# 2Q17 BHMS Bond Commentary

*"Does the market reflect investor confidence or complacency?"*

2Q17 MARKET REVIEW: The U.S. Treasury (UST) curve flattened in 2Q17 as long UST rates fell, but short rates continued their YTD ascent. The Bloomberg Barclays Aggregate Index ("the Aggregate") climbed 1.45% in 2Q and 2.27% in 1H17 on positive total return contributions from all major sectors.

THE ECONOMY, INTEREST RATES & THE FED: June saw the Federal Reserve (Fed) increase its policy rate to 1.00%, and perhaps more importantly, announce its long-awaited balance sheet reduction plan. Fed policy drove short UST rates higher, but weak inflation and other "hard data" releases fueled risk-off purchases of long USTs, further flattening the UST curve.

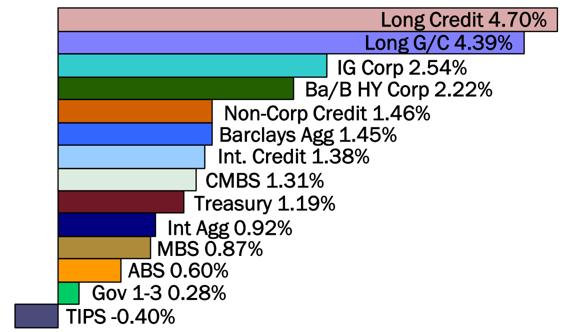
INVESTMENT GRADE CREDIT: BHMS multi-sector portfolios maintained an overweight in IG Corporate Credit, benefitting from the continued narrowing in credit spreads. Low-volatility across all asset markets and a decline in intermediate and long UST yields fueled investors' appetite for credit. The IG Credit Index rose 2.35% and provided excess returns over comparable USTs of 99 basis points (bps). BHMS continued to de-risk the composition of our credit exposure during the quarter.

HIGH YIELD: After four consecutive quarters of superior relative performance, High Yield (HY) Credit total returns fell short of the mark set by IG Credit. Subdued inflows to the sector led to modest spread tightening and the BB rated segment outperformed B issuers. BHMS portfolios with HY allocations remained near the mid-point of their allowable range.

LONG CREDIT: The combination of falling UST yields and tighter credit spreads gave a boost to the Long Credit market in 2Q. The Bloomberg Barclays Long Credit Index climbed 4.70% in 2Q following an 11bp tightening in Long Credit spreads. *See the page following the Long Credit market summary for further information on conditions and trends in U.S. pensions.*

AGENCY MBS, ABS AND CMBS: The MBS market suffered spread widening and negative excess returns in 2Q, principally due to concerns surrounding the reduction of MBS on the Fed's balance sheet. BHMS reduced its MBS allocation in multi-sector portfolios ahead of the Fed's announcement, providing a modest boost to relative performance. Despite heavy issuance, ABS spreads were resilient during the second quarter, but ended the period slightly wider than the YTD lows. CMBS produced the strongest total return of the three structured product sectors. BHMS maintained an overweight in ABS and neutral, but shorter in duration, position in CMBS.

Bloomberg Barclays Index Returns 2Q 2017




| | | | | 2017 | |
|---|---|---|---|---|---|
| | | | | YTD | YTD |
| Yields & Spreads | 12/31/16 | 3/31/17 | 6/30/17 | High | Low |
| 3 Mo. T-Bill | 0.50% | 0.75% | 1.01% | 1.04% | 0.49% |
| 2 Yr. Treasury | 1.19% | 1.25% | 1.38% | 1.38% | 1.14% |
| 10 Yr. Treasury | 2.45% | 2.39% | 2.30% | 2.63% | 2.13% |
| 30 Yr. Treasury | 3.07% | 3.01% | 2.84% | 3.21% | 2.70% |
| Yield Curve 2-10 | 126 | 113 | 92 | 128 | 79 |
| Yield Curve 2-30 | 188 | 176 | 145 | 190 | 135 |

| Blmbg Barclays Sectors | | | | |
|---|---|---|---|---|
| | Total Returns | | Excess Returns* | |
| Jun. 30, 2017 | 3-Months | YTD | 3-Months | YTD |
| Utility | 2.96% | 3.96% | 1.03% | 1.00% |
| Industrials | 2.70% | 3.96% | 1.15% | 1.51% |
| IG Credit | 2.35% | 3.68% | 0.99% | 1.48% |
| High Yield Ba/B | 2.22% | 4.54% | 1.48% | 3.22% |
| Financials | 2.14% | 3.45% | 1.06% | 1.63% |
| Non-Corp. Credit | 1.46% | 3.13% | 0.38% | 1.32% |
| CMBS | 1.31% | 2.18% | 0.34% | 0.42% |
| MBS | 0.87% | 1.35% | -0.04% | -0.20% |
| ABS | 0.60% | 1.14% | 0.32% | 0.54% |

*Bloomberg Barclays Indices calculates the excess return of various bond sectors by measuring the return above or below duration neutral Treasuries.

# 2Q17 BHMS Bond Commentary

*"Having taken us to the realm of negative interest rates, the path back to normal is anything but straight forward."* – Kopin Tan, Barron's

THE ECONOMY, INTEREST RATES & THE FED: The U.S. Fed and the UST market revealed conflicting views of the economy and the future path of interest rates in 2Q17. The Fed raised its policy rate on June 14, but also confirmed its intention of further increases in 2017 and 2018 on expectations that growth and inflation will rise toward forecasts. The UST market, on the other hand, expressed doubt that either will reach forecast levels in the foreseeable future.

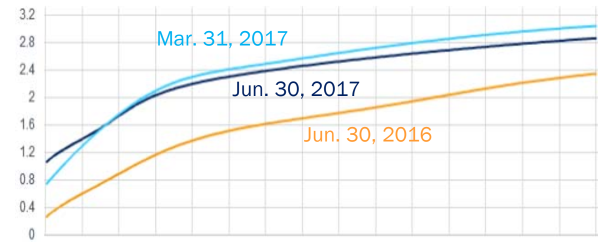
During 2Q17, the bond market's view was evident in the flattening UST 2yr-30yr curve, a move that often conveys a belief in decelerating growth and contained inflation. A 13bp rise in the 2yr UST yield was countered by a 9bp and 17bp decline in the 2yr and 30yr yields respectively. The market's inflation forecast, as measured by U.S. TIPS, saw similar declines as 10yr breakeven rates fell from 1.98% to 1.74% in 2Q. May inflation data seemed to justify the bond market's view as year-over-year Core inflation (CPI) fell to 1.7% from 2.2% three months prior and May CPI ex-shelter fell below 1.0%. However, the Fed still dismissed the declines as "transitory".

The continuing tug-of-war between "hard" versus "soft" U.S. economic data also supports the bond market's argument. Consumer confidence fell to the lowest level since November and was reflected in slower consumer spending growth. Declines in durable goods orders suggest similarly waning in confidence among businesses. The Citi Economic Surprise Index, comparing various economic data releases with forecasts, hit the lowest level since 2011. The 1.7% GDP reported for 1Q17, while above initial estimates, still confirmed the current nine year expansion remains the weakest of any since 1948. And though the June jobs report was a positive sign for the Fed's desired multi-hike rate plan, the lack of wage inflation creates doubts about the urgency to raise rates and instead supports the view of balance sheet reduction as a more effective way to transition toward normalization of monetary policy than raising rates.

Global Central Bank policy may have also entered a new phase during 2Q, now aimed at scaling back unprecedented accommodation. Though lacking a clear consensus or definitive start date, the Fed released details of its balance sheet reduction plan: an initial $10B/month runoff ($6B USTs and $4B Mortgages) that will grow by $10B/quarter to an eventual $50B/month. Despite that plan and the June rate hike, the U.S. Dollar (USD) fell 4.71% in 2Q. Rumblings of policy restraint by both the ECB and Bank of England in response to stronger growth and inflation strengthened the Euro and British pound versus the USD. Chinese credit conditions also tightened considerably as authorities sought to unwind the country's debt binge.

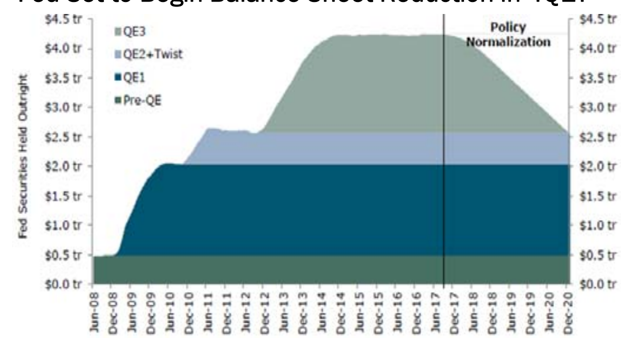
BHMS OUTLOOK: Mixed economic data suggests limited prospects for any meaningful acceleration in growth or inflation. Vigilance and caution by investors is warranted given Central Banks are intent on rolling back policies which have boosted asset prices around the globe. The key for investors in 2H17 is to watch what central banks do, not what they say.

U.S. Treasury (UST) Yield Curve




Source: BHMS; Barclays Live

Fed Set to Begin Balance Sheet Reduction in 4Q17




Source: Wells Fargo Securities

What Happened to the Phillips Curve?


Source: Citi Research

*"Less easy money always spells the end of speculative excess."* -- Randall Forsyth, Barron's

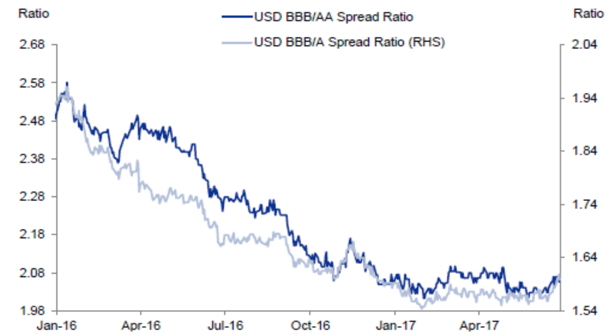
INVESTMENT GRADE CREDIT MARKET REVIEW: Low volatility and continued investor preference for yield drove credit spreads tighter in 2Q17, boosting performance of Investment Grade (IG) Credit to the strongest of any major sector in the Aggregate Index. The IG Credit Index climbed 2.35% and the 8bp contraction in spreads to 103bps drove excess return to 99bps over comparable duration USTs. June closed with IG Credit spreads at the tightest level since September 2014. As in most financial market asset classes, low volatility was a significant factor in continued investor appetite for credit and drove IG Credit performance as spreads traded in a 9bp range during 2Q and 15bps YTD range, matching the rolling six-month average of the "Goldilocks" period from December 2003 to June 2007.

The excess return from IG Corporates (+1.12%) outpaced that of Non-Corporate Credit (+0.38%), which was suppressed by 2Q Foreign Agency and Sovereign credits. Many of these emerging market national oil companies and Sovereigns suffered when the price of crude fell in late-May and June. Excess returns from Industrials (+1.15%), Financials (+1.06%), and Utilities (+1.03%) were roughly in-line with one another, with Financial spreads tightening 10bps, the most of the three sub-sectors.

For the sixth consecutive quarter, the total return of BBB Corporates surpassed that of its AA and A counterparts. In fact, since 2008, BBB quarterly returns have beaten AA and A Corporates 80% and 71% of the time, respectively. Over the same post-crisis time period, BBB Corporate OAS narrowed from 354bps to 70 bps versus AAs, and from 220bps to 54bps versus As. In only the last 18 months, the ratio between BBB and AA spreads has declined 20%. New IG Credit issuance of $794B YTD, modestly trails the $801B in 1H16 (which eventually tallied an annual record of $1.4T). However, the $338B in Industrial supply during 1H17 is a mere $1B above the same year-ago period, and was boosted by Communications (+121%) and Technology (+52%) issuance.

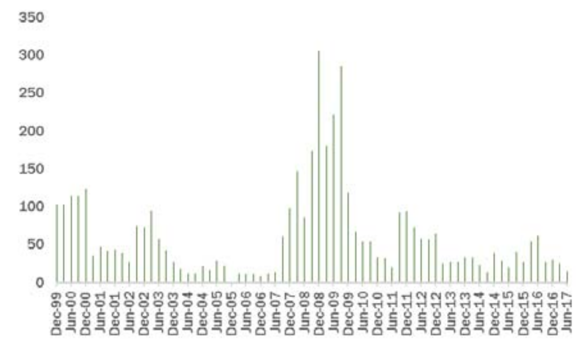
BHMS IG OUTLOOK: IG Credit spreads appear on track for continued compression. Though not yet at the ultra-tig.ht levels of October 2003 to July 2007 when OAS remained below 100bps, there are key differences in the current credit market which suggest valuations are effectively near historic tights. As detailed in a recent Morgan Stanley research report, today's credit market has longer durations, worse fundamentals, and lower quality than previous bull markets. The duration of the Bloomberg Barclays IG Credit Index has increased from 6.0 years in February 2007 to 7.2 today, a 20% increase in interest rate risk since the end of the last bull market in credit. The weighting of BBB credits in the index has also grown 40%, from a market-weight of 31.7% in February 2007 to 44.3% in June 2017. History clearly reveals the importance to today's investors of being cautious of the current risk/reward in credit.

Incremental Spread for BBB's has Declined




Source: Goldman Sachs

IG Credit OAS – 6 Month Trading Range




Source: BHMS; Bloomberg

IG Debt Maturity Wall is Approaching


Source: Morgan Stanley Research

Perhaps most worrisome are today's spreads relative to current fundamentals. The average spread per unit of leverage in IG Credit has reached an all-time tight, last achieved in 2005 (just before the Asian Contagion) and 2014 (following the recovery from 2013's "Taper Tantrum"). Fortunately, the deterioration in fundamentals appears to have stalled for the time being. Merger and acquisition (M&A) activity, which had been a negative for the credit sector during much of the 2009-2016 recovery, has slowed. However, the lull may merely be the result of companies awaiting potential U.S. Federal policy shifts that favor corporate taxes and repatriation of offshore cash. A clear decision for or against such policies may spark the negative consequences of a resumption in M&A activity.

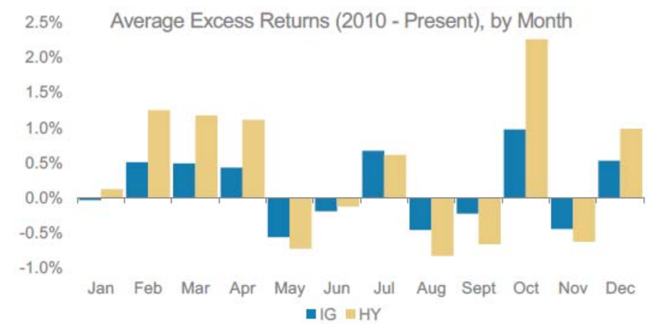
Investor demand has also been a favorable technical support for IG Credit, as inflows have remained strong. Intermediate credit has been the fastest growing segment in IG fixed income since 2008. More recently, long maturity IG credit has grown faster with the segment garnering 11.4% of YTD flows versus 7.9% intermediate and 6.1% short. Foreign investor demand has also continued to support IG Credit. Non-U.S. ownership of the USD IG Credit market now exceeds 40%, up from 25% in 2007. Foreign demand has however waned since 2Q16 amid signs that central banks around the world may target a reduction in easy monetary policies if not an outright rate hikes, both of which have and will put pressure on the USD. Volatility resulting from such pressures could negatively impact not just foreign demand for USD denominated bonds, but also jeopardize domestic buyer interest. Any such lack of support would also likely put upward pressure on both US yields and spreads, just as an estimated $3.3T in maturities are to be refinanced in the next five years.

BHMS STRATEGY: *Maintain an overweight in Credit, but with one eye on the lookout for opportunities and the other for late-cycle dangers.* Though maintaining an overweight in credit in multi-sector portfolios, BHMS has continued to de-risk the composition of our credit exposure. This shift has continued in our focus on Industrial issuers exhibiting stable to improving balance sheet leverage, and in our preference for higher-quality senior capital structure issues in Banks during 2Q17. Low volatility and consistent demand have driven spread compression across sectors and individual credits. Morgan Stanley research however shows such periods are frequently interrupted by volatility spikes that seasonally occur in the 3Q and early 4Q of each year. The resumption of lower oil prices in 2Q17 and geopolitical and central bank policy risks are also examples of events that could potentially send volatility sharply higher. Both the known and unknown effects of Fed and ECB tapering of stimulus may dramatically impact the technical demand for USD credit. Consequently, credit selection is more important than ever in our value-oriented investment process and will remain our focus through the remainder of the current credit cycle.

Spreads Adjusted for Leverage Near Tights

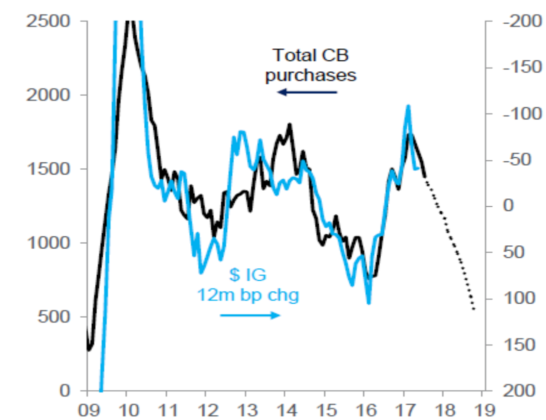

Source: Wells Fargo Securities

Volatility Typically Higher in Late Summer/Autumn




Source: Morgan Stanley Research

Spreads Inversely Corr. with Central Bank Purchases




Source: Citi Research

# 2Q17 BHMS Bond Commentary

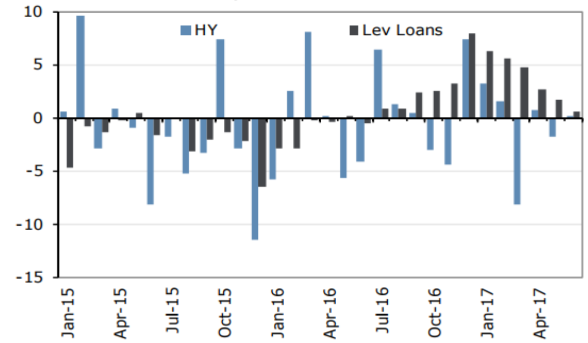
*"Indecision may or may not be my problem." - Jimmy Buffett*

HIGH YIELD MARKET REVIEW: After four consecutive quarters of solid relative performance, High Yield (HY) Credit total returns fell short of the IG Credit sector in 2Q17. The Bloomberg Barclays Ba/B HY Index ("the HY Index"), propelled by an 18bp tightening in average spreads, climbed 2.22% in the quarter. An excess return of 1.48% was stronger than that of IG Credit, but the shorter average duration of the HY Index muted total returns. The BB quality segment outperformed the lower-rated B segment by a margin of 2.68% to 1.71%, due to 15bps and 8bps respective spread compression. As has been the YTD trend, demand for HY Credit remained subdued and net flows negative at -$4.3B. However, issuance increased in 2Q17, with new YTD supply now totaling $143B, up 21% over 1H16.

BHMS OUTLOOK: The HY market continues to enjoy 'Goldilocks' support. The macro environment remains benign in a world of ~2% GDP growth and low inflation, so investors continue to reach for yield, even when its sub-5%. Continued low market volatility has also bred complacency amongst investors. While the mood has certainly changed from early 2017 when expectations of sweeping U.S. tax reform and significant fiscal stimulus raised caution, investor optimism has since settled on the view that growth is good enough to support stable credit spreads and inflation remains subdued. Issuers unwilling to substantially increase leverage from current levels may have been impacted by the debate on corporate tax reform and the future deductibility of interest payments. Technicals have not provided the tailwind support of recent years as modest retail outflows and a new issue calendar focused on refinancing have kept the supply/demand balance stable. Even with a modest rotation out of HY (-$7.3B YTD), hefty 2Q17 coupon payments and reinvestment flows from called/tendered bonds left investors with cash to deploy and few opportunities to do so.

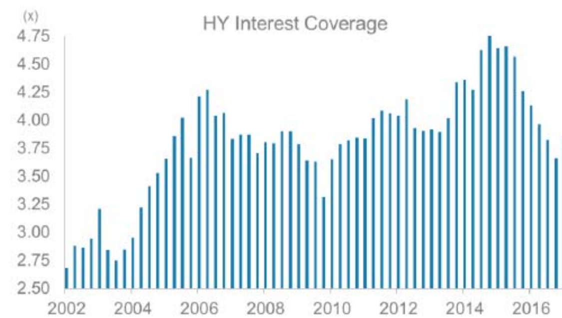
BHMS STRATEGY: *Maintain current exposure with a keen eye on issuer credit metrics and valuations.* BHMS client portfolios with exposure in HY are positioned at about the mid-point of the allowable range, based on our assessment the market is "fair value" at best. With crude oil in a troublesome price range, recent hawkish central bank rhetoric, and still subdued economic growth, we continue to favor up-in-quality security selection in HY. Strong demand for HY credit in the last eight years has masked a weakening in credit quality, with leverage now at or near previous cycle peaks and covenant protection largely stripped away by issuers. We believe HY is due for a pullback given valuations, limited prospects for near-term fiscal stimulus and tax reform, and greater uncertainty over central bank actions. The health of the HY universe varies widely by issuer and sector but we remain comfortable with cable/broadband, wireless telecom, and select midstream MLPs. We are patiently waiting to increase exposure to HY when spreads move wider.

**HY Flows Negative in 2Q and YTD 2017**



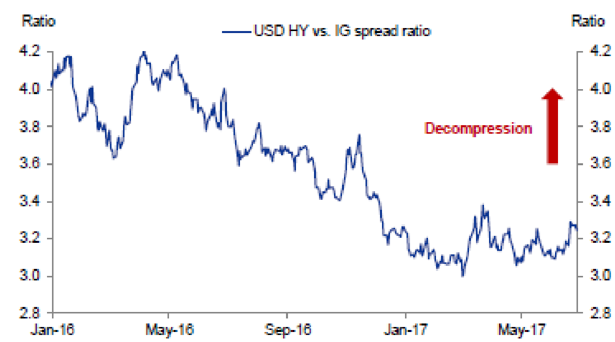

Source: Wells Fargo Securities

**Interest Coverage Back to Long-Term Median**




Source: Morgan Stanley Research

**HY Relative Value vs. IG Slightly Improved**




Source: Goldman Sachs

*"We can hope for better, but the headwinds are fierce."* – John Fernald, Federal Reserve Bank of San Francisco

AGENCY MBS REVIEW: In stark contrast to other "spread sector" in the Aggregate Index, MBS suffered further spread widening during 2Q. Option Adjusted Spreads (OAS) ended the period near the widest levels of the past two years. The spread widening early in 2Q reflected increasing investor uncertainty about how and when the Fed would initiate the much anticipated plan to reduce the size of its $4.3T balance sheet ($2.5T in USTs and $1.8T in MBS). While the June FOMC meeting confirmed the "how", the market had previously expected the scale-back to begin in 4Q17 if not early 2018. However, the June announcement suggests the plan could begin as early as October of this year. That revelation surprised investors, increasing the pressure on MBS spreads and performance. As a result, MBS nominal and excess returns of 0.87% and -0.04% respectively were significantly behind returns of US Credit in 2Q. The conventional MBS subsectors (FHLMC and FNMA) outperformed GNMAs by 40 bps, as the latter continued to be negatively impacted by increased YTD supply and reduced buying by foreign investors. Longer 30-year maturities outperformed 15-year issues on the benefit of longer durations in the declining rate environment.

MBS OUTLOOK: The Fed's June announcement targets simultaneous monthly reductions in both UST and MBS holdings: $6B in UST and $4B in MBS initially, growing by $10B per quarter to $30B and $20B respectively, an eventual $50B total monthly runoff. Only portfolio cash flows that exceed these monthly caps will be reinvested. While this transparency was intended to contain market anxiety and avoid a repeat of the 2013 "Taper Tantrum", the Fed did not discuss the final targeted balance sheet size, nor identify a definitive start date.

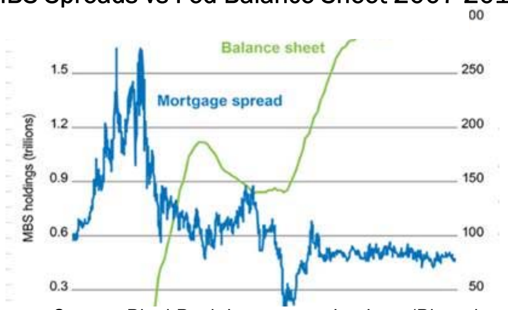
By simply announcing the roll-off plan, the Fed has set a predetermined path toward normalization. However, the supply/demand dynamics of MBS will likely face heightened volatility as investors adapt to the new landscape. When the Fed actually ceases reinvestment it will mark the first time in decades a "government" buyer will not be involved in the mortgage market. YTD17 monthly purchases by the Fed have averaged $24B. Overseas demand that was running at $107B last year, has been negative in 2017. Starting the program will also effectively increase the supply of MBS that must be absorbed. Consequently, as the market adjusts to this changing dynamic, MBS performance will be driven by volatility in rates and highly uncertain supply/demand influences.

BHMS MBS STRATEGY: *Maintain an underweight exposure while taking advantage of carry and relative value trading opportunities.* With the Fed on the verge of balance sheet normalization MBS valuations are vulnerable to heightened volatility and spread widening. We modestly reduced MBS exposure during 2Q, but added to GNMA exposure on the revaluation mentioned above. We plan to remain underweight with an up-in-coupon bias that offers carry benefits, while awaiting a better re-entry point when valuations cheapen.

MBS Spreads Widen on Fed Fears

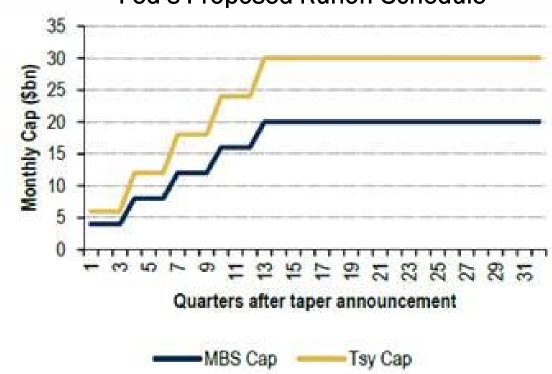

Source: BofA Merrill Lynch

MBS Spreads vs Fed Balance Sheet 2007-2017




Source: BlackRock Investment Institute/Bloomberg

Fed's Proposed Runoff Schedule




Source: BofA Merrill Lynch

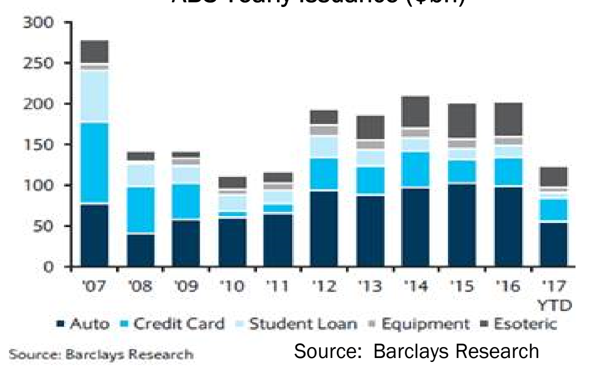
# 2Q17 BHMS Bond Commentary

<u>ABS MARKET REVIEW:</u> The ABS sector generated nominal and excess returns of 0.60% and 0.32% respectively in 2Q17. Within the consumer sectors, Credit Cards (CCs) produced 0.33% and Autos 0.29% in excess return. Despite heavy issuance, ABS spreads were mixed during the second quarter, ending the period slightly wider than the YTD lows. Spreads of 2-3yr fixed rate CCs narrowed 2-3bps, while Prime Autos (PAs) widened 2-7bps and Subprime Autos (SPAs) widened 7-10bps.

Supply/demand factors were favorable for ABS in 1H17. Many issuers sought funding in advance of anticipated higher rates later in the year. CC issuance in particular was robust, increasing 95% versus year-ago levels, as an estimated $51B in outstanding issues are set to mature during 2H17. That surge in supply was more than offset by the mere 4% increase in YTD auto issuance as PA and SPA new issues were slightly below 1Q17 volumes, while auto lease issuance increased. Strong investor demand for high quality assets was reflected in YTD fund flows into the sector that helped absorb the 29% increase in overall issuance versus last year. That demand also impacted pricing of new CC issues at spreads tighter than initial indications. Still low nominal yields have also contributed to investors moving out the curve and down in quality in search of yield, which has flattened the credit curve and compressed yield differentials between sub-sectors.

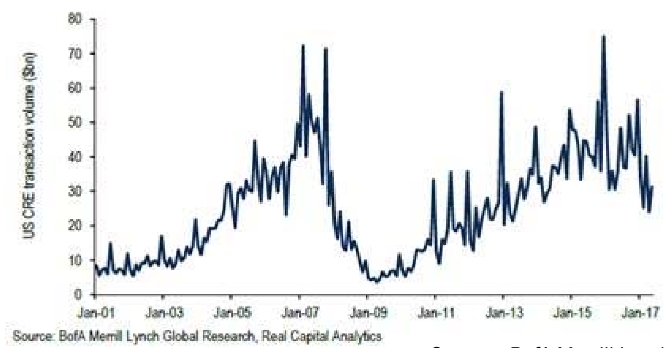
<u>BHMS ABS STRATEGY:</u> *Maintain an overweight in shorter duration, high quality issues, but with a cautious view of late cycle concerns*. We reduced our overweight to consumer ABS during 2Q. Rich valuations in Prime Autos and Credit Cards have led to a state of fatigue in the market which began in 1Q. Looking ahead, returns from the ABS sector will mainly come from carry as spreads remain at "fair value" levels. We continue to evaluate the yield and quality benefits of the sector versus short duration IG credit alternatives.

ABS Yearly Issuance ($bn)




Source: Barclays Research

LTM Commercial Real Estate Transactions




Source: BofA Merrill Lynch

<u>CMBS MARKET REVIEW:</u> At 1.31%, CMBS posted the best total return of the three structured product sectors, outperforming USTs by 34bps during 2Q. Spreads were stable during the quarter with 3yr and 5yr maturities unchanged and 10yr last cash flow bonds narrowing 5bps. Spreads in the "AA" and "A" rated classes widened 10bps, steepening the CMBS credit curve. New issue CMBS Conduit supply increased 28% from 1Q and is 30% above the year-ago period. New issue pricing has also seen some spread tiering, which illustrates investors are being more discriminate with respect to factors like collateral differences, risk retention structure, who purchases the "B" piece, and perceived liquidity.

<u>BHMS CMBS STRATEGY</u>: *Maintain neutral market exposure in short duration, higher quality issues.* Slowing in price appreciation of commercial real estate (Moody's/Real Capital Analytics CPPI index only +1.4% YTD), along with slowing transaction volume (-15% vs last year per same source) and a decline in foreign buying (especially Chinese) for the first time since 2009, suggest late stage cycle concerns.

*"The supportive technical backdrop for long duration has room to persist."* – Goldman Sachs

LONG CREDIT MARKET REVIEW: The combination of falling UST yields and tighter credit spreads gave a boost to the Long Credit market in 2Q. The Bloomberg Barclays Long Credit Index climbed 4.70% in 2Q following an 11bp tightening in Long Credit spreads. Relatively weak performance from Long Non-Corporate Credit, which only rose 3.31%, resulted in the Long Corporate Index return of 4.94% surpassing that of Long Credit. The Long U.S. Gov't/Credit Index lagged both of the other long indices due to the relative underperformance of the Long UST market. The divergence in performance between Long Government and Long Credit securities is particularly stark on a one-year basis. Over the last twelve months (LTM), Long Credit has outpaced Long Governments by 994bps.

Financials posted the strongest 2Q excess return thanks to a 15bp tightening in credit spreads and added to the sector's LTM excess return which reached 11.54%. The excess return of Industrials followed closely behind due to spreads narrowing 11bps. Utilities trailed Financials and Industrials, but all three Long Corporate sectors have earned higher excess returns than Long Non-Corporate Credit. Within Non-Corporate Credit, the Local Government sub-sector suffered negative excess returns due to downgrade risks among U.S. state issuers. Much of the news and negative spillover originated with Illinois which is the 53rd largest issuer in the Long Credit Index with a 0.5% weighting.

Long Credit inflows accelerated in 2Q and have boosted the size of the segment by 11.4% YTD. The pace of those inflows is higher than that of Intermediate or Short, but Intermediate IG Credit has still received the vast majority of inflows since the crisis.

BHMS OUTLOOK & STRATEGY: *Take Advantage of Credit Specific Opportunities, but Avoid Late-Cycle Risks.* BHMS continues to de-risk the composition of our Long Credit and Long Government/Credit portfolios. The YTD demand for credit reflects the post-crisis trend of stretching for yield, which has tightened credit spreads beyond fair value. The risk-reward balance is currently skewed to such an extent opportunities for further spread tightening should be tempered. Therefore, BHMS believes valuations in Credit exhibit many late-stage symptoms that warrant a disciplined approach to credit selection. We remain focused on selectively adding credits which can generate stable return through carry, as opposed to adding issuers which may be dependent on a continued stretch for yield.

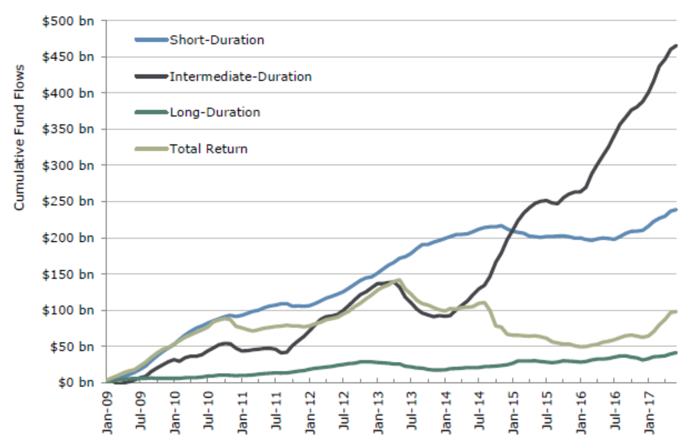
| Barclays Indices: Total Returns (%) | 2Q17 | One-Year |
|---|---|---|
| Long U.S. STRIPS 20+ Yr. | 6.12 | -10.25 |
| Long U.S. Corporate | 4.94 | 3.61 |
| Long U.S. Credit | 4.70 | 2.98 |
| Long U.S. Gov't/Credit | 3.96 | -7.22 |
| Long U.S. Government | 3.93 | -6.96 |

Source: Bloomberg Barclays

| Barclays Sector Performance: Excess Returns (%) | 2Q17 | One-Year |
|---|---|---|
| Long Financials | 2.39 | 11.54 |
| Long Industrials | 1.92 | 9.49 |
| Long Utilities | 1.39 | 6.53 |
| Long Non-Corp. Credit | 0.69 | 5.00 |

Source: Bloomberg Barclays

Post-'08 Flows to Long Duration Lag Intermediate




Source: Wells Fargo Securities

PENSION ASSETS: Long bond investments earned 4.4% during the quarter, outpacing core bonds and equities as measured by the indices that we use to estimate the average corporate pension asset allocation. Alternatives had the highest and lowest earning asset classes: private equity returned 8.4% and commodities lost 3% in 2Q17.

PENSION LIABILITIES: Pension liabilities grew by 4.1% during the quarter driven by a 33 basis point decrease in corporate bond yields. Interest rates comprised the majority of this decrease, falling by 26 basis points; credit spreads tightened by seven basis points.

FUNDED STATUS: Pension funded status decreased during the quarter as liabilities grew faster than assets. Corporate pensions began the quarter at 84% funded and ended the quarter 83.3% funded. Results vary across companies, depending on asset allocation and other plan-specific factors. Of note, LDI investors likely fared better than other investors as long bonds kept pace with liability increases better than many other asset classes.

CORPORATE PENSION TRENDS: During the quarter, several large plan sponsors issue bonds and used the proceeds to make contributions to their pensions. This is often referred to as borrowing to fund.

We also note that several plan sponsors announced large voluntary contributions to their pension plans. Voluntary contributions are those above the required minimums which have been lowered through pension funding relief for many years and have actually been zero (no required contributions) for many plans.

**Average Asset Allocation and YTD Returns**

| Asset Class | Index | Allocation | YTD Return |
|---|---|---|---|
| Equities | | 43% | 9.3% |
| | *65% Russell 3000* | | *8.9%* |
| | *35% MSCI EAFE* | | *10.1%* |
| Bonds | | 38% | 5.1% |
| | *75% Barclays Long Gov/Credit* | | *6.0%* |
| | *25% Barclays Aggregate* | | *2.3%* |
| Real Estate | *FTSE NAREIT Equity* | 2% | 4.9% |
| Other (Alternatives) | | 14% | 6.4% |
| | *45% HFRI Fund Weighted Composite* | | *3.3%* |
| | *35% S&P Listed Private Equity Index* | | *17.2%* |
| | *20% Dow Jones UBS Commodity Index* | | *-5.3%* |
| Cash | | 3% | 0.0% |
| **Total** | | | **6.9%** |

Source: BHMS; Bloomberg

**Discount Rate Change (% pts)**

| Equity Return | -2.00 | -1.50 | -1.00 | -0.50 | 0.00 | 0.50 | 1.00 | 1.50 | 2.00 |
|---|---|---|---|---|---|---|---|---|---|
| -20% | 64% | 66% | 68% | 70% | 73% | 77% | 80% | 85% | 90% |
| -15% | 66% | 68% | 70% | 73% | 76% | 79% | 83% | 88% | 94% |
| -10% | 68% | 70% | 72% | 75% | 78% | 82% | 86% | 91% | 97% |
| -5% | 70% | 72% | 75% | 77% | 81% | 85% | 89% | 94% | 101% |
| 0% | 72% | 74% | 77% | 80% | 83% | 87% | 92% | 98% | 104% |
| 5% | 74% | 76% | 79% | 82% | 86% | 90% | 95% | 101% | 108% |
| 10% | 75% | 78% | 81% | 84% | 88% | 93% | 98% | 104% | 111% |
| 15% | 77% | 80% | 83% | 87% | 91% | 95% | 101% | 107% | 115% |
| 20% | 79% | 82% | 85% | 89% | 93% | 98% | 104% | 110% | 118% |

Source: BHMS; Bloomberg

**BHMS Pension Funded Status Analysis**

| Business Sector/*Industry* | June 30, 2017 |
|---|---|
| **Overall** | **83.3%** |
| Financials | 92.8% |
| *Banks* | *100.6%* |
| Industrials | 83.1% |
| *Airlines* | *67.0%* |
| Consumer Discretionary | 82.1% |
| Information Technology | 81.3% |
| Materials | 81.1% |
| Consumer Staples | 81.1% |
| Utilities | 80.3% |
| Health Care | 80.1% |
| Telecommunications | 80.1% |
| Energy | 79.5% |

Source: BHMS; Bloomberg

## DISCLOSURE

All opinions included in this report constitute Barrow Hanley's judgment as of the time of issuance of this report and are subject to change without notice. This report was prepared by Barrow Hanley with information it believes to be reliable. This analysis is for informational purposes only and is not intended to be an offer, solicitation, or recommendation with respect to the purchase or sale of any security, nor a recommendation of services supplied by any money management organization. Past performance is not indicative of future results. Barrow, Hanley, Mewhinney & Strauss, LLC is a value-oriented investment manager, providing services to institutional clients.