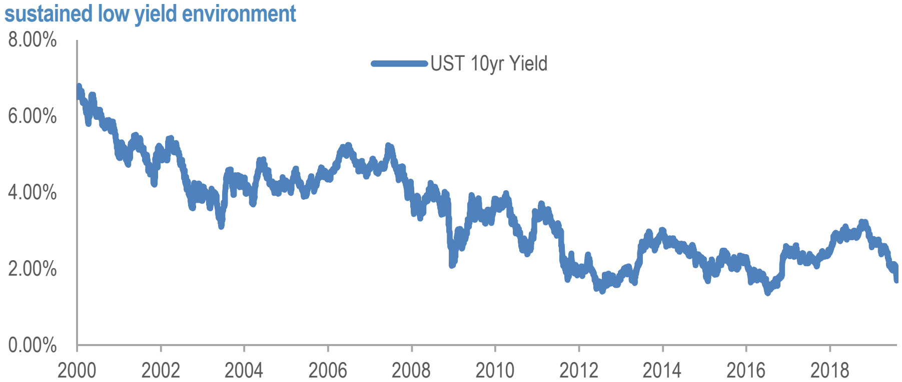
Low Yields and their Impact on High Grade Corporates

A sector by sector review

- The decline in UST yields and corporate bond yields has both positive and negative impacts on HG corporate bond issuers
- The negative impacts are most clear for Financials. US Bank interest margins will continue to narrow. However, there are offsets in stronger loan growth, mortgage refi's and diverse sources of revenue for the large banks. Regional banks will be more impacted. European banks in restructuring mode will continue to deal with the profitability challenges from low/negative rates
- For Life Insurers low yields reduce the profitability of their new investments, reduce annuity sales and potentially cause negative valuation adjustments. For these reasons, and because spreads have not reacted much to this new environment, we have recently lowered our outlook on the sector to UW
- Pension funding status is negatively impacted by lower yields, causing companies with large pension liabilities to become more underfunded. We estimate that the largest corporate pension funds have become over $40bn more underfunded in the recent rate move. We lowered our view on the Manufacturing sector partly due to pension funding issues, and highlight pension issues in the Auto, Transportation and Capital Goods sectors
- There is a possibility of more M&A with lower yields, but we believe this risk is modest. Funding costs for M&A were already low, and many other factors drive M&A in addition to the cost of debt. Historically rates and M&A have a low correlation. This is discussed in the Healthcare, TMT, Consumer and Capital Goods sectors
- On the positive side companies will borrow more cheaply. However debt maturities are long dated in most sectors so this impact will flow through only slowly. MLPs and REITS are sectors where the lower funding costs should show up more quickly. Autos should benefit from higher sales with lower rates, which we believe is more important than the negative pension impacts

The sharp decline in UST yields recently raises questions as to sector winners and losers from a sustained low yield environment



Source: J.P. Morgan

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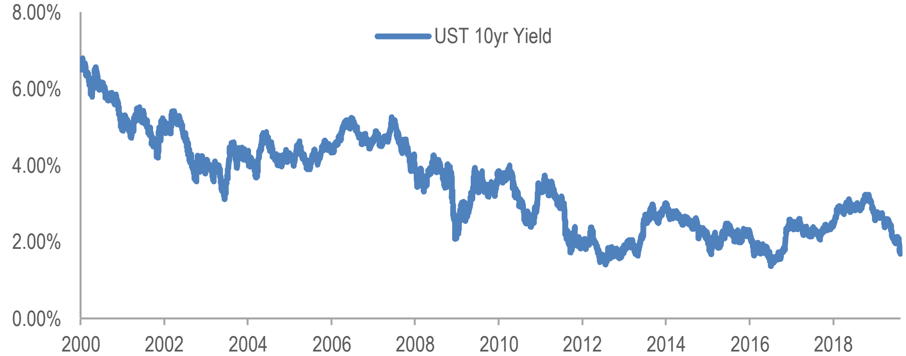
Low yields – implications for HG corporates

The increasingly low yield environment in the US and globally has positive implications for US HG bond demand, as we have regularly discussed. It also has implications, mostly negative but some positive, for credit fundamentals of High Grade bond issuers. In this note we review these by sector.

Exhibit 1: The sharp decline in UST yields recently raises questions as to sector winners and losers from a sustained low yield environment



Source: J.P. Morgan

One of the positives is lower borrowing costs, but this will take a while to have a noticeable impact. The average coupon of bonds in our HG index has been declining steadily for almost 20 years. In 2018 this decline stopped and bonds issued in the first few months of 2019 came at higher yields. Now this rise has been halted and average coupons are beginning to decline again. The JULI index yield is down by 118bp YTD.

While this is a positive it is not that important in earnings and FCF for most issuers. This is for two primary reasons. First, interest expense is already a low figure for most issuers. The average Interest coverage (EBITDA/Interest Expense) ratio is 10x for the companies in our fundamentals report. Second, the average maturity of bonds in our index is almost 11 years, so only a small portion of debt is rolling over each year at these newly low borrowing costs. For MLPs, Matt Anavy highlights that this sector is historically sensitive to lower rates given the regularly refinancing activity, so the sector benefits more than others. REITS is another beneficiary, as Mark Streeter highlights below.

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Exhibit 2: The average coupon of High Grade bonds has been declining for most of the past 20 years

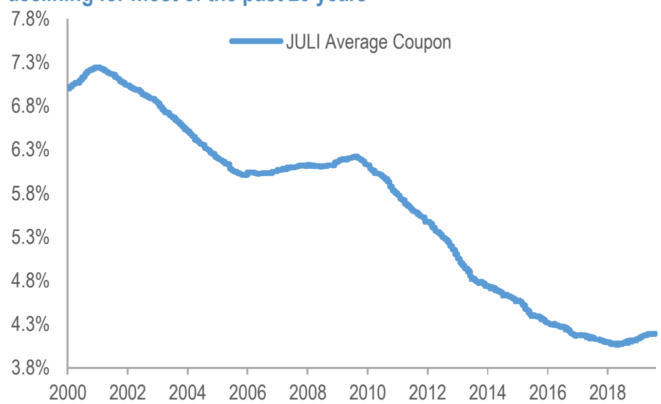
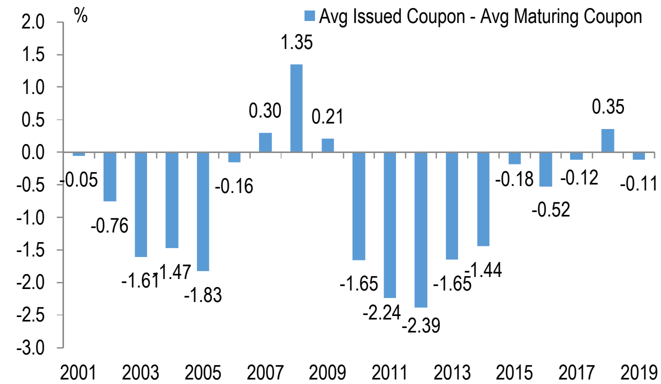
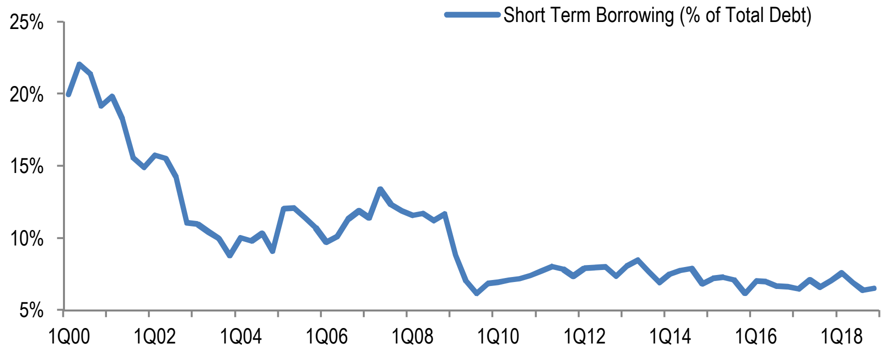


Exhibit 3: After a small increase last year newly issued bonds are again being issued with coupons below those on maturing bonds



Source: J.P. Morgan

Exhibit 4: Short-term debt as a percentage of overall debt has averaged ~7% since 2013, so the benefits of lower yields will impact corporate borrowing costs only slowly, as refinancing needs are modest



Note: Based on the Non-Financial companies in our HG bond index, ex Autos
Source: J.P. Morgan, Capital IQ

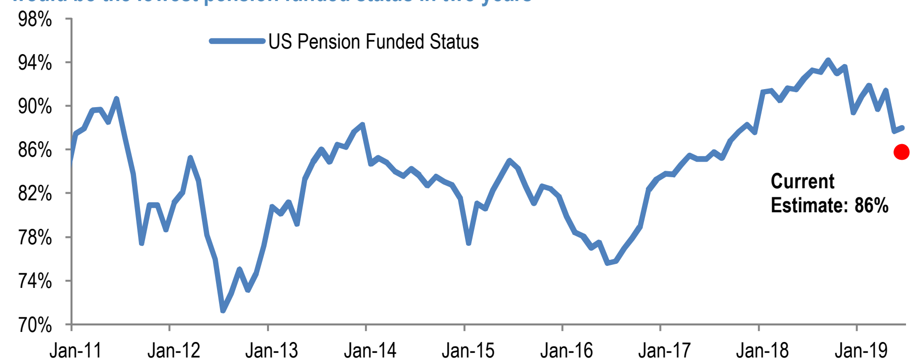
Pension funding status has been negatively impacted by the decline in yields

We estimate that pension funded status for the largest corporates has declined from 88.0% at the end of June to 85.8% as of August 6th. This would be the lowest pension funded status in two years, since August 2017. The significant increase in pension fund liabilities has been driven by the sharp decline in discount rates. This pushes up the value of pension fund liabilities. The 100 corporate pension plans included in the Milliman study had assets of $1.56tr and liabilities of $1.77tr as of end June, the last reported figures. This was a funding deficit of $212bn, and a funded percentage of 88.0%. From the end of June to August 6th, we estimate that the change in assets (+$9bn) and change in liabilities (+$56bn), such that funding status has declined by an estimated $42bn to 85.8%. Both yields and equity market have moved lower in the last few days, so these figures have worsened since.

This change has implications for pension fund demand for HG credit and for additional pension fund costs for the corporates most impacted. The demand issue has two sides to it. On one hand, a lower pension funding status usually means that pension funds are less likely to sell equities or other assets and shift into fixed income and credit. They tend to do this when more fully funded, to 'lock in' the funding status. However, when corporates have a lower funded status they tend to contribute more to their pension plans. These new funds in recent years have been allocated more to fixed income than to equity. These allocations have come less to credit markets and more to rates markets over recent quarters, however, so pension funds have been a less important driver in credit than in prior years. With yields now so low it is less clear if marginal funding to pension plans will be allocated as much to fixed income going forward.

For individual corporates who have large underfunded pension plans the decline in rates and pension funded status is a clear negative. If the low rate environment persists companies will be forced to contribute more to their pension plans. This will absorb free cash flow and potentially slow the pace of deleveraging for some. Ginger Chambless in her downgrading of the Manufacturing sector to Underweight last week cited the decline in pension funding status as one of the drivers of this recommendation. See her discussion below.

Exhibit 5: We estimate the pension funded status has declined to 86% as of August 6th. This would be the lowest pension funded status in two years



Source: J.P. Morgan, Milliman

Exhibit 6: Pension funded status, as reported by Milliman

$bn	Market Value	Pension Benefit Obligation	Pension Funded Status	Funded Percentage
May	1518	1731	-213	87.70%
June	1556	1768	-212	88.00%
Monthly Change	38	37	1	0.30%
YTD Change	111	153	-42	-1.40%

Exhibit 7: Estimated pension funded status as of Aug 6th

$bn	Market Value	Pension Benefit Obligation	Pension Funded Status	Funded Percentage
June	1556	1768	-212	88.00%
August 6th	1565	1824	-258	85.80%
Change	9	56	-47	-2.20%

Source: J.P. Morgan, Milliman

Will lower yields lead to more M&A – we believe this impact will be modest

It is logical to assume that lower corporate borrowing costs will lead to more M&A, as the cost of funding a transaction has come down. Historically, however, there is only a weak relationship between funding costs and M&A activity (see below). These are many factors which drive M&A activity besides the cost of debt. Some of these are supportive of a pickup in activity and others not. On the positive side, besides lower funding costs and modestly lower equity prices, is a slowdown in revenue growth and the stronger USD. Slower revenue growth tends to lead companies to look for other ways to boost their top lines, including acquisitions. The stronger USD increases the attractiveness of overseas purchases for US based companies.

On the other hand, trade tension increases the risk of overseas transactions, as the future 'rules of the road' in regards to imports and exports are less certain. Also, the US political environment and election cycle may be dampening M&A, as companies look to avoid the political spotlight on large transactions which may be unwelcome by one political party or the other.

Finally, and perhaps most importantly, M&A is inherently a bullish transaction. In a merger a company is usually taking on more debt with the goal of growing the newly combined company, achieving synergies and gaining the scale to reduce the debt and leverage taken on in the transaction in the future. Companies are more likely to undertake this risk when they see a solid economic outlook ahead. With most economists expecting slower economic growth ahead it does not seem that the current environment is conducive to a large pickup in M&A. This issue is addressed further in the discussions on Healthcare, TMT, Consumer Products and Retail below.

Exhibit 8: Overall M&A volume this year has been strong

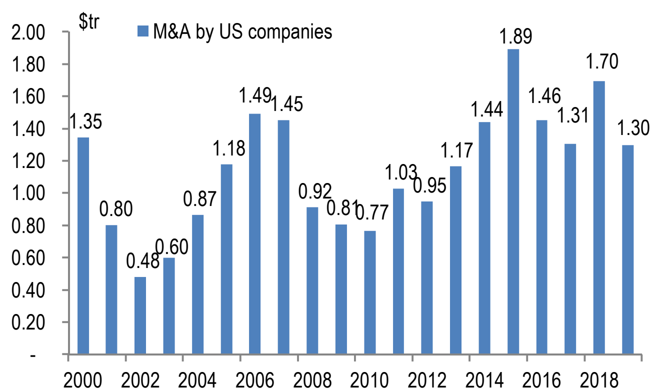
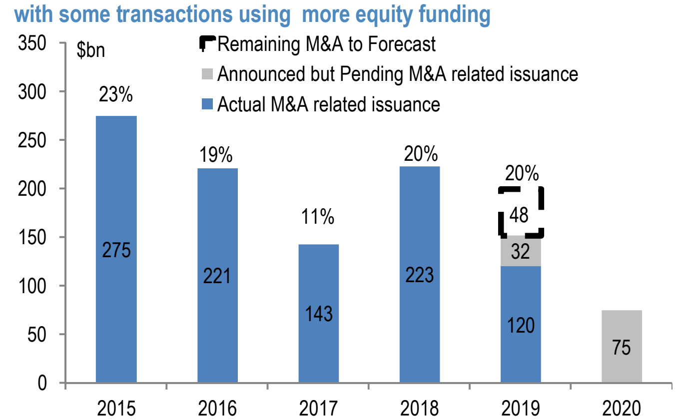
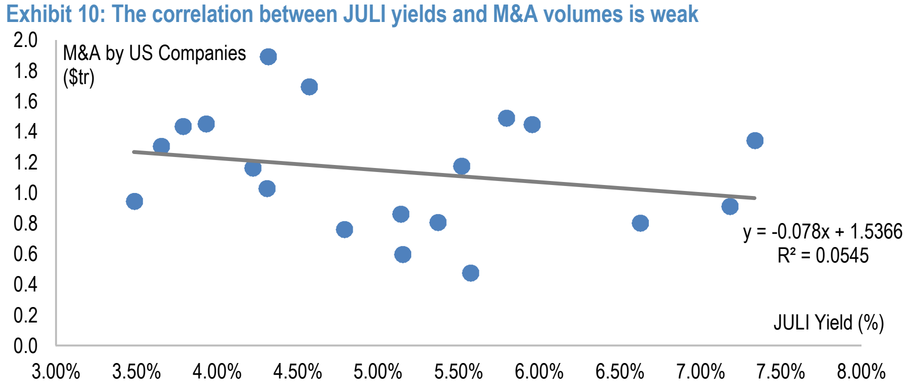


Exhibit 9: But M&A-related debt issuance so far this year has slowed, with some transactions using more equity funding



Source: J.P. Morgan, Dealogic

Exhibit 10: The correlation between JULI yields and M&A volumes is weak



Source: J.P. Morgan. Data from 2000 with average JULI yield on the X-axis and M&A volume on the Y axis

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Summary of sector views

US Banks – Kabir Caprihan

In summary, lower short term yields coupled with flatter yield curve will pressure the margin and Net Interest Income (NII) of banks. The average Net Interest Margin (NIM) has been declining recently as rates have moved lower but NII still grew due to solid loan growth. Asset sensitive regional banks will feel the immediate impact from lower rates while money center banks as well as liability sensitive banks will fare better. Banks with strong mortgage origination platforms will benefit from the increase in refinance volume and we do believe this will offset some of the margin pressure. Robust loan growth, especially on the consumer front, should reduce the impact from lower rates as evidenced in 1Q results where NII increased despite a lower NIM. Securities portfolios will benefit from marked to market gains which will lead to a slight increase in already strong capital rations.

We view the decline in rates and subsequent impact on profitability as primarily an equity story with limited impact on credit spreads. The focus for bank investors is on the Macro backdrop and if lower rates and the flat/inverted yield curve are indicative of US recession. Increased signs of recession or weakness in asset quality will make us cautious on the space.

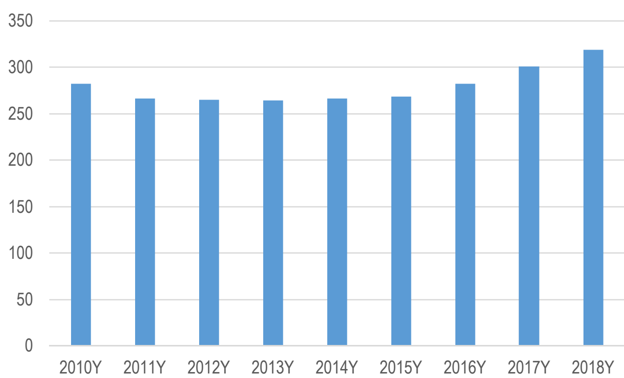
Net interest income and NIMs come under pressure during periods of falling rates as securities and loans both reprice and are reinvested at lower rates. The impact has already been felt in the sector, with NII flat QoQ in the sector in 2Q'19 and 3% higher YoY, down from growth of 5% - 7% YoY in the preceding four quarters. The average NIM in the sector was 5bp lower QoQ and YoY at 3.21%. U.S. banks remain largely asset sensitive, and a prolonged period of rate cuts would be a substantial profitability headwind. We also note that interest rates are only half of the equation for net interest income, with the other part being loan growth. A pick-up in loan growth could offset the impact of lower rates.

In general we believe that, unless we enter a period of prolonged easing, the magnitude of the impact for U.S. financials will be manageable, and more of an equity story than a credit one. We note that net interest income typically comprises a higher percentage of revenue for regional banks, and as such they will likely experience greater revenue pressure as compared to the large money-centers. Within regional banks the impact will also diverge as asset sensitive banks will feel a greater impact as compared to liability sensitive banks.

Higher net interest income had been the main driver of top-line growth for U.S. banks over the past ~3 years, after the prolonged period of near-zero rates following the crisis weighed on profitability. Sector wide NII grew 5%, 6%, and 6% in 2016, 2017, and 2018 respectively after averaging annual contraction of 1% in the 5 years preceding. The sector-wide NIM reached an average of 3.36% in 4Q'18, up 35bp from 4Q'15, the last quarter that did not include a rate hike.

Exhibit 11: Sector Wide Net Interest Income rose in 2016-2018 after declining the prior few years

In $bn



Source: SNL, J.P. Morgan.

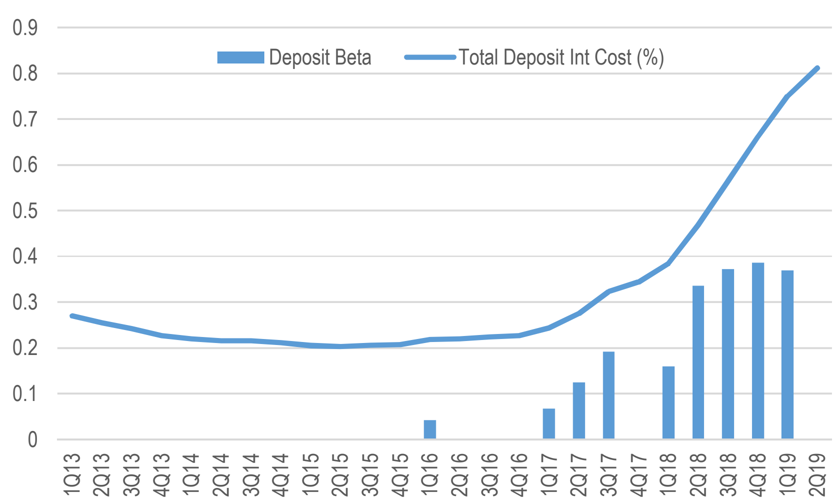
Exhibit 12: Sector Wide Net Interest Margin has declined again after rising in 2016-2018

bp

Source: SNL, J.P. Morgan.

Along with the benefits to asset yields, rate hikes also put upward pressure on deposit pricing. Deposit beta picked up in earnest in 2018, increasing from 16% in 1Q'18 to 39% in 4Q'18. In 2Q'19, the average rate paid on deposits across the sector of 81bp increased 6bp or 8% QoQ, though this was below to increases of 22%, 21%, 17%, and 13% in the four preceding quarters. Banks will benefit from paying lower rates on debt funding now that rates are moving lower. As such, lower funding costs will partially offset the headwind of lower asset yields for banks.

Exhibit 13: Deposit Beta rose when rates rose. With lower rates the cost of funding will decline



Source: Bloomberg, J.P. Morgan.

On 2Q'19 earnings calls, several banks provided updated NII guidance. Bank of America expects YoY NII growth of 1% in 2019 (down from previous guidance of 3%) assuming two rate cuts in 2019. For Citigroup, each 25bp rate cut is expected to decrease NII by ~$50mln per quarter, but the company maintained NII guidance of 4% YoY growth in 2019. Wells Fargo had previously indicated that it expected NII to decline 2 – 5% in FY19, and that assuming two rate cuts, the decline would be 5%. WFC indicated that one 25bp rate hike is expected to decrease NII by $100mn

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annually. We note that NII makes up a much smaller portion of revenue for GS and MS.

As well, several banks provide disclosures related to interest rate sensitivity in their 10-Qs, which we have compiled below as of 2Q'19.

Exhibit 14: Interest Rate Sensitivity

	Magnitude of Rate Decrease	Type of Rate Move	FY18 NII reported ($mln)	additional NII next twelve months ($mln)	Impact on Net Interest Income
JP Morgan	100bp	Instantaneous, Parallel	55,059	-2,700	-4.9%
Wells Fargo	100bp	Instantaneous, Parallel	49,995	-1200 - -700	-1.9%
Bank of America	100bp	Instantaneous, Parallel	47,432	-5,865	-12.4%
Citigroup	100bp	Instantaneous, Parallel	46,562	-1,314	-2.8%
Capital One	100bp	Instantaneous, Parallel	22,875	-412	-1.8%
U.S. Bancorp	50bp	Instantaneous, Parallel	12,919	-236	-1.8%
PNC Financial	100bp	Gradual 12mo, Parallel	9,721	-253	-2.6%
BB&T	100bp	Gradual 12mo, Prime Rate	6,682	-285	-4.3%
Sun Trust	50bp	Instantaneous, Parallel	6,075	-91	-1.5%
Fifth Third	100bp	Gradual 12mo, Parallel	4,140	-118	-2.8%
MTB	100bp	Instantaneous, Parallel	4,072	-73	-1.8%
Morgan Stanley	100bp	Instantaneous, Parallel	3,806	-722	-19.0%

Source: Company filings, J.P. Morgan.

Yankee Banks – Kabir Caprihan

The Yankee Bank sector and especially European banks will be impacted negatively in this low rate environment. The SX7E, equity index for European Banks, is back to the lows of 2012 as the equity markets continue to bring down estimates for the sector. In response to the low or negative rate environment, banks are beginning to adjust business model to protect profitability. While the focus has been on improving fee income there are press reports and management statements that suggest retail deposits could be charged or pay higher fees given the current rate environment. The decline in profitability will be significant for restructuring banks such as Deutsche Bank that needs revenue growth in order to continue their cost cutting programs and maintain capital ratios. That said, the ECB has commented on the impact on bank profitability due to negative rates and there is the possibility of deposit tiering being announced in the September meeting. In summary, the European banks have had to contend with a low rate environment for the last 6-10 years. The decline in net interest income has forced the banks to either cut costs or look towards other areas for revenue. We do not see this pressure abating and do believe it will be significant issue from some banks that are in the midst of restructuring their business models. For other banks, the impact will on more on equity pricing then credit spreads.

Non-Bank Finance Companies – Kabir Caprihan

The impact on the Finance sector from lower yields is limited given the sector's focus on fee income and the divergence between business models. Exchanges and asset managers are not significantly impacted and will only feel a secondary or tertiary effect of lower rates. Asset managers that are not diversified across asset classes are always susceptible to negative fund flows, especially if we experience a rotation from fixed income into equities or vice versa. The credit card sector should benefit because they tend to be liability sensitive and consumers' disposable income should increase in lower rates environment. Furthermore, the credit card sector has diversified its funding over the last few years by growing a bank deposit franchise.

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Notably deposit betas had started to rise for credit card banks as their deposit base is more price sensitive. We now expect deposit betas to decline going forward, which is positive for the credit card sector. That notwithstanding, it is imperative that asset quality remains healthy as our assumption is that the lower rate environment does not precede a period of economic weakness.

Insurance – Brett Gibson

Both the Life and P&C subsectors will feel the effects of relatively low rates and the flattening of the treasury curve, however the Life space is substantially more exposed for a variety of reasons. In fact, given our expectations of a persistently low interest rate environment going forward, we believe Life Insurance is a subsector that may underperform and we changed our recommendation on the subsector from Neutral to Underweight on Aug 9. The change in view reflected our opinion that current spread levels in the Life space do not accurately reflect the negative impact associated with an extended move lower in interest rates. At ~1.7%, the 10 year treasury is 35bp lower over the last week, nearly 90bp lower over the last three months, and more than 150bp lower over the past 9 months. This drop has been both precipitous and unexpected relative to most company expectations for rates over time (most of the large Life companies have expected a steady rise near-term with long-term assumptions that the 10 year will get to ~4.00% over an 8-10 year period). Getting more specific, we expect an extended low interest rate environment will hamper Life Insurance companies in three primary ways: earnings, capital, and sentiment.

First, on a fundamental basis, Life companies derive a substantial amount of their revenues from investment income, which is dependent largely on rates given the concentration of their portfolios to fixed income securities and relatively longer duration portfolios. Pricing and product feature changes can help offset the decline in profitability somewhat, but the industry is heavily regulated and there are so many companies vying for business that the full impact is not able to be incorporated. An extended period of time with low rates can lead to a high percentage of spread-based products approaching minimum crediting rates. Some of the Life products most exposed to interest rates are fixed annuities, universal life, long-term care, and other spread-based products with these products likely to see lower profitability over time as rates stay low. One example is that we expect the current environment to hamper fixed annuity profitability throughout the space as profitability and net spreads are primarily driven off of high intermediate rates and a steep curve. In addition, the absolute level of fixed annuity sales may wane as other financial products look more competitive given relatively low offered crediting spreads. While individual company exposures vary and many companies have diversified their offerings over the past several years to products with inherently different risks, those with large exposures to spread-based products may see an outsized impact from spread compression.

Second, from a capital standpoint, Life Insurance accounting also dictates that many products have reserve levels or deferred acquisition costs set based on long-term interest rate assumptions (as stated above many companies have long-term assumptions that the 10-year treasury will reach ~4.00% over time) and periodic reviews of these assumptions could result in adjustments. When market moves are sudden as they have been recently, it impacts the long-term assumptions with which products were underwritten, especially for long-duration products. One particular product for which we would highlight concern would be long-term care where a persistent low rate environment is likely to have an adverse impact on GAAP and

Statutory reserves. In addition, FASB has proposed changes to the discount rate embedded in long duration contract reserves and this is likely to result in discounting at materially lower yields for certain products, something that is likely to reduce book values (this may be delayed one year from the originally proposed date to January 2022 based on a recent recommendation by FASB).

Lastly, because of the above known sensitivities of the sector, we typically see inverse correlation between Life insurance spreads and rates (a trend easily observed in prior periods). As such, we expect credit spreads to widen over the near-term given changing expectations as the market works to digest a persistently lower rate environment following a change of pace from the cycle of central bank hikes over the past several years. We should note that lower interest rates will increase balance sheet book values on the surface from the isolated effect of increased available-for-sale bond prices flowing through to AOCI, but most investors look through this metric and analyze book values on an ex-AOCI basis.

P&C companies, on the other hand, while still impacted by the rate environment, are less so relative to Life companies given that underwriting results for most lines are unaffected by interest rates. In addition, P&C companies hold investment portfolios that are both much shorter in duration (a typical P&C portfolio may have a duration of ~3 years while a typical Life portfolio may have a duration closer to ~7-8 years) and much lower in portfolio leverage (a typical P&C portfolio may have invested assets as a multiple of book equity of ~2x while a typical Life portfolio may be ~7x).

Telecoms, Media & Entertainment, Technology – Brian Turner

In our view, the net impact of lower interest rates is rather limited for US TMT names. In Cable & Telecom the decline in US rates has no real implication for the core businesses. However we acknowledge 1) the potential benefit of liability management exercises / coupon reduction and 2) the relative attractiveness of telecom equity yields for income based investors. Demand drivers in the space for increased mobility, data usage, and higher service charges are largely unrelated to the interest rate environment.

As it relates to corporate M&A, the US TMT landscape has seen a tremendous amount of deal activity post-crisis which we believe will continue given a variety of factors. To be sure, required rate of return hurdles become easier on margin given global rates though valuations – generally speaking - appear quite high to us and many market participants. Nonetheless, we expect M&A activity to continue in TMT irrespective of a lower rate environment, particularly among our cash-rich issuers with strong free cash flow generation. Our view is supported by our belief that consolidation and scale will remain a key theme in the Telecom & Media sectors, while legacy technology firms continue to pay a premium for high growth assets.

Away from specific sector/fundamental impact (or lack thereof), obvious increases in pension obligations given declining discount rates affect legacy large cap TMT, with both AT&T and Verizon carrying post retirement obligations north of $15bn. In both cases while the deficits are optically large on an absolute basis, we believe both are manageable at this point. Comcast's obligations are notably smaller, closer to ~2% of adjusted debt and of little concern to us.

In the technology sector, we see a limited impact given the lack of significant pension obligations and minimal reliance on investment income despite maintaining high levels of corporate cash. One issuer we would point to in the sector with sizable pension obligations is IBM. In IBM's public financials, the company notes that a 25 bps increase or decrease in the discount rate would cause a corresponding increase or decrease in the pension benefit obligation of roughly $1.1bn based on FY2018 data.

Capital Goods – Ginger Chambless

We see a low interest rate environment as being a modest net negative for the Capital Goods sector, due to the impact on pension (under) funding. Many capital goods companies have pensions and other defined benefit plans given their long manufacturing histories. Sustained changes in interest rates influence the discount rate assumptions used by companies to measure their long term pension obligations.

In 2019, rates have rallied about 100bp, with AA corporates now yielding about 3%. This compares with the average discount rate assumption for the 8 largest U.S. Capital Goods pension plans of 4.1% at the end of 2018. GE had the highest discount rate of companies we analyzed at 4.34% while Northrop had the lowest at 3.68%. Most (BA, LMT, RTN, UTX) were in the 4-4.28% area. While discount rate assumptions will be updated at the end of the fiscal year, based on where rates are today, there could be meaningful declines in funding levels. Larger underfunding can lead to higher adjusted debt levels and leverage and the need or requirement to contribute additional cash to pension plans. The largest pension underfunding in our coverage set is GE with $27bn underfunded ($22.4bn pension, $4.8bn OPEB). The next largest pension underfunding is Boeing at $20.3bn (pension $15.3bn, OPEB $5bn), followed by LMT $13.2bn, Siemens $9bn, RTN $6.5bn, NOC $5.8bn, CAT $6.8bn, UTX $3.3bn, and MMM $2.9bn. One mitigating factor to the large pension deficits for the Defense companies is their ability to recoup cash pension costs via contracts with the US government.

Companies disclose the sensitivity to their pension benefit obligations based on changes in certain assumptions, with most including the impact to funding levels based on a 25bp change in discount rates. Assuming all other factors constant, a 25bp decline in discount rate would cause pension liabilities to rise approximately $2bn for GE, $2.4bn for BA, $1.4bn for LMT, €1.15bn for SIEGR, $712mn for RTN, $1.1bn for NOC, $767mn for CAT and $1.1bn for UTX. Unique to GE, it also has exposure to lower interest rates via its Long-Term Care insurance book, which is a legacy part of GE Capital. GE has disclosed that a 25bp decrease in discount rate for its LTC book would cause future policy reserves to increase $1bn on a GAAP basis.

Exhibit 15: Capital Goods Pension Statistics

$, € in millions	GE	BA	LMT	SIEGR	RTN	NOC	CAT	UTX	MMM
Pension (Under) Overfunded	(22,368)	(15,322)	(12,503)	(7,215)	(6,135)	(5,081)	(3,446)	(2,542)	(1,940)
Other Post Retirement	(4,791)	(4,982)	(704)	(600)	(372)	(683)	(3,321)	(790)	(915)
Total	(27,159)	(20,304)	(13,207)	(7,815)	(6,507)	(5,764)	(6,767)	(3,332)	(2,855)
Discount Rate on Liabilities	4.34%	4.20%	4.25%	2.40%	4.28%	3.68%	3.90%	4.00%	3.85%
Impact to pension funding status from 25bp decline in discount rate	2,000	2,408	1,400	1,154	712	1,069	767	1,056	Not disclosed

Source: Company 10-K Filings

Automotive – Jon Rau

In our view the impact of lower interest rates is on net a positive for the automotive credit sector. This is because we believe the demand implications of lower financing

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rates on new vehicle affordability more than offset the negative mark to market on underfunded pension plans. From a consumer demand perspective, lower interest rates are a tailwind to vehicle affordability, all else equal. In 2018, about 85% of new vehicle transactions were financed either through loans or leases. Using prevailing average new vehicle loan amounts, we estimate that a ~100bp change in interest rates has a ~$27 impact on average monthly payments, relative to the 1Q19 average monthly lease/loan payments of $457/$554, respectively. On the other hand, we believe lower rates adversely affect the US automakers from a pension funding perspective. Ford and GM have large defined benefit pension obligations and both companies' pension plans are underfunded (at 6/30, Ford's net pension and OPEB liability was $11.3bn or ~1x of EBITDA and GM's net pension and OPEB liability was $16.2bn or ~0.9x of EBITDA). For context, Ford has noted that a 100bp decrease in both the discount rate and the interest rate on fixed income assets has a net ($2.25bn) estimated impact on the plan's funded status. It is ultimately difficult to measure the demand elasticity benefit from lower rates relative to the negative pension mark-to-market. However, we think investors' concerns with the automotive sector are more centered on cyclicality and the sustainability of the current industry cycle than on automakers' balance sheets, which are in good shape in our view with low pension-adjusted leverage relative to most other IG credit sectors.

Healthcare/Pharmaceuticals – Brett Gibson

Like many other sectors, for Healthcare the combination of absolutely low rates and a flat treasury curve would impact funding costs and potentially help the math on M&A modeling when incorporating debt interest costs into forward projections and the cost of debt into WACC calculations. This may encourage M&A at the margin, but asset values remain high and the perceived business rationale for large deals has dissipated over the years with most large Pharma companies having recently emphasized the fact that large M&A is disruptive to their goals. In addition, smaller and mid-sized deals can typically be financed to a large degree with cash flow generation for many companies, especially post tax reform. Simply put, Healthcare companies have not been constrained in executing on desired M&A in the past and lower rates only modestly changes the considerations. On the other hand, there is limited operating impact from the significant decline in and flattening of rates for the various Healthcare subsectors. Health Insurance is probably the most impacted on a relative basis given the size of investment portfolios, though that impact is relatively small as portfolios tend to have very short durations in order to match the nature of the short-tailed lines on the liability side of the balance sheet. Pharma/Biotech would be the next-most impacted given the size of investments carried on the balance sheets, though portfolios tend to be conservative and weighted to cash/short-term securities. Notably, in the wake of tax reform, many companies substantially reduced their exposures to corporate securities. Devices sit on the low end of exposed companies as they tend to hold even less investments on the balance sheet relative to other subsectors within healthcare. Taking into account all Healthcare subsectors, investment income is not a significant driver of profitability or investor attention.

Transportation – Mark Streeter

Several of our Transportation credits under coverage maintain pension plans that are subject to higher funding requirements in a lower rate environment. Late last week, S&P and Moody's both downgraded UPS from high to mid A (with Moody's maintaining a Negative outlook) in part because of higher pension funding costs than expected going forward. We expect UPS to issue bonds to fund its pension plan during 2H19 (the company explicitly states that "debt-financed accelerated pension funding is expected to be earnings-accretive and credit neutral" based on the difference between PBGC rates and UPS' all-in cost of debt). Earlier this year, American Airlines issued short-dated bonds in order to pre-fund future pension requirements (Delta had done the same in 2017 and 2018). This was despite the fact that the airlines specifically benefit from several rounds of sector specific pension legislative relief (the airlines are allowed to use a 8.85% discount rate and a much longer plan funding period). We would not be surprised if the airlines continue to issue unsecured debt to help fund pensions given current all-in bond rates.

Real Estate – Mark Streeter

REITs, and commercial real estate in general, have historically been viewed as an inflation hedge – higher inflation leads to higher rents. However, lower interest rates are generally favorable for REIT securities in the short term. The obvious lower cost of funding is important for a sector with ~6x debt/EBITDA leverage on average (typically 30-40% debt/book assets). Retained cash flow for most REITs is modest at best given the >90% net income payout test, so lower rates along with open capital markets support the sector's voracious appetite for capital. REIT stocks have demonstrated a strong negative correlation (at least over the short term) to a declining or low rate environment (lower rates = higher REIT stock prices) as the bid for dividend paying stock is stronger when rates are low. Case in point, YTD, the major REIT index is up ~19% vs. broader market at ~16%, with REITs outperforming more as of late (RMZ ~+3% last 90 days vs. SPX essentially flat) while rates have been declining at a faster clip.

Energy – Matthew Anavy

On the back of the recent sell off in rates we see the impacts on the Energy space as minimal with the most likely impact in the midstream space. Historically the Midstream/MLP space was viewed as being very rate sensitive with concerns about higher rates leading to higher costs of capital. With rates now low we see the ability for the space to refinance upcoming maturities at or below existing coupons with the overall trend of deleveraging expected to continue. We do not expect this lower rate environment to encourage companies to stretch or reach for transactions or projects because the cost of funding vie debt has declined modestly. In the Integrated segment we have been expecting some of the supermajors to access the debt market so these new lower rates may be the catalyst required to see them finally tap the market.

Utilities – Kevin Kwan

We expect the recent move in interest rates to have some impact on the Utilities sector. Utilities have historically been sensitive to interest rates given the constant capital requirements for infrastructure development and relatively high debt levels. Several utilities today are focused on transmission and distribution development and we think the lower rate environment could accelerate some refinancing in the space. Utility pension funding levels have been historically low, with median funding of around 78% compared to the 100 largest private sector pension plans, which have funding levels of around 94.5%, according to SEI Institutional. Underfunded pensions are not a new issue for the utilities sector, but an extended depressed rate environment could cause companies to seek more aggressive portfolios in order to mitigate low pension funding levels.

Basic Industries – Jon Rau

We believe lower interest rates have a slightly negative impact on the basic industries credit sector. Leverage trends are moderate for the chemicals sector and even lower for metals & mining companies following years of balance sheet repair. The majority of outstanding debt across the sector is fixed rate in nature as well. We believe lower interest rates are negative in particular for issuers with sizable defined benefit pension obligations and plans that are underfunded. Issuers that fit this bill include DOW, HUN, and PPG whose underfunded pension/OPEB obligations are >0.5x of LTM EBITDA. In our view, the larger concerns for the cyclical metals & mining and chemicals sectors are the factors driving lower interest rates. To the extent lower rates continue to coincide with weaker macroeconomic trends, this "GDP+" sector will come under further pressure.

Consumer Products – Ginger Chambless

We do not expect a low interest rate environment to have much of a direct impact on business or credit fundamentals across the food/beverage/tobacco/household products sectors. These sectors are largely non-cyclical, with demand relatively steady through economic cycles. A low interest rate environment could make debt borrowing rates more attractive which could prompt M&A and/or refinancing activity of higher cost debt. Pension funding levels are not a material factor for most of the names in the sector, which could be adversely impacted by lower interest rates. The five largest pension underfundings across the sector include PG (-$5.65bn), ABInBev (-$2.51bn), PM ($-2.26bn), MO (-$1.83bn), and Nestle (-$1.74bn).

Retail – Ginger Chambless

We do not expect a low interest rate environment to have much direct impact on business or credit fundamentals across the retail sectors. The main drivers of consumer spending at retail are consumer confidence, unemployment, wage growth, and other household costs like healthcare and gas prices. A low interest rate environment could make debt borrowing rates more attractive for retail companies which could prompt M&A and/or refinancing activity of higher cost debt. Most of the investment grade retail companies do not have pension plans, so this is less of a concern.

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