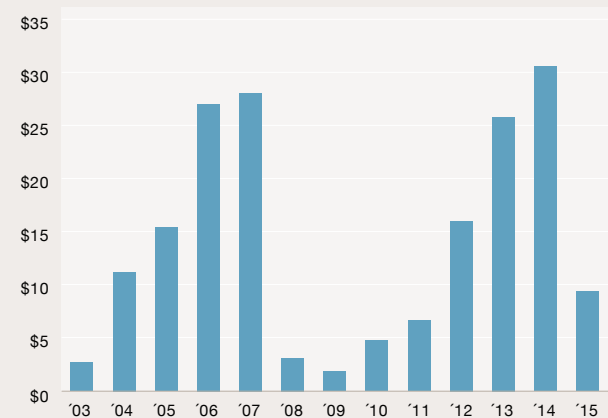
Source: JPMorgan, Credit Suisse



Cov-lite loans as a percentage of total new issue loans were relatively stable and remained historically high during the fourth quarter.

### SECOND LIEN LOAN NEW ISSUANCE

(\$ Billions)



Source: S&P CapitalIQ LCD

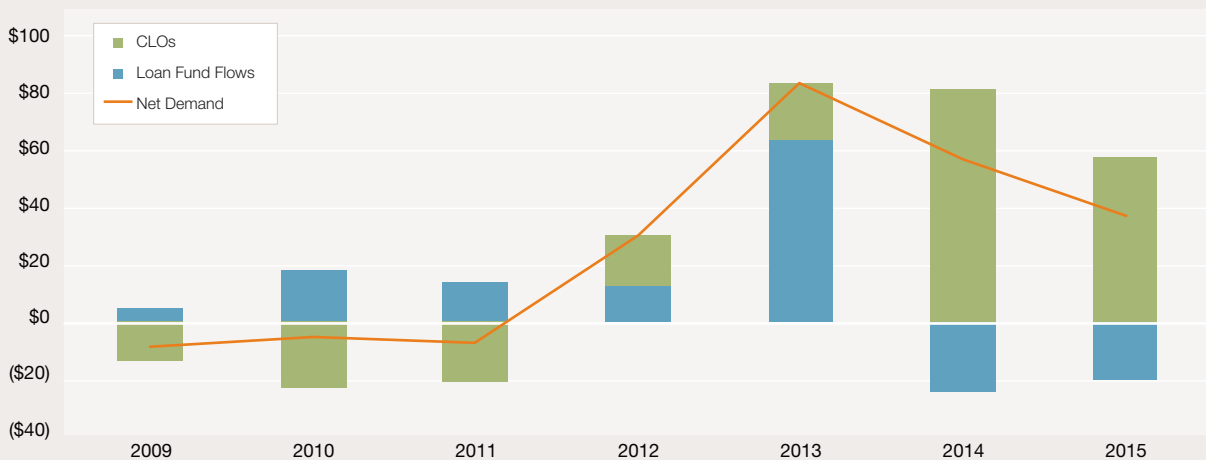


Second lien issuance tumbled during the year as risk aversion grew.

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

### LOAN MUTUAL FUND FLOWS AND CLO ISSUANCE

Fund Flows and CLO Issuance (\$ Billions)

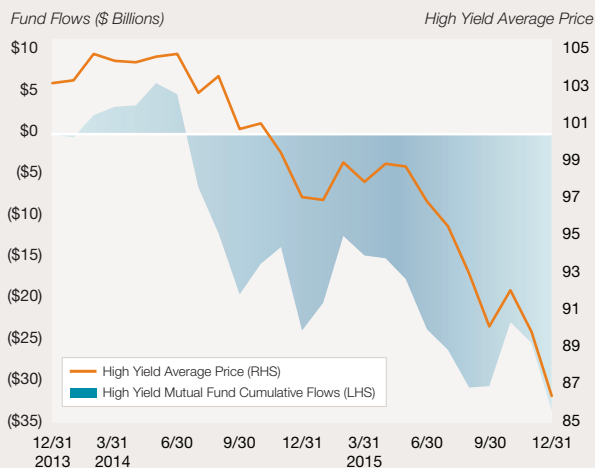


Source: JP Morgan, Wells Fargo



Loan fund outflows in 2015 totaled about \$20 billion, but net loan demand remained positive due to the strong 2015 CLO issuance. The technical landscape deteriorated in the fourth quarter as CLO issuance slowed down and loan fund outflows picked up their pace.

### HIGH YIELD MUTUAL FUND FLOWS VS. AVERAGE PRICE

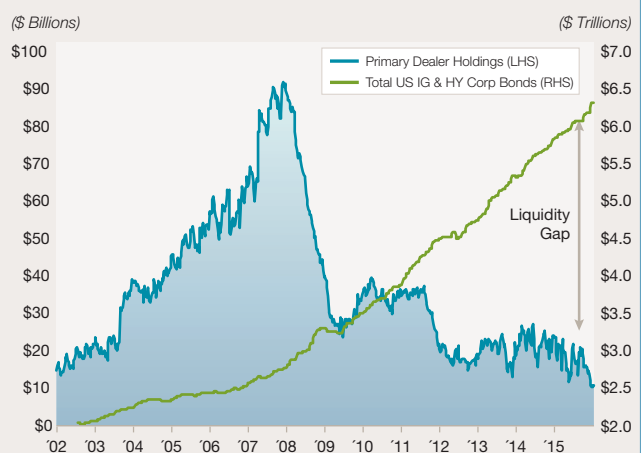


Source: JPMorgan, Credit Suisse



Outflows from high yield funds accelerated sharply into the end of the year on the heels of news of a prominent high yield mutual fund curtailing daily liquidity. Outflows reached over \$9 billion in December alone.

### PRIMARY DEALER POSITIONS - HY AND IG CORPORATE SECURITIES



Note: In the above chart, Primary Dealer positions pre-March 2013 are adjusted to track IG and HY bonds, notes and debentures. Post-April 2013 figures track IG and HY bonds, notes and debentures. As of March 2013, there was a reporting change in the series. Pre-March 2013 reported figures track IG and HY bonds, notes and debentures, and include commercial paper. Adjusted numbers pre-March 2013 haircut the data by the same proportion as the jump in April 2013.

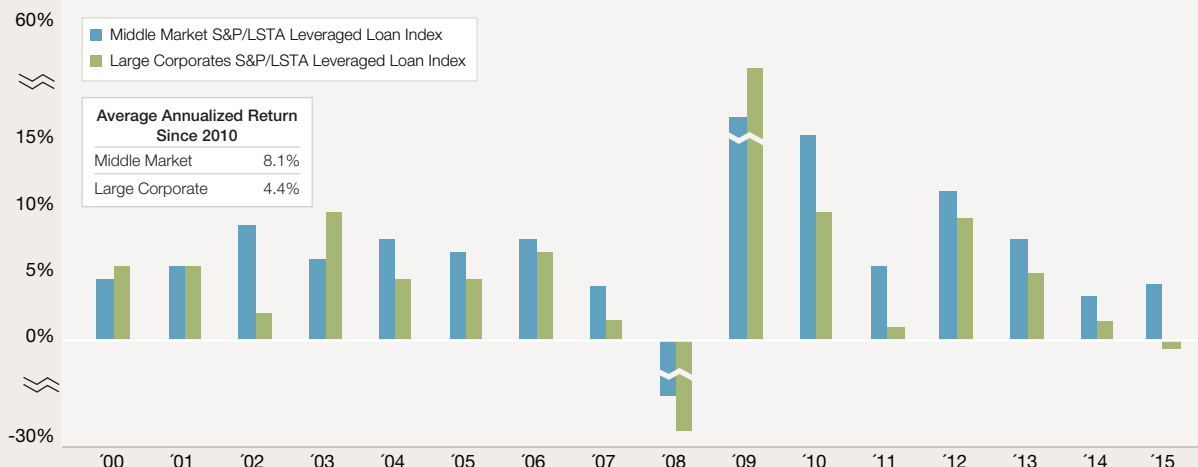
Source: Bloomberg, Morgan Stanley, Federal Reserve Bank of New York, BofA Merrill Lynch



Dealers continued to maintain tight balance sheets in 2015 contributing to the illiquidity in today's credit markets.

## MIDDLE MARKET DIRECT LENDING

### ANNUAL RETURNS: MIDDLE MARKET VS. LARGE CORPORATES



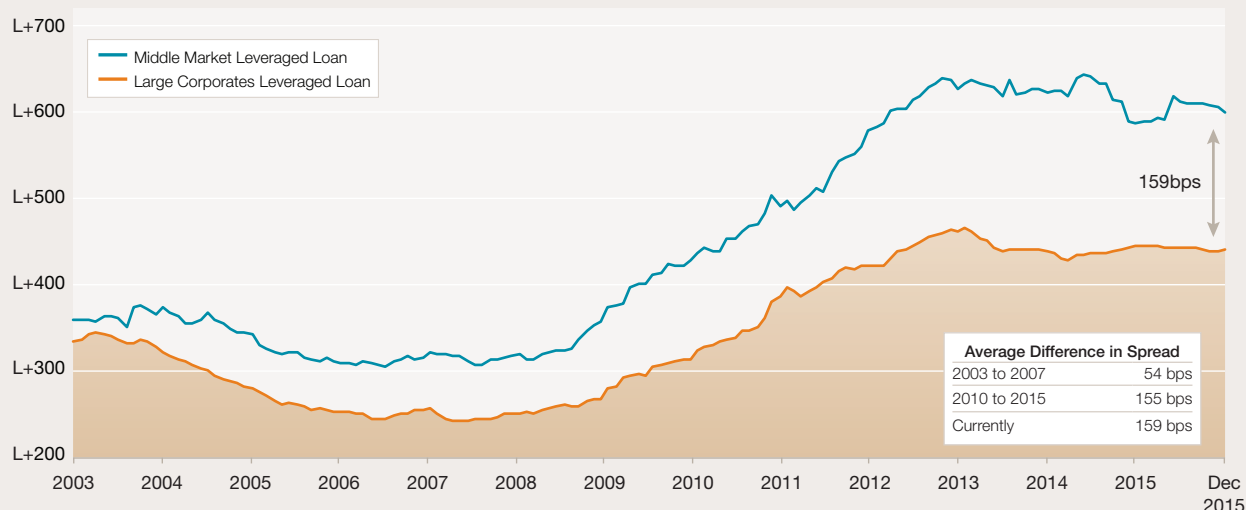
Middle market leveraged loan includes issuers with less than \$50m EBITDA

Source: S&P CapitalIQ LCD, S&P/LSTA Leveraged Loan Index



**Middle market loans have delivered positive annual returns every year with the exception of 2008. Out-performance versus the large corporate market increased year-over-year as the middle market is generally more insulated from broader volatility and spread widening.**

### 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

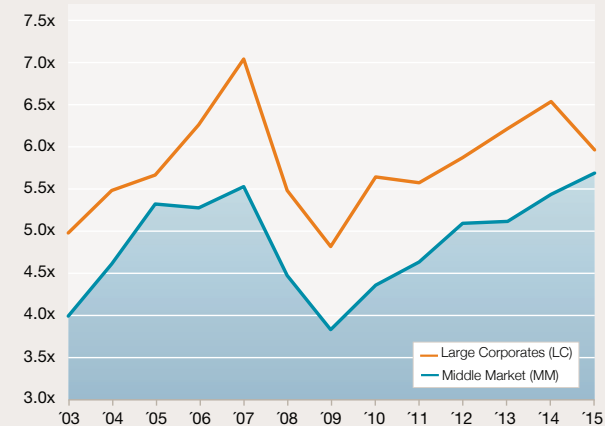


**Middle market borrowers have historically had a higher funding cost than large corporate borrowers, with the gap between the two tripling in the post-financial crisis era. The spread differential ended the year in line with the average of the last five years.**



## MIDDLE MARKET DIRECT LENDING *(continued)*

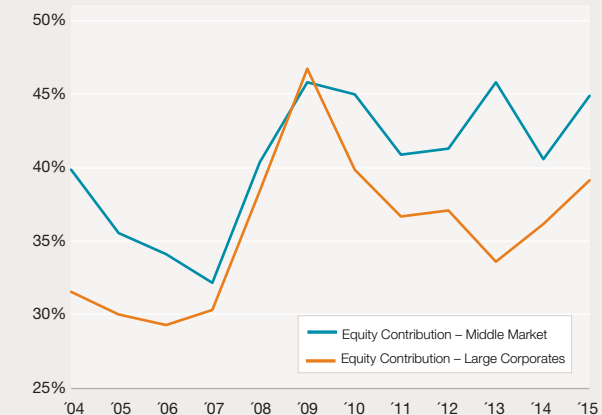
### LBO DEBT TO EBITDA: MIDDLE MARKET VS. LARGE CORPORATES



Source: Thompson Reuters

**Middle market financing transactions typically have more conservative capital structures with lower debt-to-EBITDA multiples.**

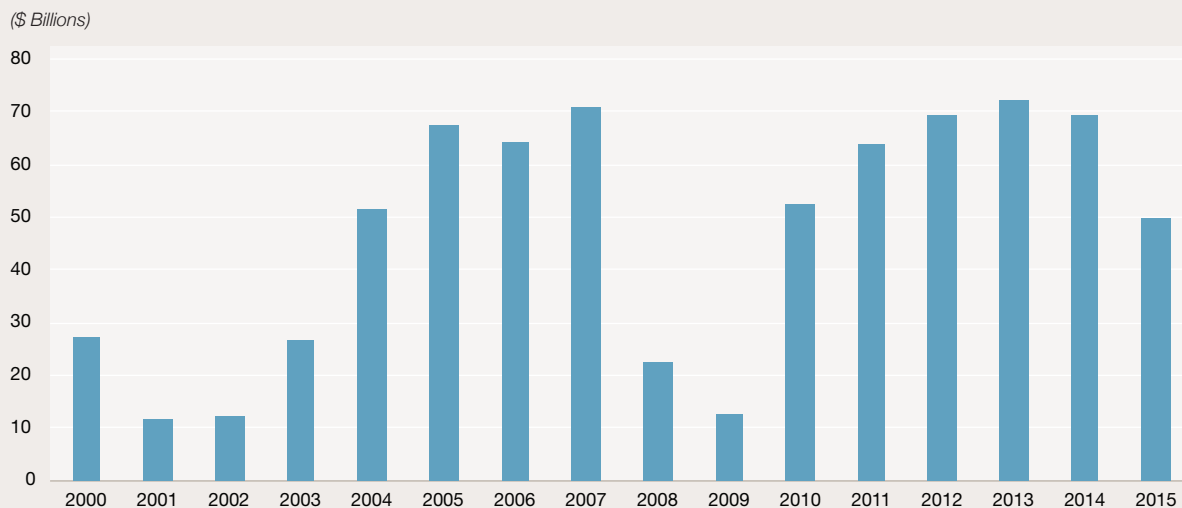
### AVERAGE EQUITY CONTRIBUTION FOR LBO'S: MIDDLE MARKET VS. LARGE CORPORATES



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

**Middle market buyouts, on average, require larger sponsor equity contributions as a percentage of the capital structure, with contributions rising steadily during 2015.**

### MIDDLE MARKET SPONSORED ISSUANCE

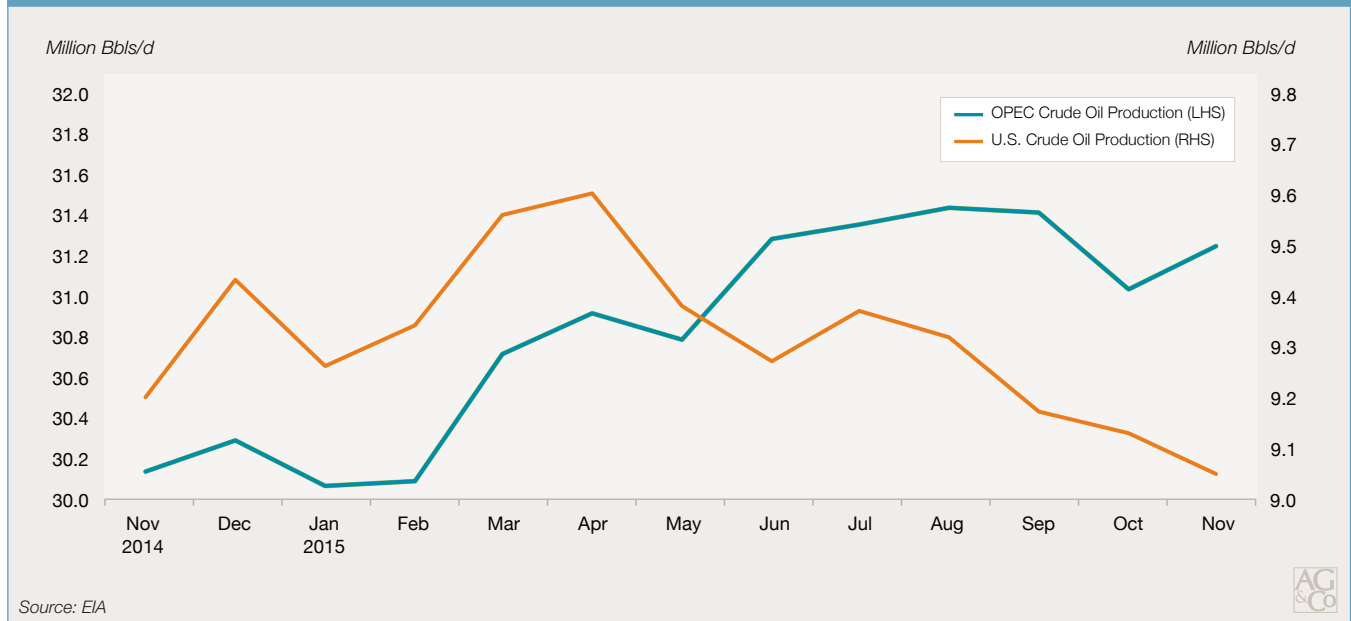


Source: Thompson Reuters

**Despite a decline in sponsored issuance versus 2014, the vast size of the U.S. middle market provides a consistent opportunity set.**

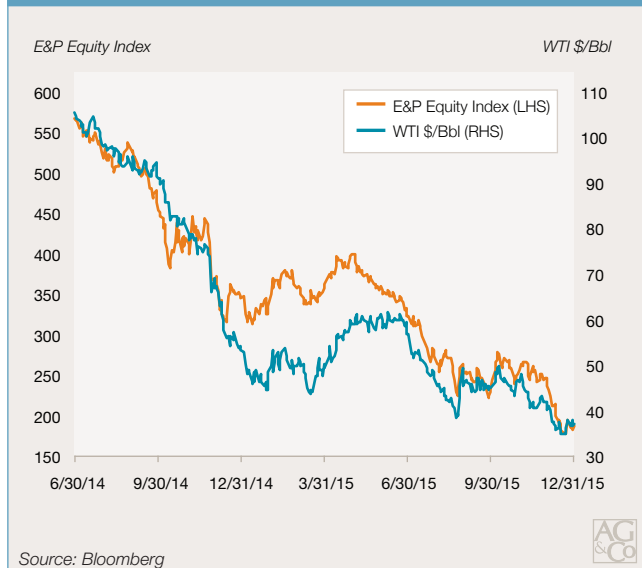
# ENERGY DIRECT LENDING

## OPEC PRODUCTION GAINS VS. GRADUAL U.S. REDUCTION

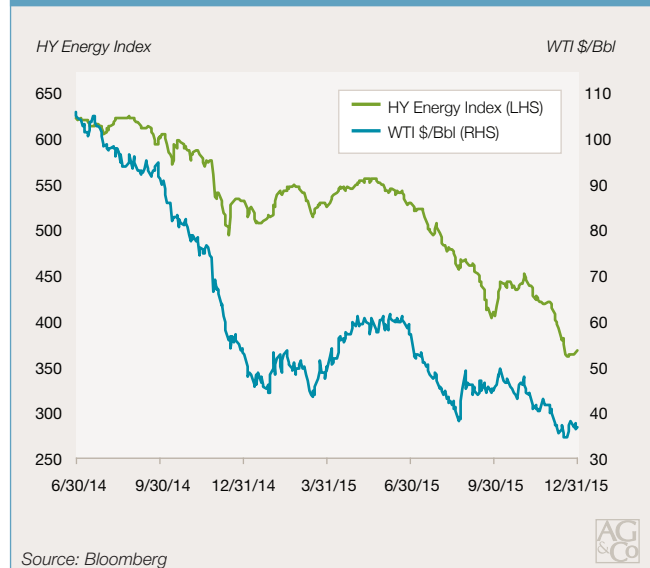


The Saudis, Iraq, and now Iran are serious about market share...

## WTI VS. E&P EQUITY



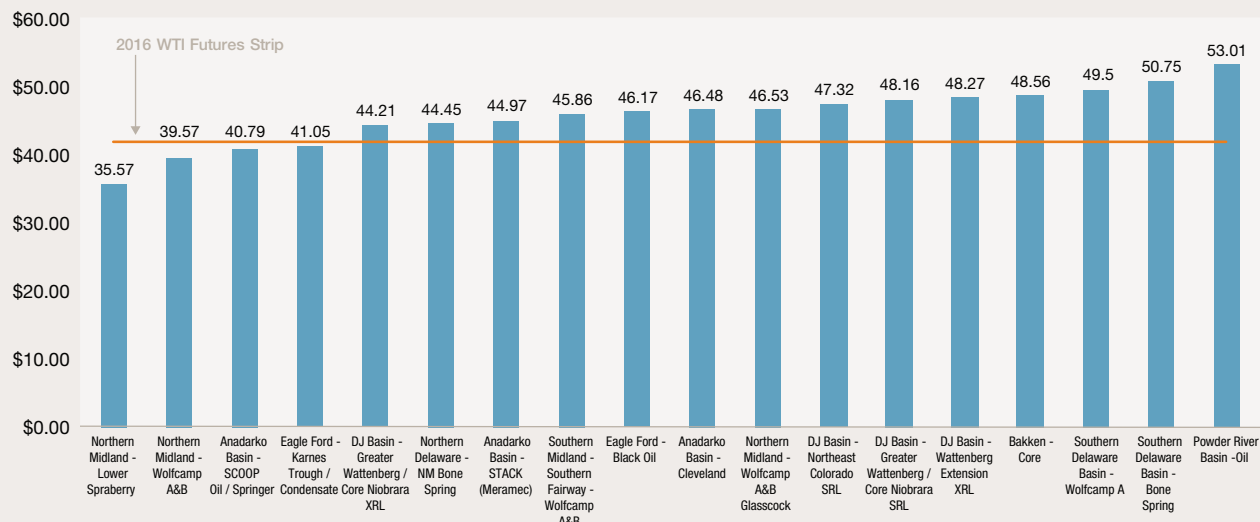
## WTI VS. HIGH YIELD ENERGY



...resulting in cratering oil prices and highly correlated/decimated energy capital markets...

## ENERGY DIRECT LENDING *(continued)*

### U.S. ONSHORE OIL PLAYS: BREAK EVEN ANALYSIS (\$/Bbl) - TOP TWO QUARTILES



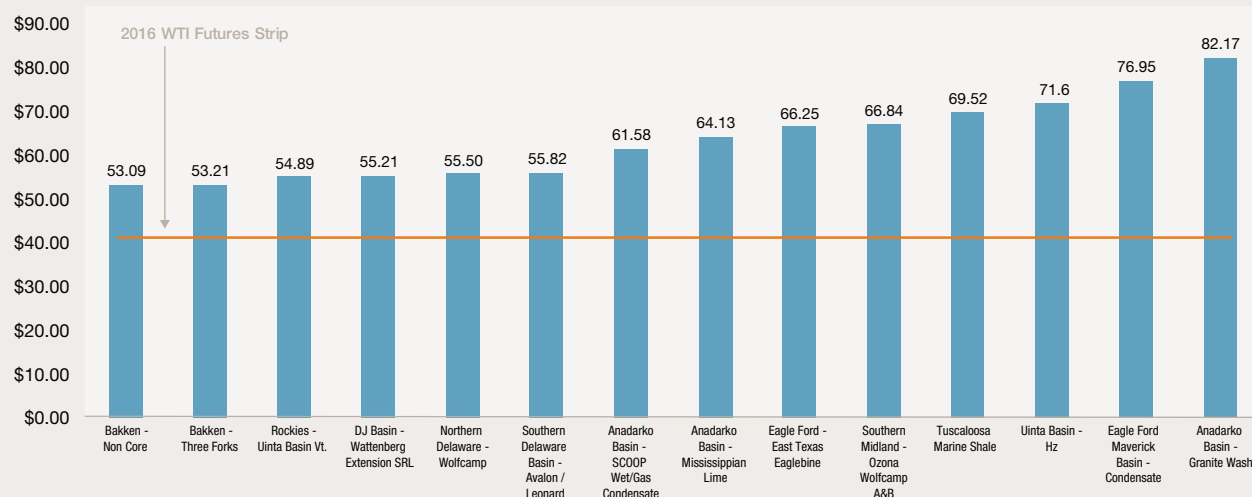
2016 WTI Futures Strip as of December 31, 2015

Source: Company data, industry data, IHS Enerdeq, JP Morgan Research. Futures as of December 31, 2015



**...leaving few opportunities for industry growth and making drilling unprofitable in 28 of 32 oil plays (applies to both charts).**

### U.S. ONSHORE OIL PLAYS: BREAK EVEN ANALYSIS (\$/Bbl) - BOTTOM TWO QUARTILES



2016 WTI Futures Strip as of December 31, 2015

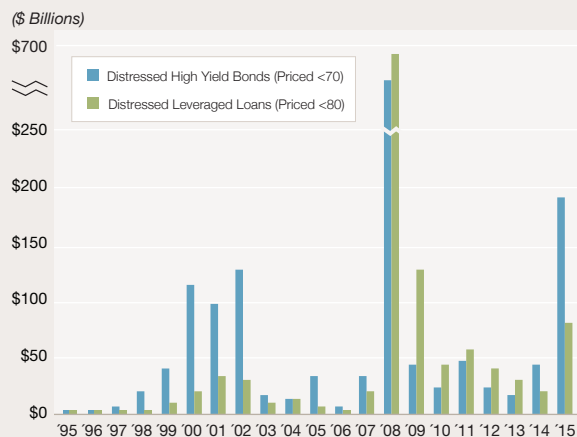
Source: Company data, industry data, IHS Enerdeq, JP Morgan Research. Futures as of December 31, 2015





## DISTRESSED DEBT – U.S.

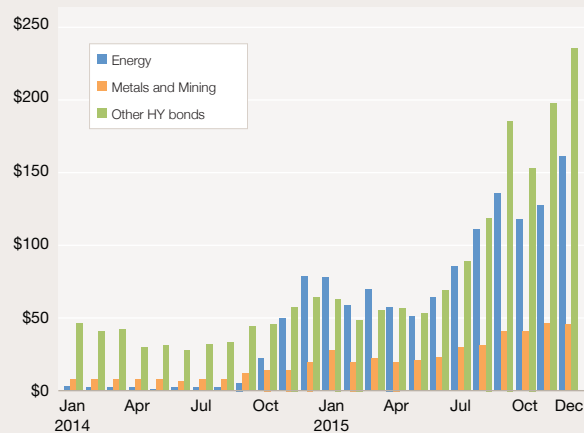
### SIZE OF DISTRESSED DEBT MARKET



Source: JPMorgan, Credit Suisse (leveraged loans 1995–2009)

Despite historically low corporate default rates, low commodity prices and market volatility have combined to pressure yields and increase the distressed backlog.

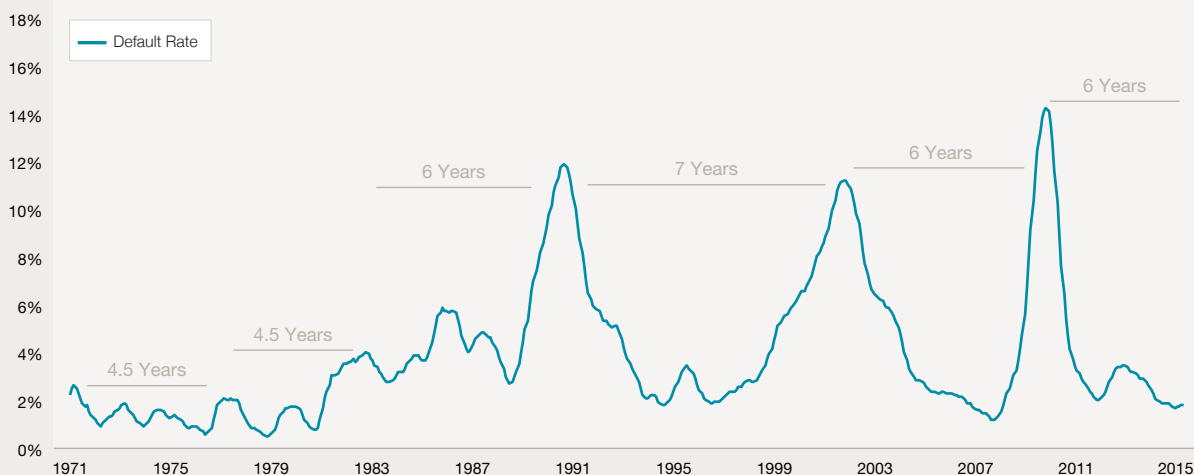
### ENERGY & METALS/MINING REPRESENT LARGE PORTION OF SUB \$90 HIGH YIELD BONDS



Source: JPMorgan

While energy and coal sector issuers accounted for 60+% of 2015 total default volume, the “other” distressed category is actually growing at a faster rate.

### THE AVERAGE CREDIT CYCLE IS 6 YEARS



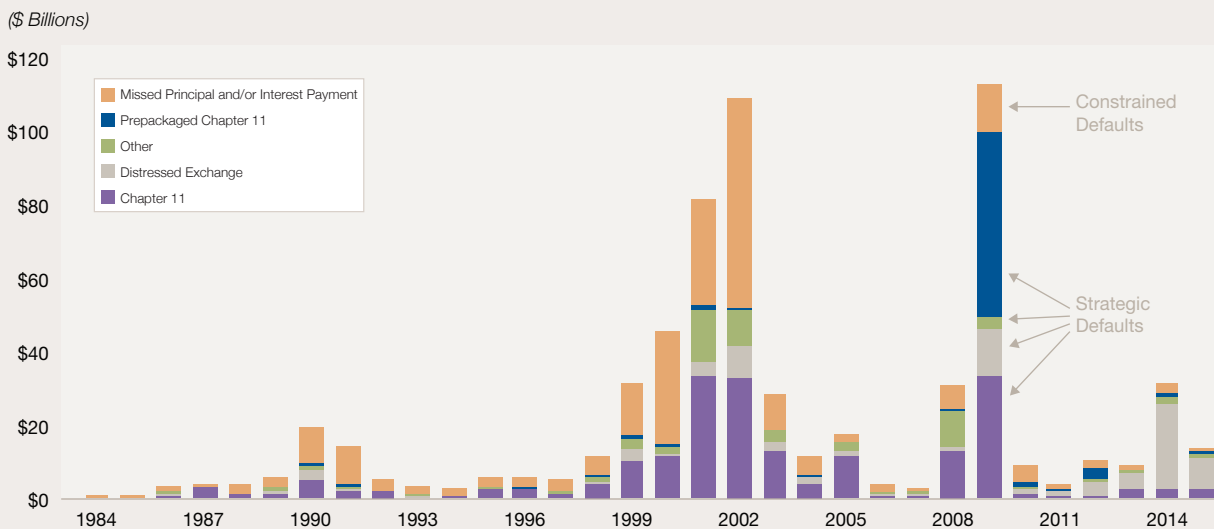
Default Rate: U.S. speculative grade 12-month trailing default rate (6-month average)

Source: Moodys, BofA Merrill Lynch

At later stages of the credit cycle, it's not uncommon for rates to be historically low and underwriting standards increasingly relaxed.

## DISTRESSED DEBT – U.S. *(continued)*

### THE INABILITY TO REFINANCE DEBT IS NOT THE ONLY DRIVER OF DEFAULTS

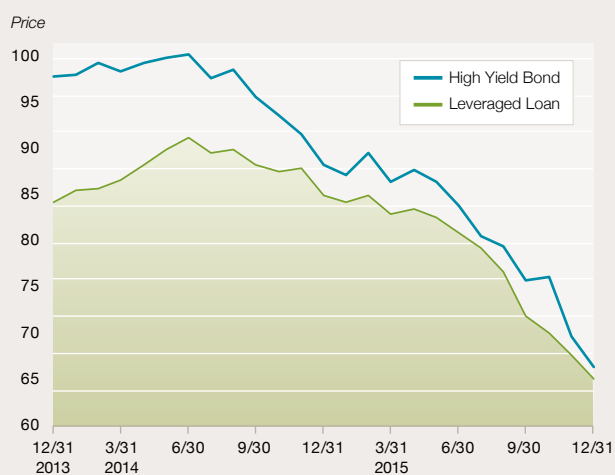


Source: Goldman Sachs, Moodys



**While each default cycle is characterized by its own catalysts, companies default for a variety of reasons.**

### AVERAGE PRICE: LOWER TIER LEVERAGED LOAN AND HIGH YIELD BOND

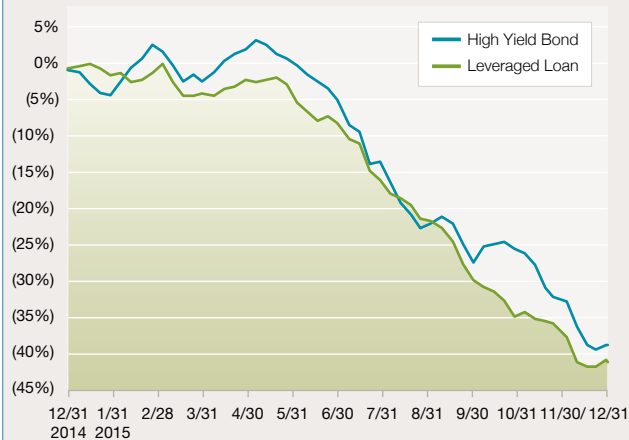


Lower tier leveraged loan: Rated CCC/Split, CCC and D  
Lower tier high yield bond: Rated CCC1 and lower  
Source: Credit Suisse, BofA Merrill Lynch



**Both in bonds and loans, lower rated credits experienced accelerating losses in 2H 2015, along with a commodities sell-off and overall risk-off trend.**

### DISTRESSED CREDIT FELL RELENTLESSLY



BofA Merrill Lynch U.S. Distressed High Yield Index, CS Leveraged Loan Distressed Index

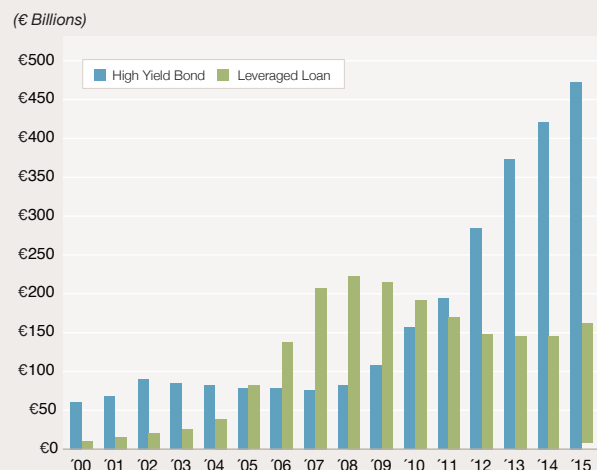
Source: Credit Suisse, BofA Merrill Lynch, Bloomberg



**Distressed credits suffered significant losses in 2015 – up to ~40% – the second worst year for the category in 26 years (after 2008).**

## DISTRESSED DEBT – EUROPE

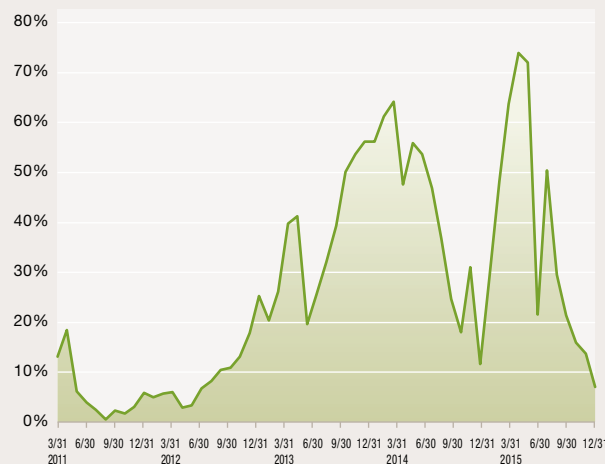
### EUROPEAN HIGH YIELD BOND AND LEVERAGED LOAN MARKET



Source: Credit Suisse

Despite continued quantitative easing, deteriorating market conditions in Europe caused loan and bond issuance to drop year-over-year (19% and 10%, respectively).

### SHARE OF OUTSTANDING PERFORMING LOANS AT PAR OR HIGHER



Source: S&P CapitalIQ LCD

Accompanying increased volatility and macro concerns, more than 90% of secondary market loans in the eurozone traded below par to end 2015.

### EUROPEAN BANKS ARE SELLING ASSETS



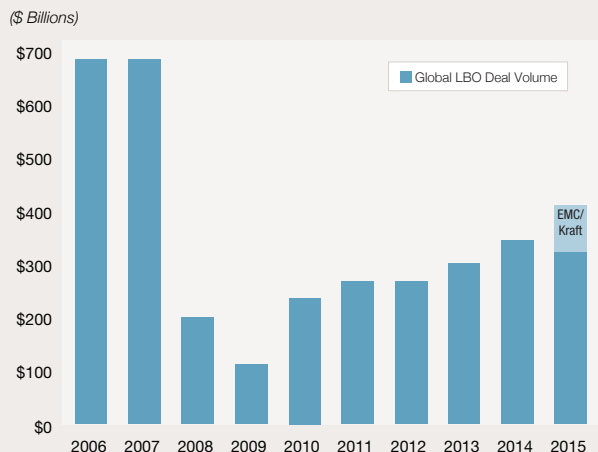
Note: Based on the location of the head office of the bank selling the assets

Source: Publicly available information, PWC information, estimate and analysis, Financial Times

Amidst challenging currency movements and choppy global markets, private loan sale volumes from eurozone banks slowed down in Q4; however, it was still a very strong year of disposals.

# PRIVATE EQUITY

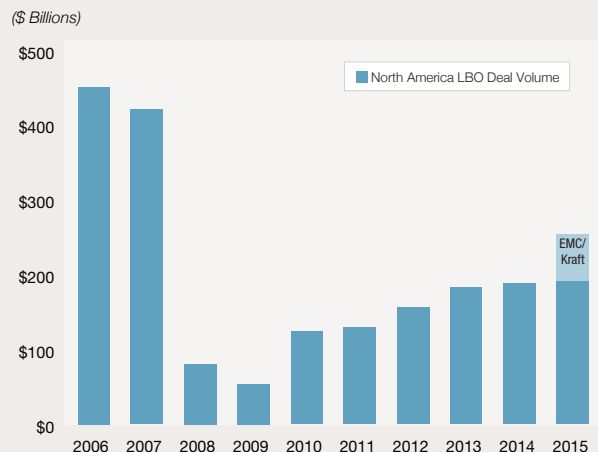
## GLOBAL LBO DEAL VALUE



Source: Preqin

**Global deal volume in 2015 increased approximately 18% from 2014, driven in part by the EMC and Kraft deals which added over \$100 billion in volume.**

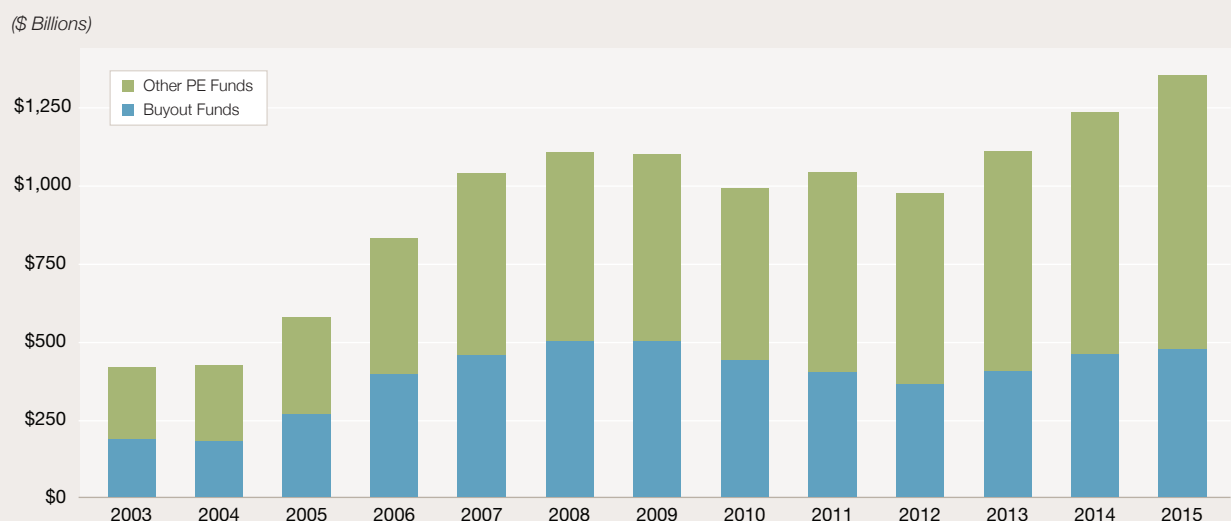
## NORTH AMERICA LBO DEAL VALUE



Source: Preqin

**Even after normalizing 2015 for the anomalous EMC and Kraft deals, North American deal volume was consistent with levels seen in the past few years.**

## GLOBAL PRIVATE EQUITY DRY POWDER



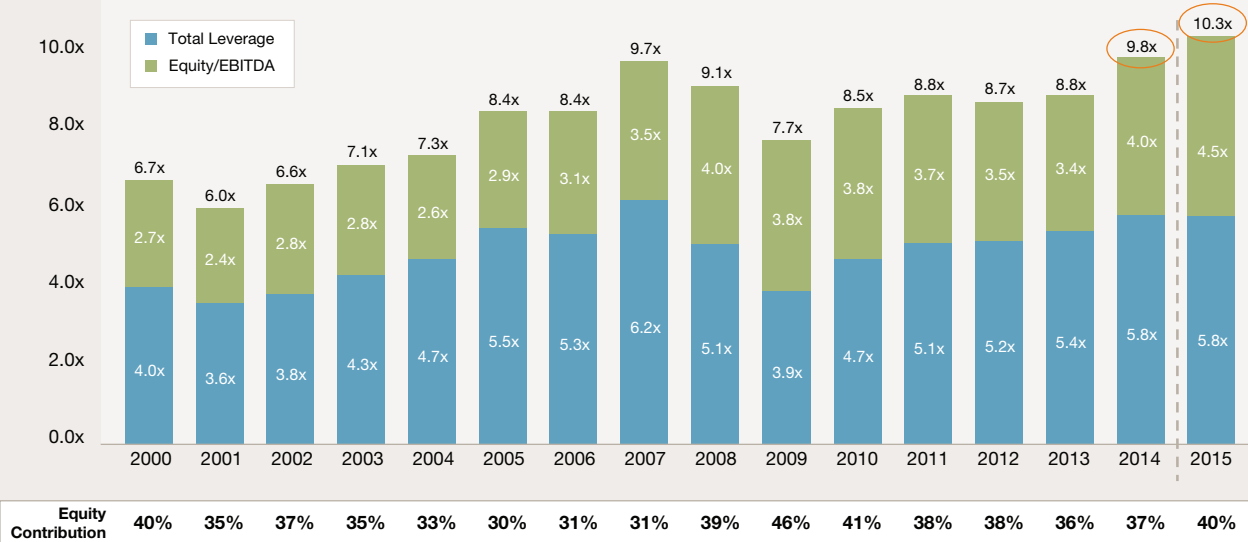
Other PE Funds: Real Estate, Venture, Infrastructure, Growth, Distressed, Mezzanine, Other

Source: Preqin

**Buyout dry powder ended 2015 at \$460 billion, approximately 5% below the all-time high achieved in 2008.**

## PRIVATE EQUITY *(continued)*

### LBO CAPITALIZATION

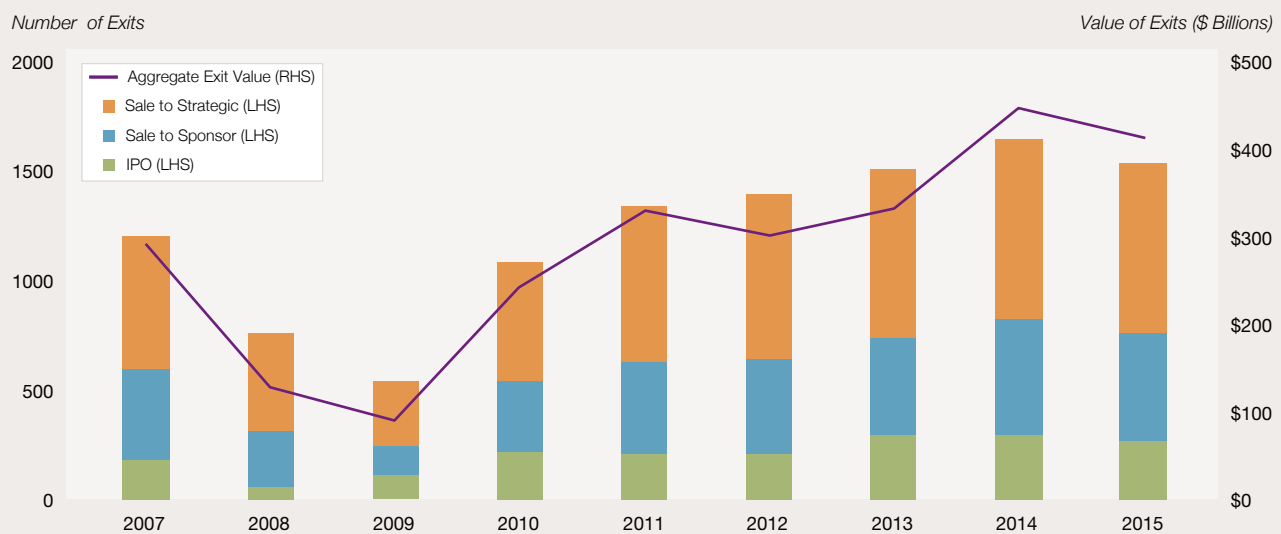


Source: S&P CapitalIQ LCD



**LBO Multiples in 2015 (10.3x EBITDA) increased ½ multiple turn from 2014 and are at an all-time high.**

### PRIVATE EQUITY EXITS



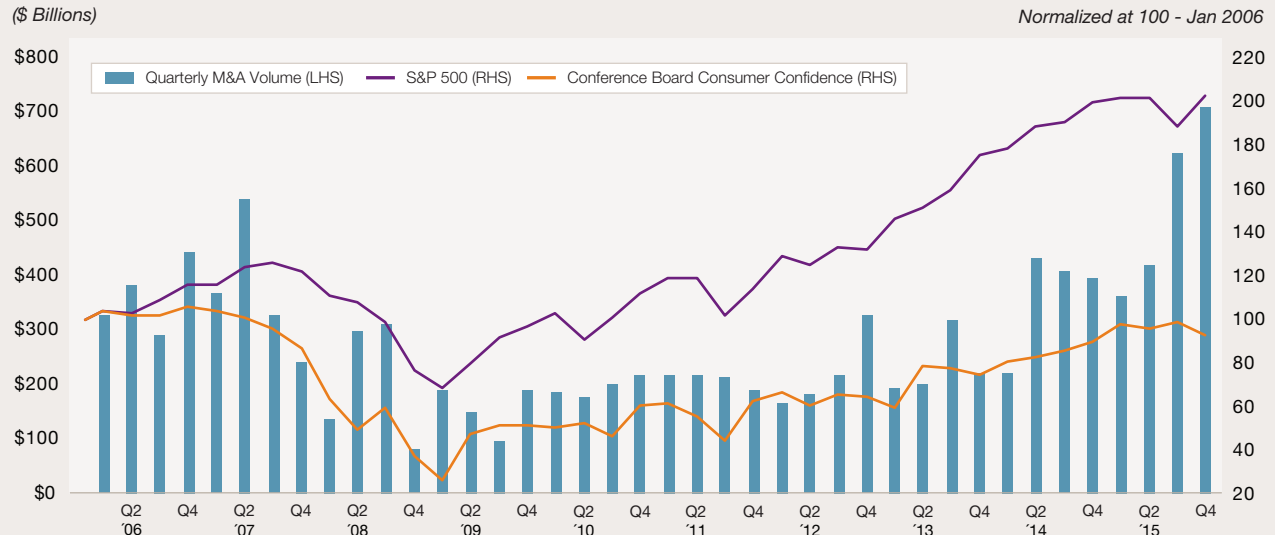
Source: Preqin



**Although exits in terms of both volume and number were below 2014 levels, they were still the second highest in history.**

# MERGER & CONVERTIBLE ARBITRAGE

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

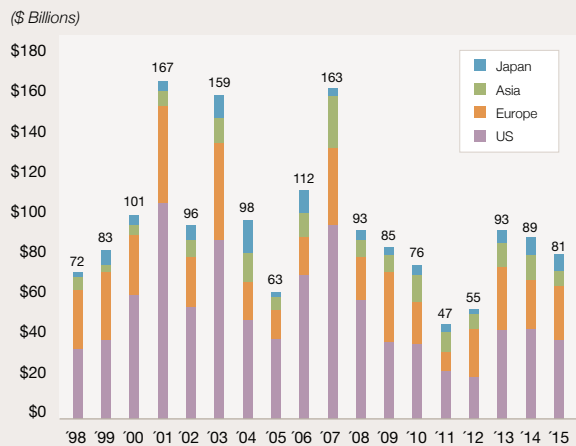


Source: Bloomberg



The fourth quarter capped off a record year for announced M&A volume, surpassing the previous high set in 2000.

## CONVERTIBLE BONDS ANNUAL GLOBAL ISSUANCE BY REGION

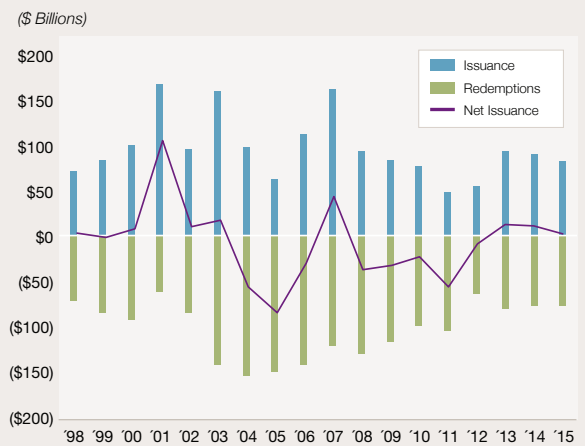


Source: BofA Merrill Lynch



Global issuance remained robust in 2015, with a meaningful contraction only noticeable in Asia.

## CONVERTIBLE BONDS GLOBAL NET ISSUANCE



Source: BofA Merrill Lynch

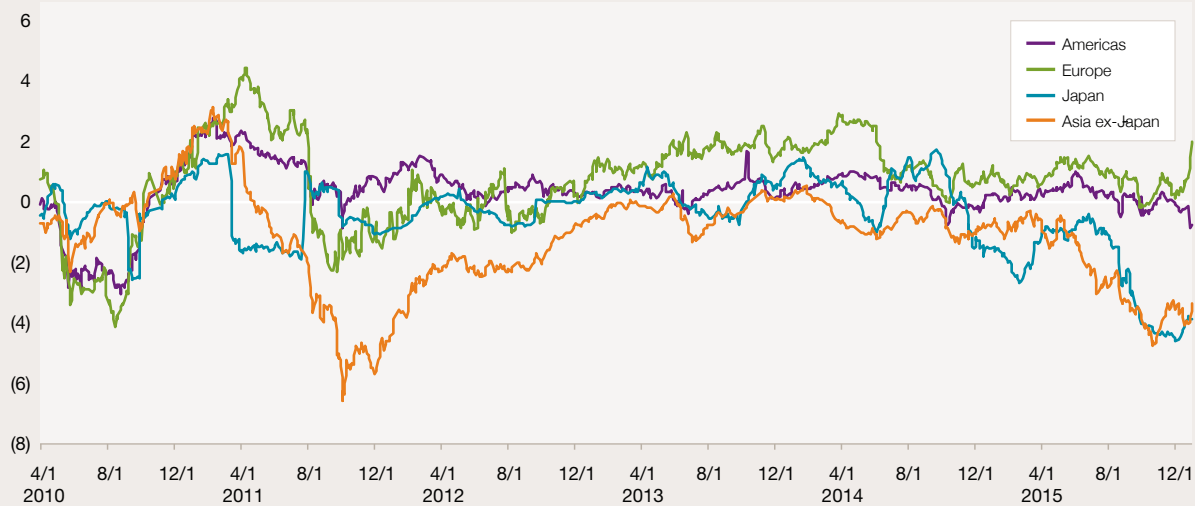


The global convertible market grew slightly in 2015.



## MERGER & CONVERTIBLE ARBITRAGE *(continued)*

### IG CONVERTIBLES - RICH / (CHEAPNESS) TO FAIR VALUE (%)

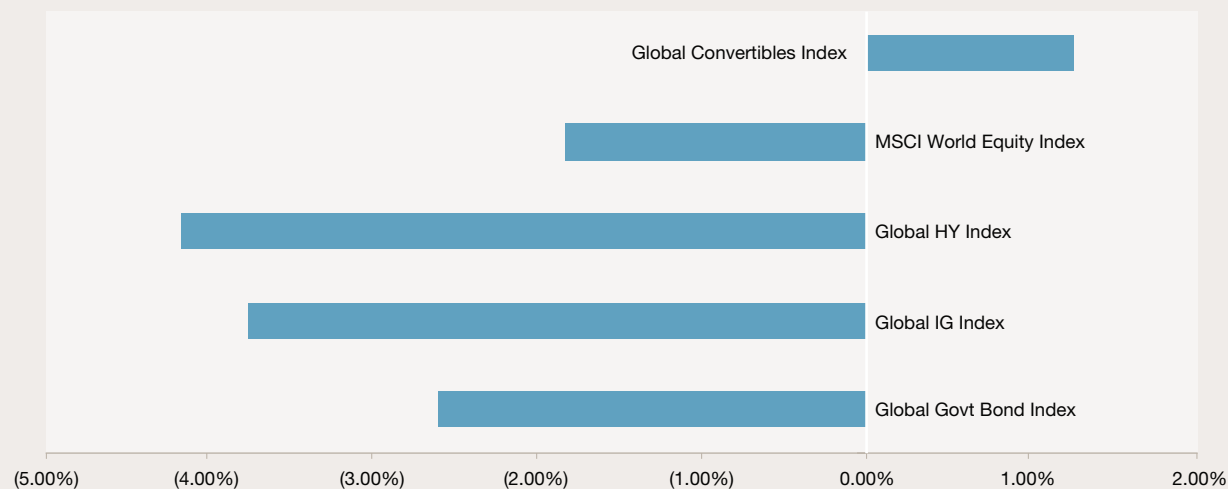


Source: Nomura



European investment grade convertibles saw a surge in valuations towards the end of the year, highlighting the strong ongoing demand from long-only investors.

### CONVERTIBLE BONDS OUTPERFORMED IN 2015



USD Currency

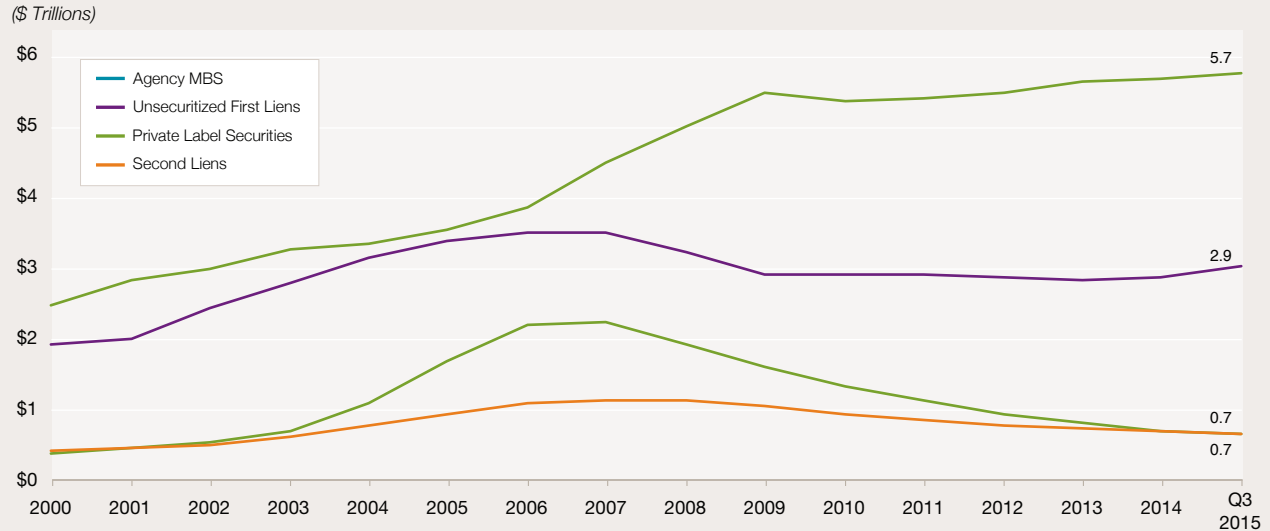
Source: BofA Merrill Lynch (VG00, HW00, G0BC, W0G1), Bloomberg



Global convertibles outperformed global equities, corporate credit and government bonds, reinforcing the role the asset class can play in balanced portfolios.

## RESIDENTIAL AND CONSUMER DEBT (RMBS/ABS)

### SIZE OF U.S. RESIDENTIAL MORTGAGE MARKET



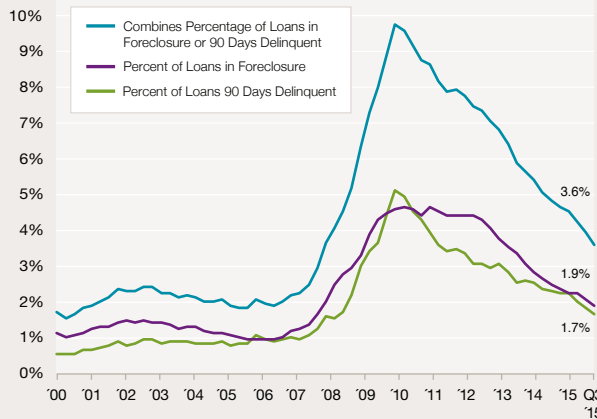
Note: Unsecuritized first liens include loans held by commercial banks, GSEs, savings institutions, and credit unions

Source: Federal Reserve Flow of Funds, Inside Mortgage Finance, Fannie Mae, Freddie Mac, eMBS and Urban Institute



Although mortgage debt has decreased from 2007, the mortgage market remains vast and at \$10 trillion, shows signs of stabilization.

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

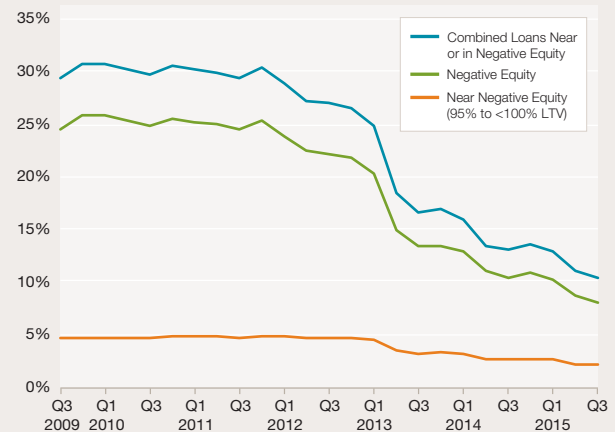


Source: Mortgage Bankers Association and Urban Institute



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 3.6% in Q3.

### 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 10% in Q3.

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

### SUBPRIME INDEX

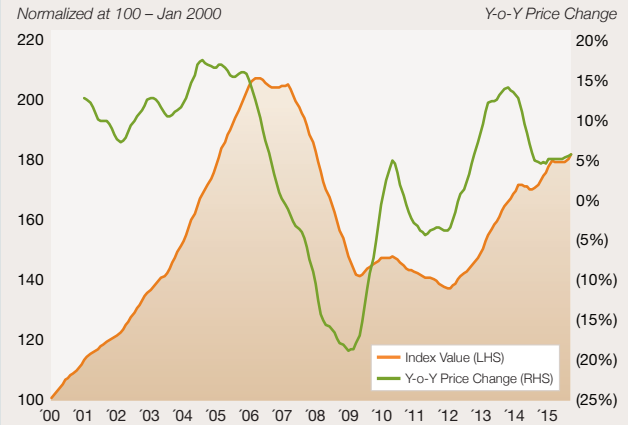


The Index represents a basket of reference obligations of twenty originally rated AAA subprime bonds issued in the first half of 2006, and is treated as a benchmark for similar vintage bonds.

Source: Nomura, Credit Suisse

**Index prices on subprime RMBS have remained stable.**

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

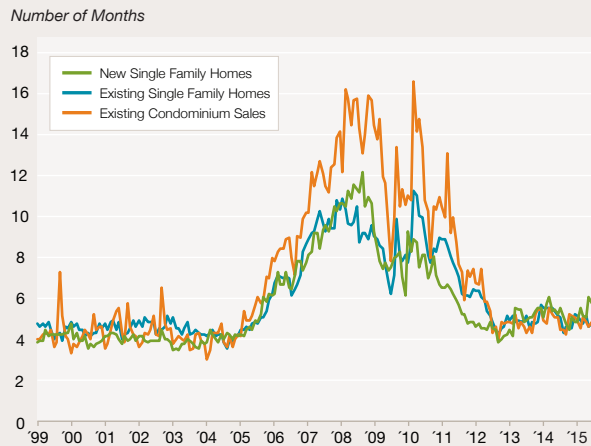


The S&P/Case-Shiller Composite of 20 Home Price Index is a value-weighted average of 20 metro area indices. These metro areas include: Boston, Chicago, Denver, Las Vegas, Los Angeles, Miami, New York City, San Diego, San Francisco, Washington, DC, Atlanta, Charlotte, Cleveland, Dallas, Detroit, Minneapolis,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

Source: Bloomberg

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

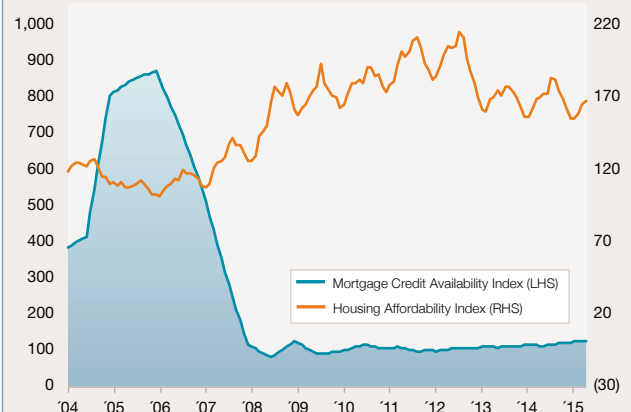
### MONTHS SUPPLY OF HOUSING



Source: Bloomberg

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

### MORTGAGE CREDIT AVAILABILITY INDEX VS. HOUSING AFFORDABILITY

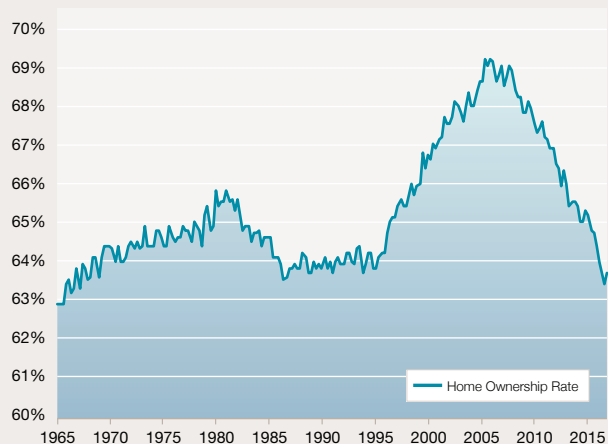


Source: BofA Merrill Lynch, Bloomberg

**Although near historic lows, mortgage credit availability has steadily increased. Housing affordability remains above levels seen during the crisis.**

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

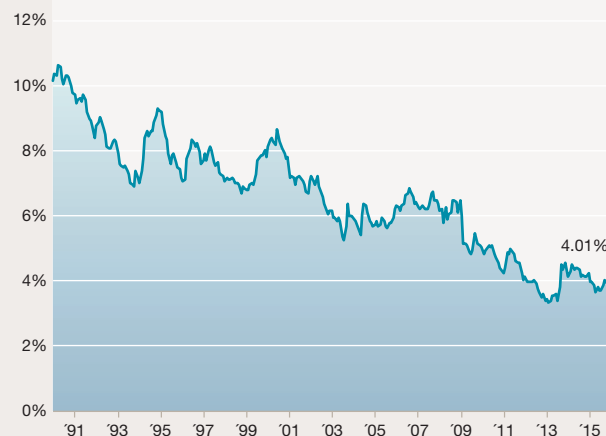
### HOMEOWNERSHIP RATE CONTINUES TO FALL



Source: DB Global Market Research

**Fallout from the crisis amid historically tighter credit conditions and continued home price appreciation have limited homeownership to approximately 64%.**

### 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

**At roughly 4%, the 30-year mortgage rate remains near historic lows.**

### MORTGAGE APPLICATION INDEX



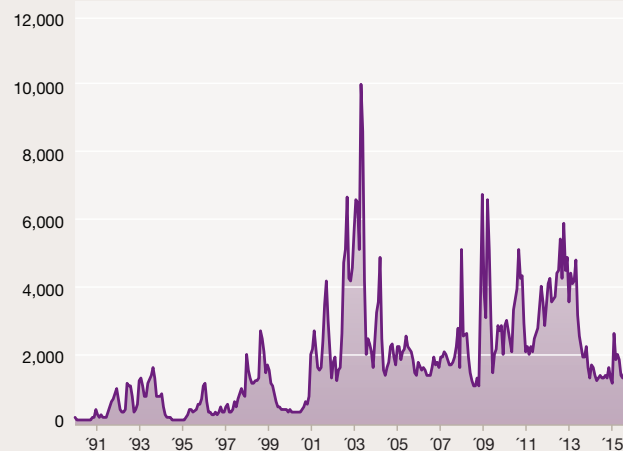
This concept tracks the volume of mortgage loan applications that have been submitted to lenders. Seasonally readjusted.

Source: Bloomberg

**Though mortgage credit has slightly expanded, mortgage applications continue to be hampered by stringent underwriting standards.**

### MORTGAGE REFINANCING INDEX

Normalized at 100 - Jan 1990

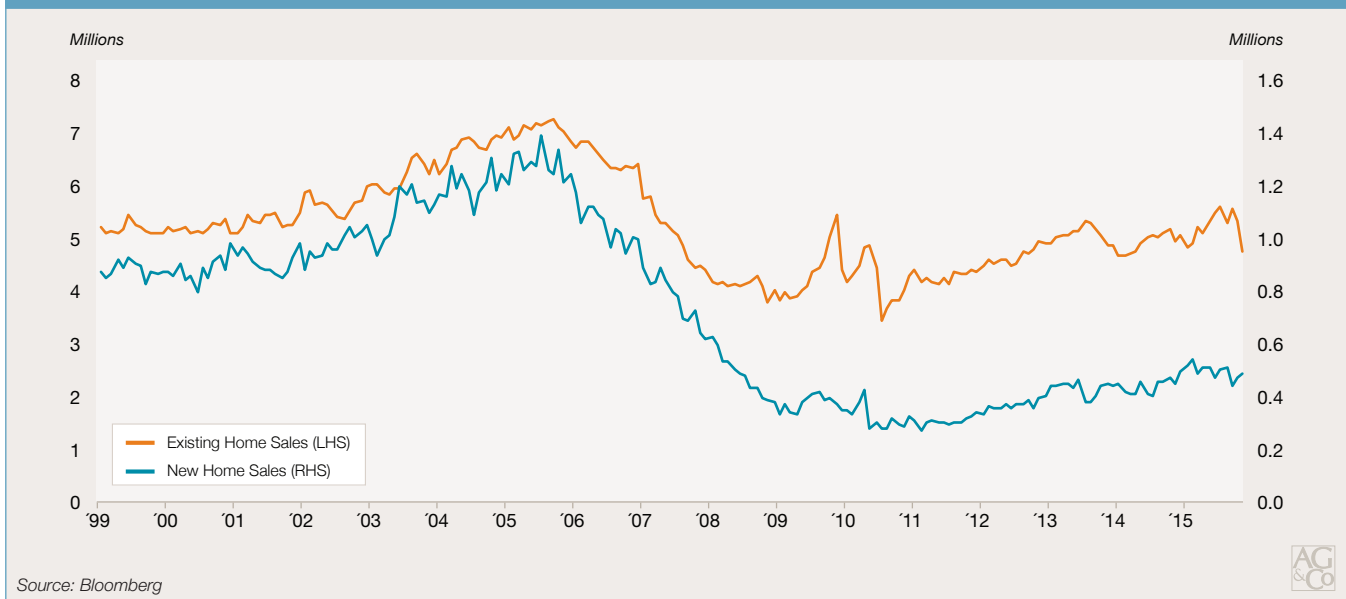


This concept tracks the volume of mortgage refinancing loan applications that have been submitted to lenders. Seasonally readjusted.

Source: Bloomberg

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

### NEW AND EXISTING HOME SALES



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

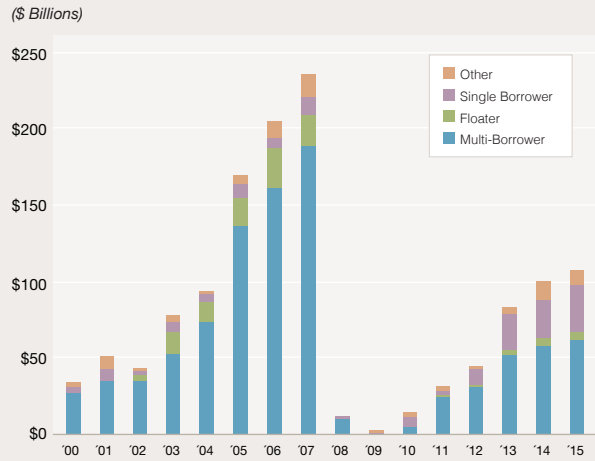
### HOMEBuilder INDEX



Standing at 60 in December, the Homebuilder Index has remained above 50 for 18 months. A reading above 50 indicates that a majority of builders see favorable market conditions.

## COMMERCIAL REAL ESTATE DEBT (CMBS)

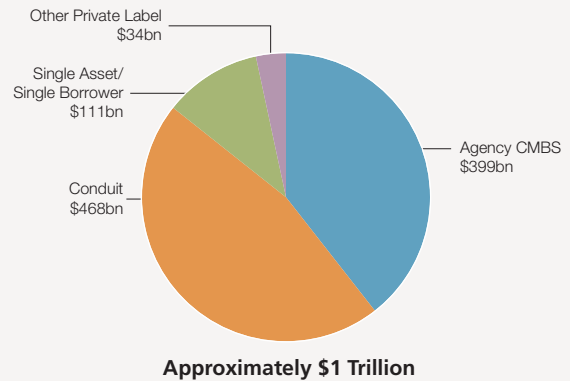
### U.S. CMBS ANNUAL ISSUANCE



Source: Credit Suisse

**Private label CMBS issuance in 2015 outpaced 2014 issuance and ended the year at over \$100 billion.**

### U.S. CMBS OUTSTANDING

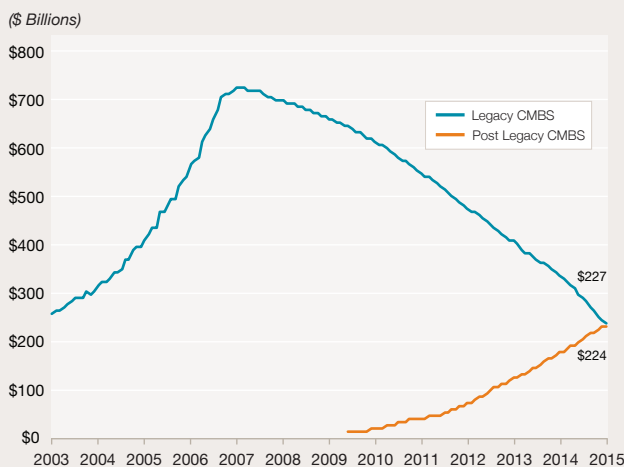


As of September 2015

Source: BofA Merrill Lynch

**The CMBS market remains a sizable market with many large asset classes within it.**

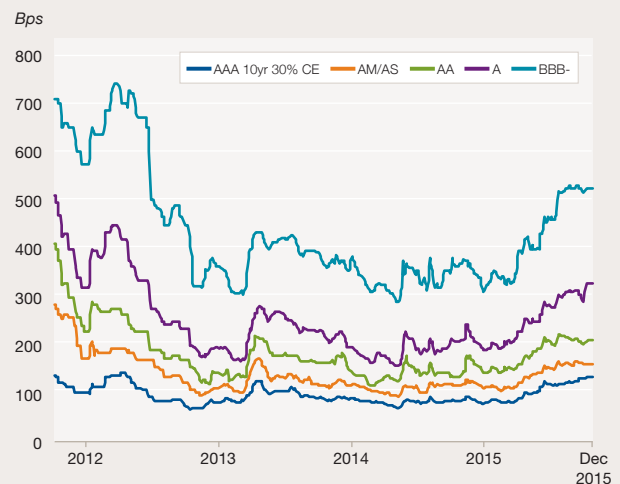
### OUTSTANDING PRIVATE LABEL CONDUIT CMBS



Source: Credit Suisse, Trepp

**This year, the composition of the CMBS conduit market is expected to shift, with post legacy CMBS overtaking legacy CMBS.**

### NEW ISSUE CMBS SPREADS



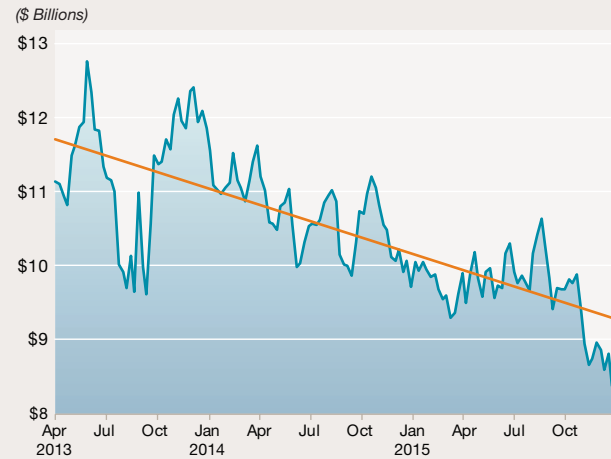
Source: Credit Suisse

**Despite strong underlying fundamentals, CMBS spreads widened sharply in 2015 as a result of broader market volatility and spread widening.**



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

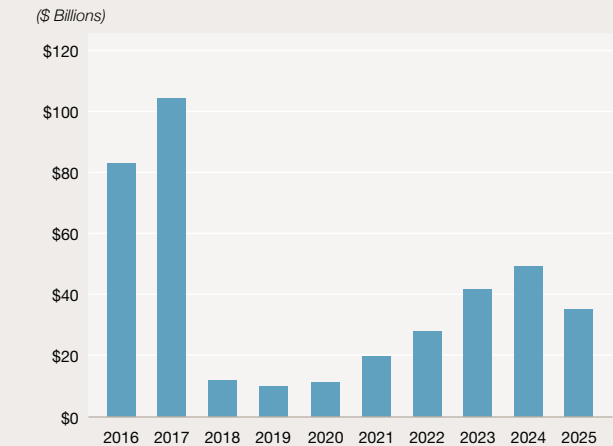
### PRIMARY DEALER POSITIONS: PRIVATE LABEL CMBS



Source: Bloomberg, Federal Reserve Bank of New York

**The regulatory environment and market volatility contributed to a pull-back in dealer holdings of private label CMBS.**

### CMBS FIXED-RATE MATURITY SCHEDULE

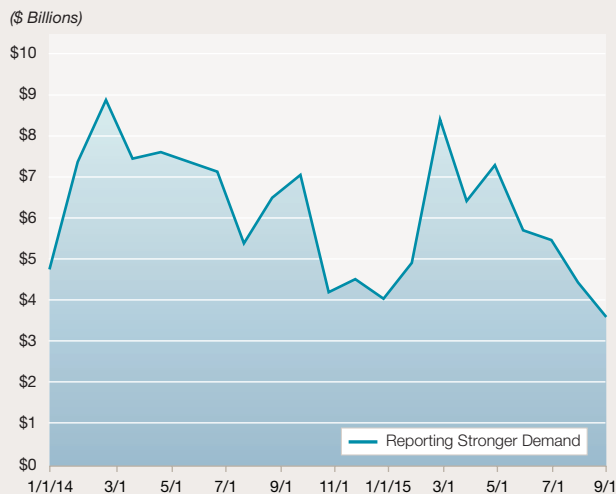


Excludes defeased loans

Source: Trepp and Citi Research 11/20/2015

**Nearly \$200 billion of CMBS loans are set to mature in 2016 and 2017. A portion of these loans are likely too levered for today's CMBS market, thereby creating the need for transitional financing.**

### MONTHLY BWIC VOLUME

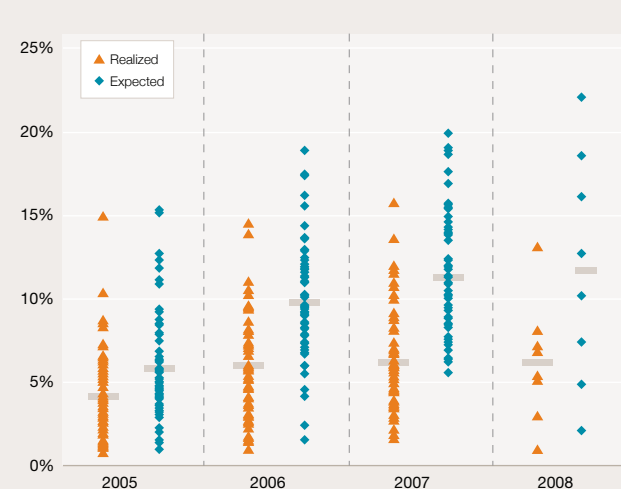


Note: Includes all private label and agency transactions except for IO.  
BWIC: Bids wanted in competition

Source: Deutsche Bank

**BWIC volumes declined during the year.**

### LOSS DISPERSION WILL REMAIN A THEME



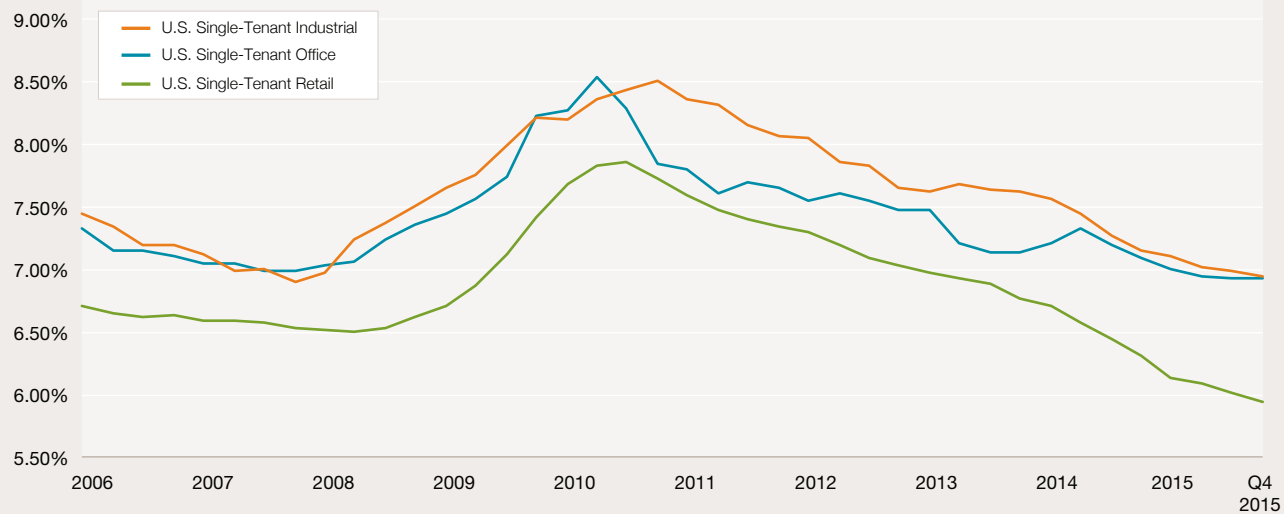
As of August 2015

Source: Credit Suisse, Trepp

**Intensive credit work and diligence are required to distinguish among loan and deal quality even within the same vintage.**

# NET LEASE REAL ESTATE

## AVERAGE SINGLE-TENANT CAP RATES

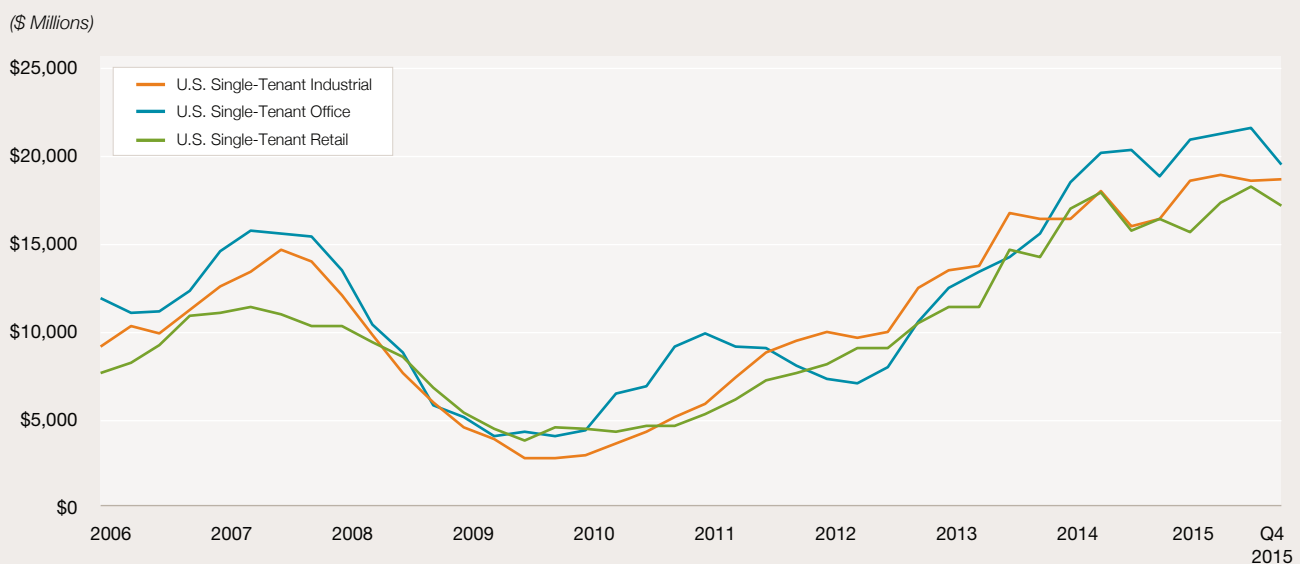


Source: Real Capital Analytics



Prices have strengthened since 2010, however cap rate compression began to slow in Q4 2015.

## 12-MONTH ROLLING SINGLE-TENANT DEAL VOLUME



Source: Real Capital Analytics

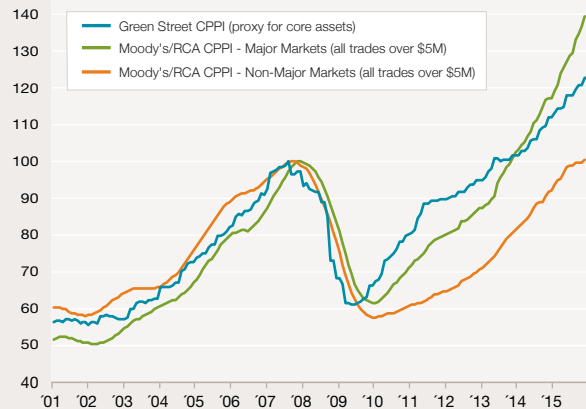


Transaction volume remains high, but has begun to level off.

# UNITED STATES REAL ESTATE

## COMMERCIAL REAL ESTATE PRICE INDICES

Index (Each Set to 100 at 2007 Peak)



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

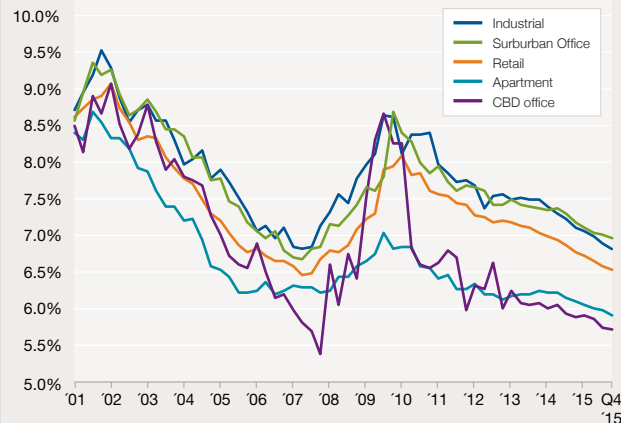
Green Street CPPI = Major Sectors

Sources: Moody's/RCA - Commercial Property Price Index (Moody's CPPI) (data through Nov '15), Green Street Advisors - Commercial Property Price Index (Green St CPPI) (data through Dec '15). Note: For this chart, both indices were indexed to 100 at their 2007 peaks: Green St CPPI (Aug '07) and Moody's CPPI (Dec '07 - Major Markets and Sep '07 - Non-Major Markets). Note: Major markets include Boston, Chicago, Washington D.C. Metro, Los Angeles Metro, New York City Metro and San Francisco Metro.



**Real estate prices had continued strength in 2015, up in excess of 10%.**

## AVERAGE CAP RATES BY REAL ESTATE SECTOR

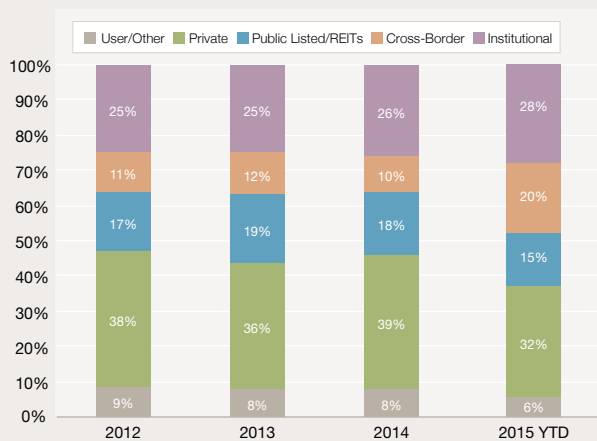


Source: Real Capital Analytics



**Cap rates remain at cyclical lows, but could see increases in the event of rate increases...**

## BUYER SHARE OF U.S. CORE COMMERCIAL REAL ESTATE



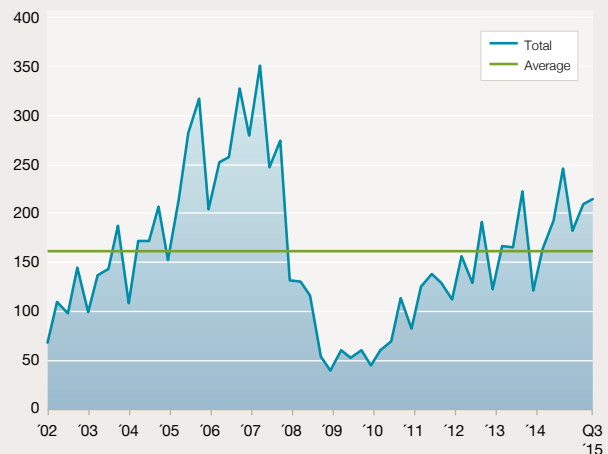
Source: Morgan Stanley Research



**...or a decline in capital coming from overseas investors as a result of oil weakness, currency declines, and general economic concerns.**

## ORIGINATIONS VOLUME VS. HISTORICAL AVERAGE

Origination Volume Index: Total



Source: MBA, Morgan Stanley Research



**Debt capital availability remains robust...**



Matching Money with Opportunity™

[\(Return to Table of Contents\)](#) [\(Return to PM Corner\)](#)

## UNITED STATES REAL ESTATE *(continued)*

### CMBS UNDERWRITING STANDARDS

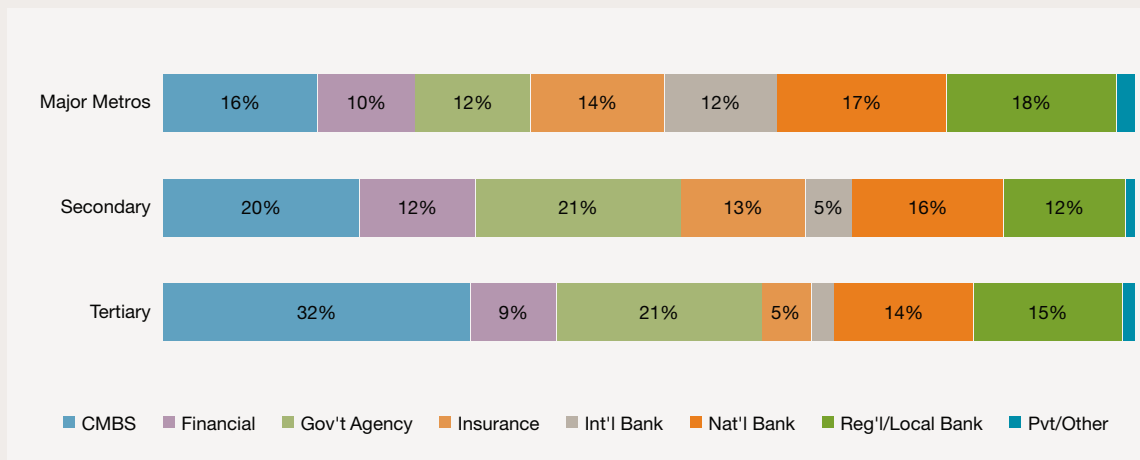
	Pre-Crisis			Post-Crisis				
	2005	2006	2007	2011	2012	2013	2014	2015
Loan-to-Value	71.2%	68.3%	73.6%	62.0%	63.2%	63.0%	65.5%	65.0%
NCF Debt Service Coverage Ratio	1.67x	1.50x	1.31x	1.62x	1.68x	1.81x	1.73x	1.83x
Net Operating Income Debt Yield	11.2%	10.0%	8.5%	11.8%	11.5%	11.3%	10.8%	10.6%
% Interest Only Loans	79.3%	86.5%	80.3%	24.7%	34.3%	50.2%	63.8%	68.0%
Most Recent/Unwritten NOI	-4.5%	-12.9%	-21.9%	-3.4%	-3.4%	-2.5%	-5.7%	-3.9%
AAA Credit Enhancement	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%
AA- Credit Enhancement	9.6%	8.6%	10.1%	14.1%	14.7%	15.4%	17.4%	17.1%
A- Credit Enhancement	6.6%	6.1%	7.4%	9.3%	11.2%	11.4%	13.2%	12.6%
BBB- Credit Enhancement	3.5%	2.8%	3.8%	5.9%	6.8%	7.0%	7.6%	7.7%

Source: Deal documents, Trepp, Morgan Stanley Research



...and CMBS metrics appear better than in 2005-2007...

### 1H '15 CMBS MARKET SHARE BY METROPOLITAN STATISTICAL AREA



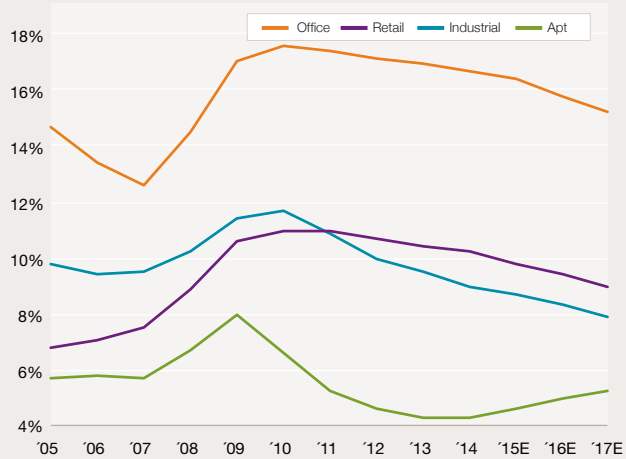
Source: RCA, Morgan Stanley Research



...however, these metrics may be disguised by CMBS originations increasingly taking place in non-major markets.

## UNITED STATES REAL ESTATE *(continued)*

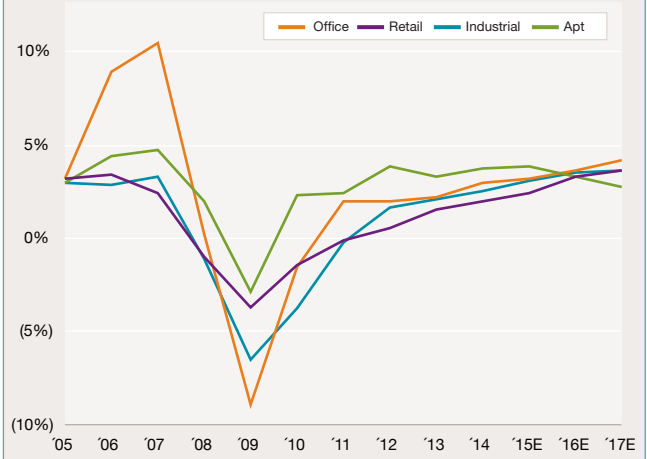
### VACANCY RATES ARE DOWN



Source: REIS, JP Morgan



### RENT GROWTH IS UP

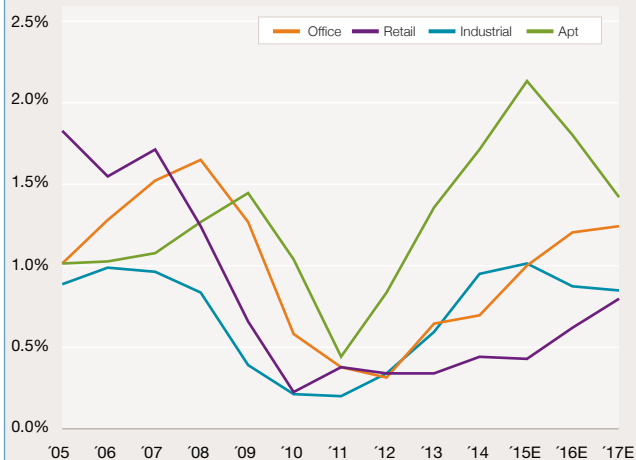


Source: REIS, JP Morgan



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

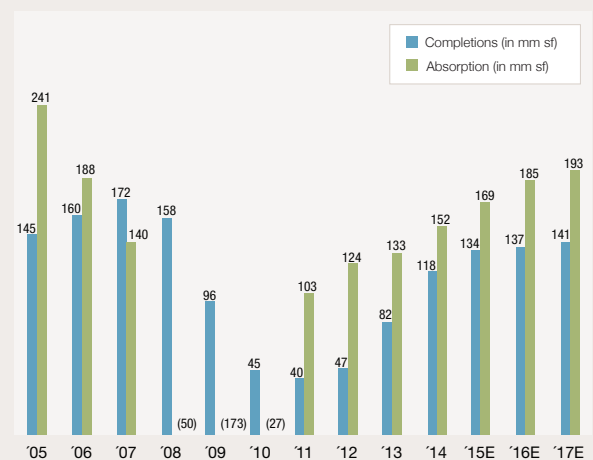
### DEVELOPMENT HAS PICKED UP...



Source: REIS, JP Morgan



### ...BUT IT IS STILL BEING ABSORBED

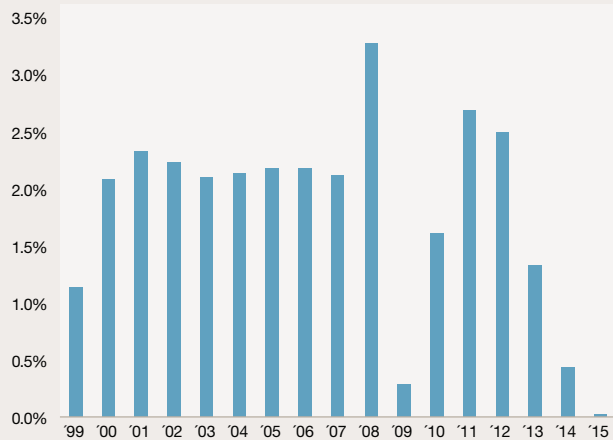


Source: REIS, JP Morgan



## EUROPE REAL ESTATE

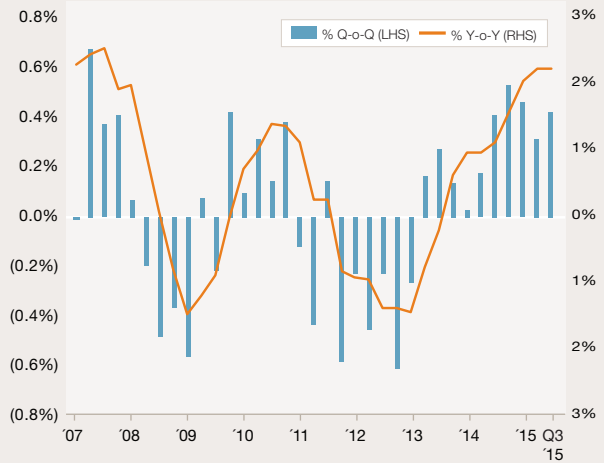
### EUROZONE CONSUMER PRICE INFLATION



Source: Bloomberg

**2015 CPI was zero, the lowest since the euro was formed – perhaps more QE?**

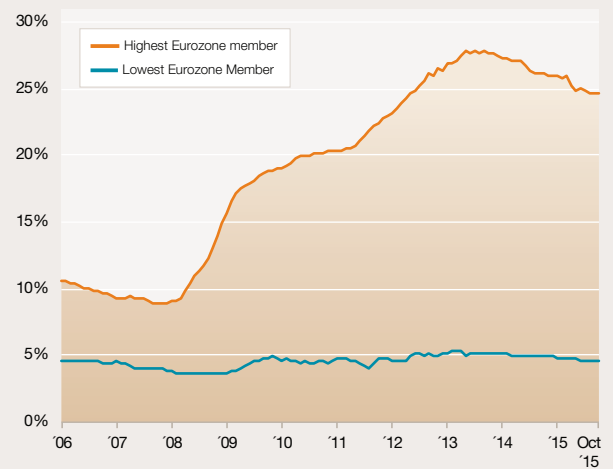
### HOUSEHOLD SPENDING



Source: Capital Economics

**2015 GDP was almost entirely driven by consumer spending; fourth quarter's downward trend bears watching.**

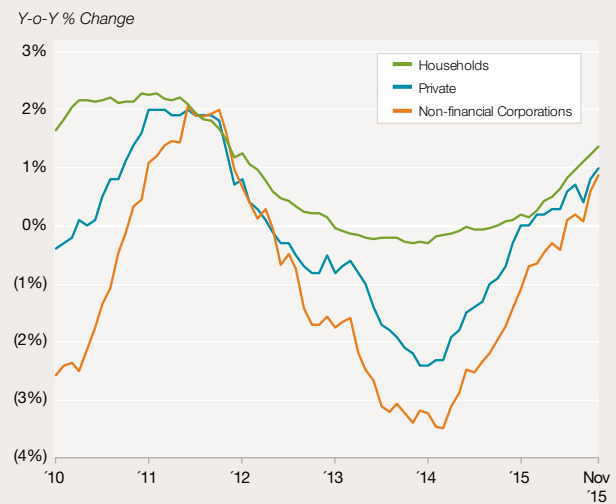
### EUROZONE UNEMPLOYMENT RATE



Source: Capital Economics

**Average unemployment is down, but there is a large divergence between the best countries and worst countries in the eurozone.**

### EUROZONE BANK LENDING

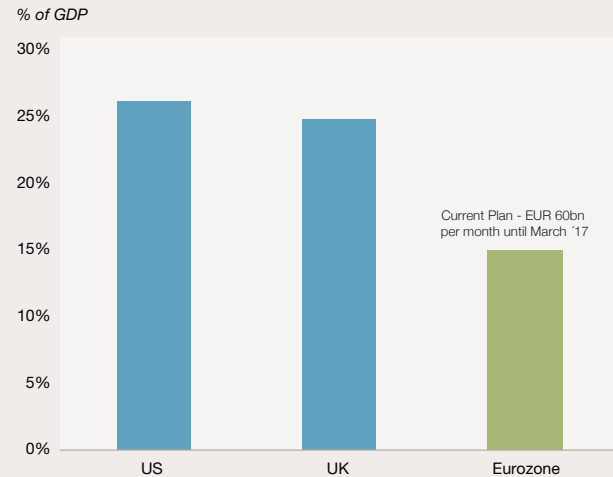


Source: Capital Economics

**Credit availability in the eurozone is still very weak.**

## EUROPE REAL ESTATE *(continued)*

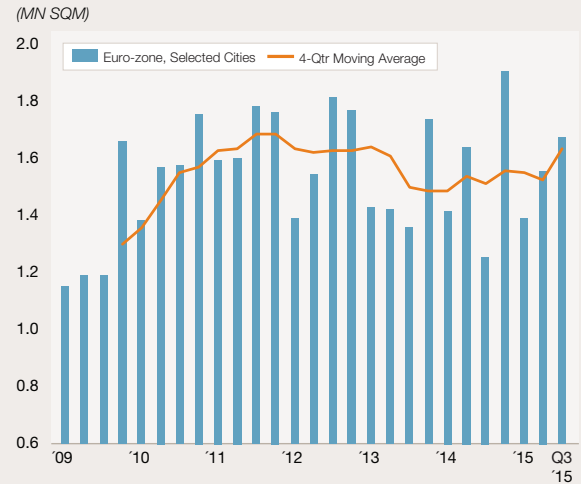
### ECB GOVERNMENT BOND PURCHASES



Source: Capital Economics

**ECB forecast stimulus is still well below UK and U.S. stimulus.**

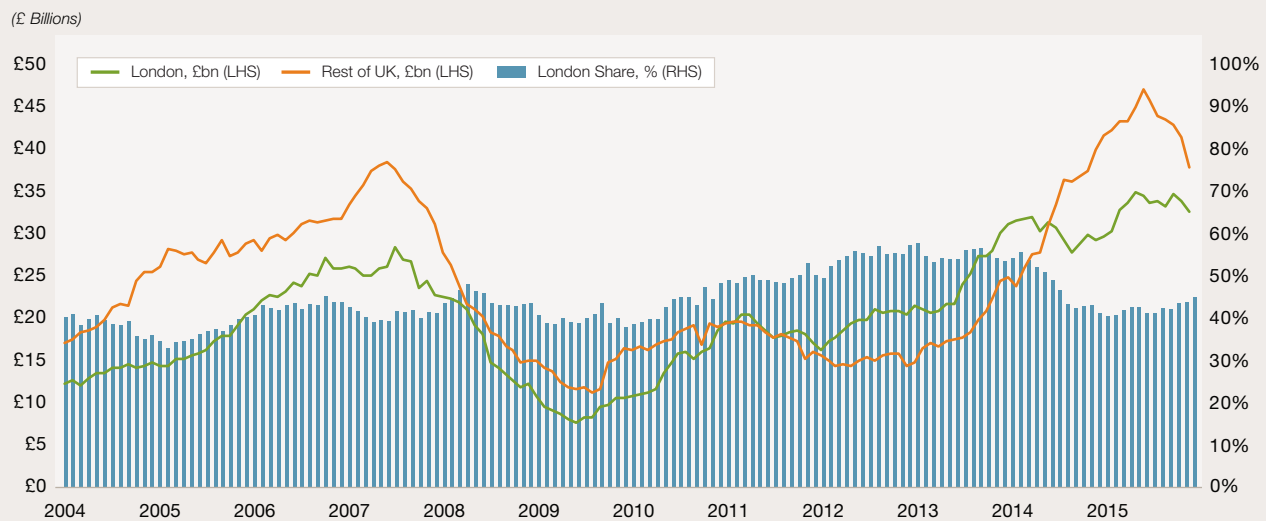
### EUROZONE OFFICE LEASING



Source: Capital Economics

**With take-up volumes increasing to only 1.7 million sqm and with vacancy rates largely stagnant, occupational markets in the eurozone were less remarkable and reflected musical chairs rather than net absorption.**

### UK REGIONAL VS. LONDON SALES



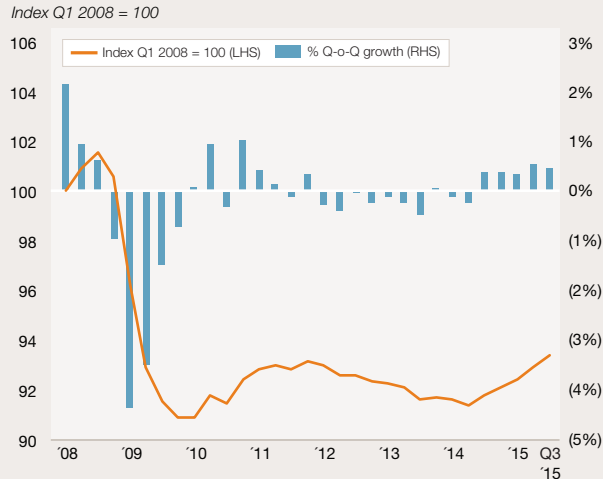
(12m rolling total)

Source: Capital Economics

**Capital has shifted to the regions.**

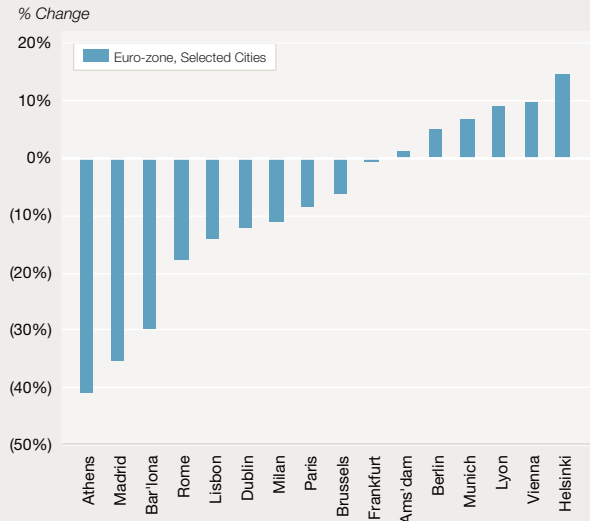
## EUROPE REAL ESTATE *(continued)*

### EUROZONE OFFICE RENTAL RATES



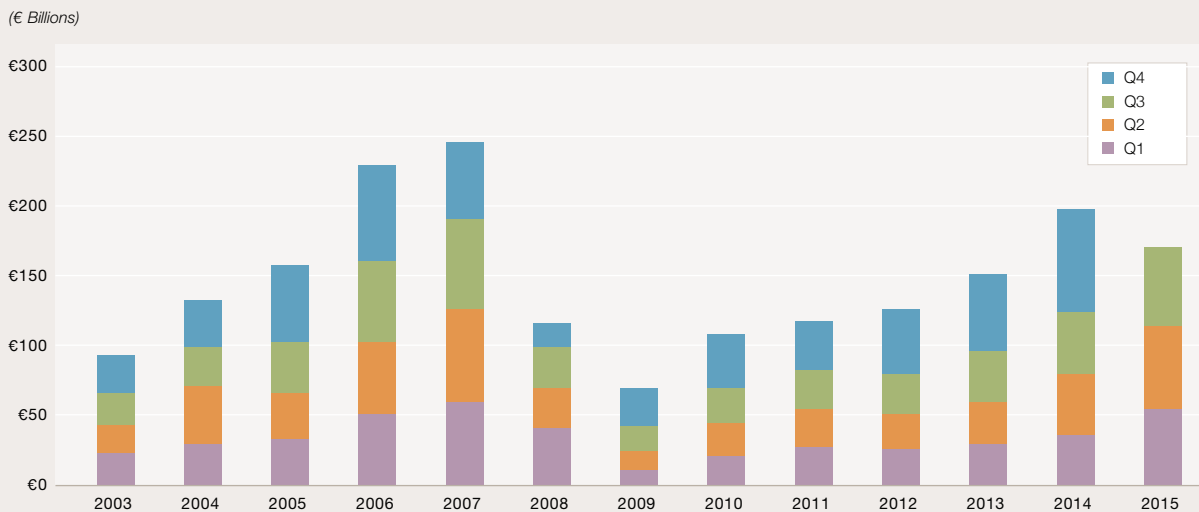
**Rents in the eurozone have not recovered.**

### OFFICE VALUES FROM 2007/2008 PEAK



**Office rents in many capital city markets remain materially below pre-crisis levels.**

### EUROPEAN REAL ESTATE INVESTMENT ACTIVITY



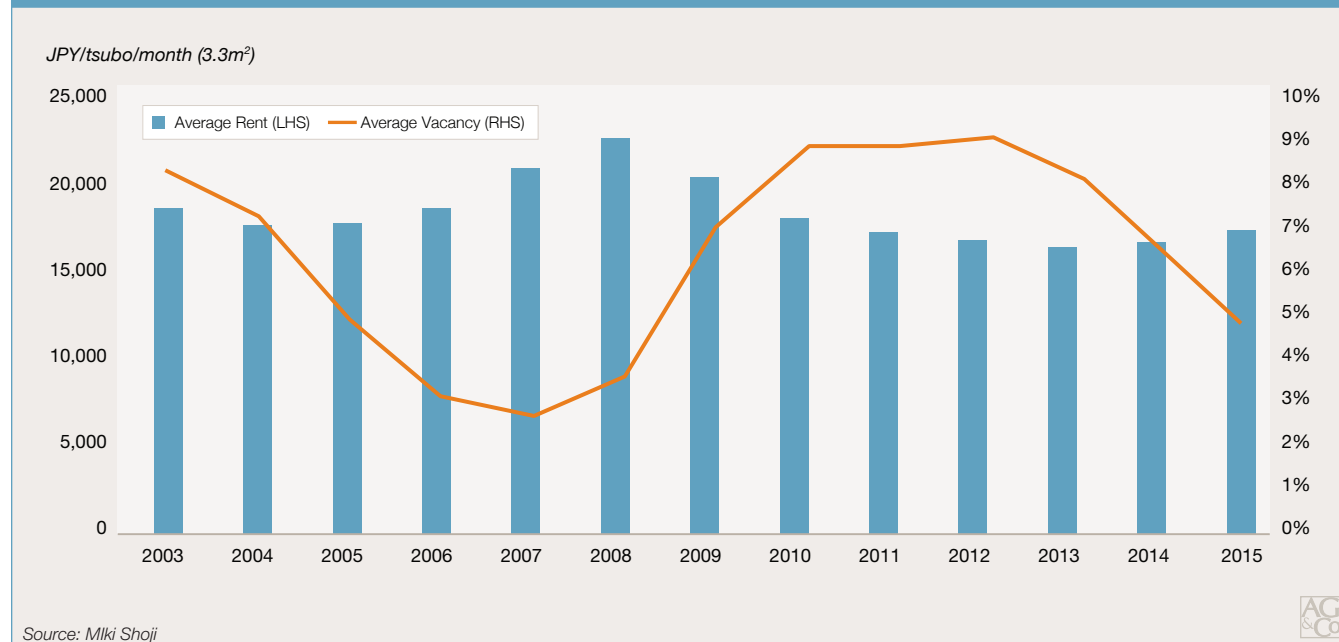
**European investment transaction volume is approaching prior peaks.**



# ASIA REAL ESTATE

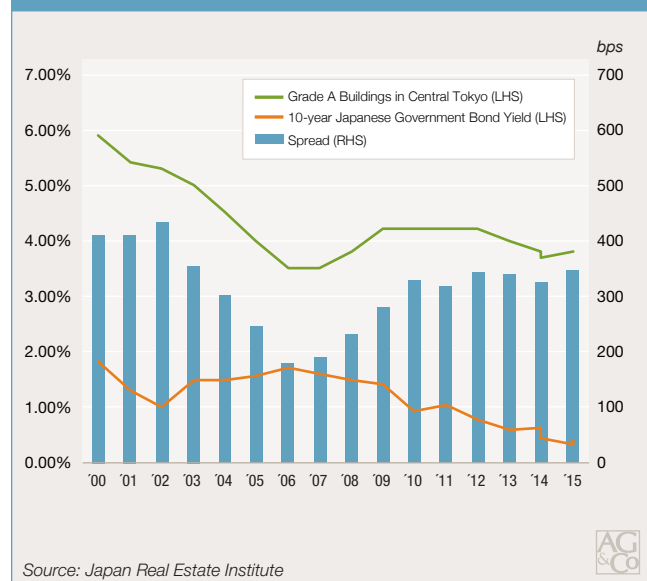
## JAPAN

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



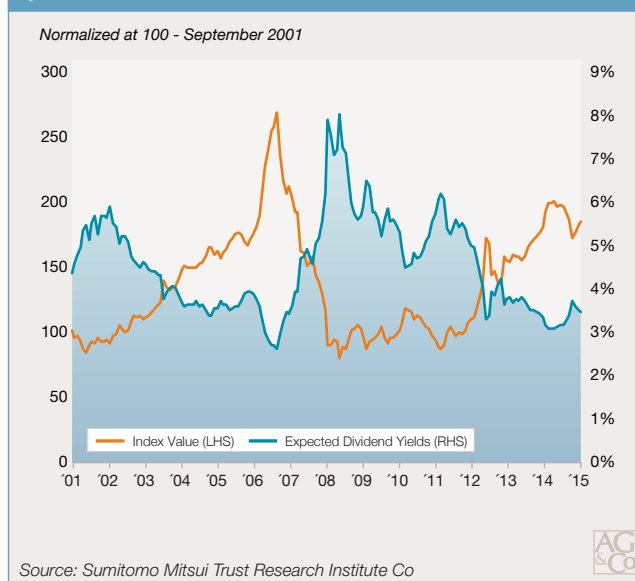
**Vacancy in the Tokyo office market continued to improve, with rents increasing by 4.6% in the first eleven months of 2015.**

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



**Spreads further widened as Japanese government bond yields continued to fall, making real estate attractive to investors.**

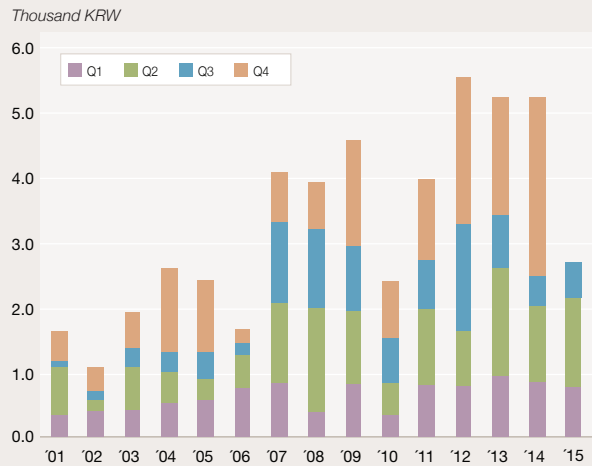
### JAPANESE REAL ESTATE INVESTMENT TRUST (J-REIT) INDEX AND DIVIDEND YIELD



**The J-REIT index improved, driving yields down.**

## KOREA

### TRANSACTION VOLUME OF PRIME/SECONDARY OFFICE BUILDINGS IN SEOUL



Source: Savills Research

Transaction volume in the first three quarters of 2015 were consistent with 2014.

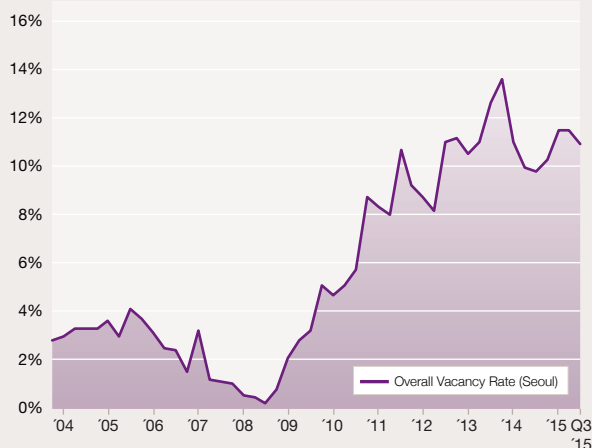
### KOREA GDP GROWTH



Source: Bank of Korea

GDP growth improved to 2.7% in Q3 2015.

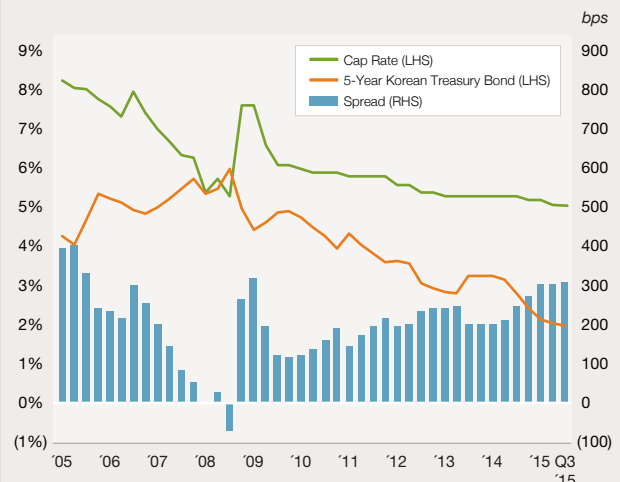
### SEOUL OFFICE VACANCY RATE



Source: Jones Lang Lasalle Research

Seoul office vacancy edged down slightly as new supply was slowly absorbed by the market.

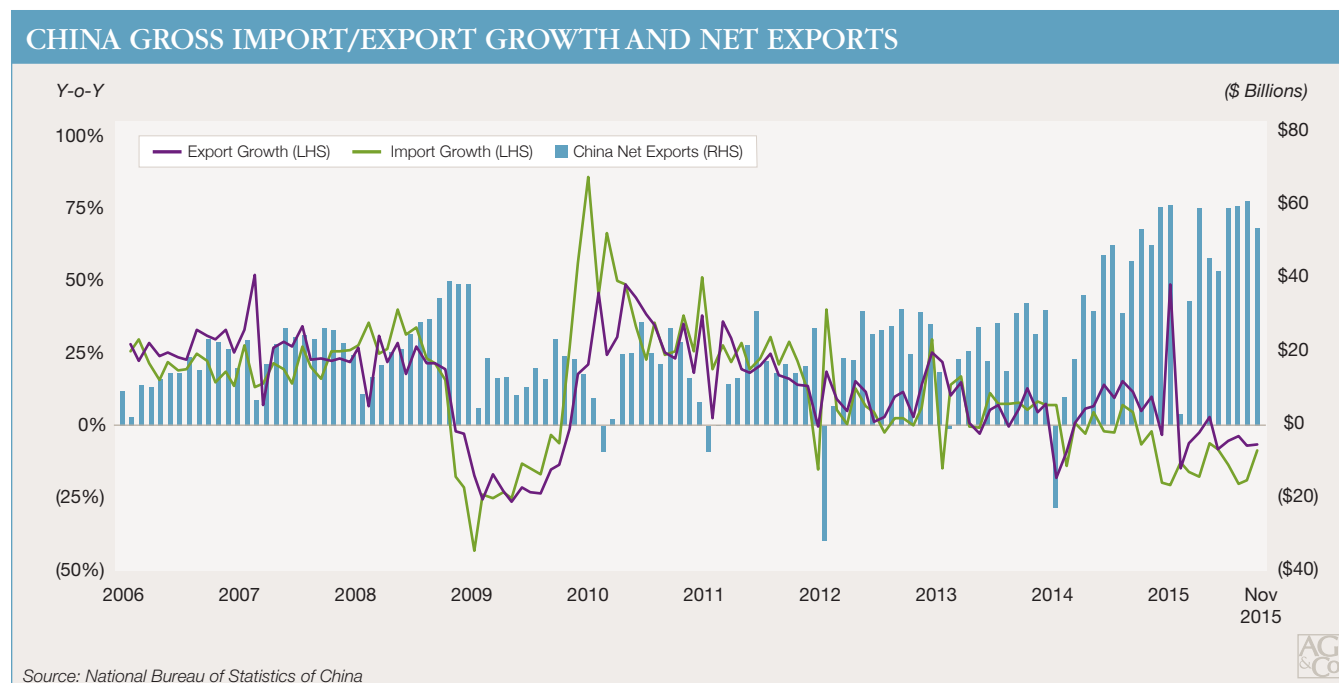
### PRIME OFFICE CAP RATE AND SPREAD OVER 5-YEAR TREASURY YIELD



Source: Savills Research

Spreads further widened as Korean Treasuries continued their downward trend, which should have a positive impact on real estate investments.

### CHINA



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



The GDP growth rate declined to 6.8% for Q4 2015.



PMI figures dipped below 50 for the past five months.



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