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US Credit Strategy

Where Are We in the Credit Cycle?

MORGAN STANLEY RESEARCH
North America

Morgan Stanley & Co. LLC

Sivan Mahadevan
Sivan.Mahadevan@morganstanley.com
(212) 761-1349

Adam Richmond
Adam.Richmond@morganstanley.com
(212) 761-1485

Peter Mallik

Raj Iyengar

Vishwas Patkar

Ashley Musfeldt

Jeff Fong

Angela Wang

The Key Question

The answer, in our view, is not a simple point on the timeline, but rather an assessment of the key characteristics of this credit cycle; what is different this time; how severe a downturn there might be; what signals to watch for; and finally the investment implications.

The Expansion Phase

Corporate credit is in the 'expansion phase,' where corporate confidence grows and behavior becomes more aggressive. We see very late-cycle behavior in certain areas, for example, the lower quality of new leveraged-finance supply. However, in other ways, markets seem earlier-cycle, with extreme 'animal spirits' lacking thus far, while the US financial system remains healthy, owing to a variety of regulatory and market forces.

What Is Different This Time?

The US economic cycle is over 5 years old, yet GDP growth has underwhelmed, given structural challenges since the financial crisis. Companies borrow at record low yields, and US credit markets have grown significantly. Liquidity, however, has failed to keep pace with smaller dealer balance sheets, a risk when the cycle turns.

Quantifying the Next Default Cycle

Given the growth in corporate credit markets, even average rates of downgrades or default can lead to very large volumes of credits changing hands or defaulting. The magnitude of defaults will depend in part on how much time markets have to grow. Follow the debt growth when searching for the 'problems' this time around.

Valuations

Our models point to slightly rich US IG valuations, attributable mainly to the level of rates. HY is about 120bp rich to 'fair value' and not terribly far from post-crisis tights, adjusting for market differences. We continue to favor IG and loans to HY.

Investment Implications

Later in a cycle, beta is not necessarily the best risk/reward, and credit picking can add meaningful alpha. Rate hikes tend to lead to a bear-flattening Treasury curve, which can have material implications for front-end credit. We are overweight the long end on pension dynamics. Significant debt growth puts Energy and TMT at risk, while Financials remain a top pick given more early-cycle characteristics. Finally, volatility can remain low later in a cycle. We favor hedges in high yield and long risk in mezzanine, rather than equity tranches.

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Executive Summary

1. Where Are We in the US Credit Cycle?

The Key Question: Frequently these days, we are asked about the state and potential path of the current US credit cycle. In our view, providing a simple point on a timeline – such as “the 6th or 7th inning” – is not the answer. Rather, it should be an assessment of the key characteristics of this credit cycle; what is different this time; how severe a downturn there might be; what signals to watch for; and, finally, the investment implications.

The Expansion Phase: We think corporate credit is in the fourth quadrant of our framework (the ‘expansion’ phase), where corporate confidence grows, behavior becomes more aggressive, and we sow the seeds for the next default wave. Timing ‘the turn,’ of course, is the hardest part. We see late-cycle behavior in some areas, for example, in the lower quality of new leveraged-finance supply. However, in other ways, markets seem earlier-cycle: corporates and consumers have not yet demonstrated extreme ‘animal spirits’, while the US financial system remains healthy, owing to a variety of regulatory and market forces.

Feels Like a Mature Cycle: On the surface, given factors like the re-leveraging trend in US investment grade or the lower quality of new leveraged-finance supply, this expansion may seem quite mature. However, there are many aspects of this cycle that are ‘different this time,’ owing to the aftermath of a financial crisis, financial regulation itself, and the ability to borrow at record low rates. All of these factors may extend the duration of the cycle. As one client recently put it***, “I don’t know what inning the cycle is in, but I don’t think it ends in the ninth.”***

The Eventual Downturn: Given the growth in corporate credit markets, even average rates of downgrades or default could lead to very large volumes of credits changing hands or defaulting. The magnitude of defaults would depend in part on how much time markets have to grow and ‘excesses’ have to build. Follow the debt growth, when searching for the ‘problems’ this time around.

Executive Summary

2. What Is Different This Time?

The Economic Cycle: While the US economic cycle is already over 5 years old, cumulative GDP growth has been historically low, owing to the aftermath of a financial crisis. This could imply a very long cycle, absent bubbles or policy errors. Furthermore, global recoveries are not synchronized, which could prevent overheating. However, this cycle also comes with unique challenges, such as how markets navigate the withdrawal of Fed liquidity, particularly given the magnitude of central bank support this time around.

Lots of Debt…: Corporate America has been able to borrow at historically low rates for several years, and has done so in earnest. The US investment grade and high yield markets, already quite large before 2008, have grown significantly since the crisis. While gross leverage has increased as a result, net leverage is considerably lower for large-cap companies due to their stockpiles of cash.

… But at Low Rates: Furthermore, interest coverage remains high given low rates, a clear benefit for balance sheets. However, the 30-year bull market for rates also has its disadvantages. Investors are buying credit in some cases at record low yields, a big risk if and when the secular fixed income bull market comes to an end.

Yield Curves and the Front End: QE has been a major positive technical for credit for many years. The Fed helped fuel significant growth in credit markets, in part leading to flows out of deposits and money markets into short-duration corporates. As a result, valuations are richer here than in most other places in corporate credit. If the yield curve bear flattens (which is common during hiking cycles), we see risks of material outflows.

US Financials: Financials seem ‘earlier cycle’, given the impact of significant regulatory forces. This leaves a large part of US credit markets somewhat disconnected (in a healthier way).

Market Structure: On the positive side, financial leverage in markets is much lower than pre-crisis, US demographics support fixed income and pension flows are material. However, while financial system leverage is low, liquidity is not great. Also, as dealer balance sheets have shrunk, the buy-side has grown, presenting a challenge when the cycle turns.

Animal Spirits Generally Contained, for Now: Capex growth has been subdued and M&A has been dominated more by strategic activity and tax-motivated transactions rather than large LBOs. The low level of rates has encouraged re-leveraging, but IG companies have been inclined to stay IG. How long before companies begin responding to the incentive of low rates and wide-open credit markets in a more material way?

Executive Summary

3. Investment Implications

The Handoff Will Be Bumpy: Given the growth in corporate credit markets, even average rates of downgrades or default can lead to very large volumes of credits changing hands or defaulting.

Financials vs. Energy & TMT: Downturns tend to be most severe for sectors whose debt grew the most in the prior bull market. Financials dominated the 2008 cycle, and Telecom and Technology the 2001 cycle. This time, sectors to watch include Energy and TMT, though the former is going through secular change, which may arguably justify the debt growth. On the positive side, we believe Financials can stay strong late in this cycle as the sector exhibits much more early-cycle behavior, due in part to regulation and deleveraging.

Late Cycle More About Alpha: Beta tends not to be a huge driver of returns later in a cycle, as markets overall have little room to rally. Investors instead are rewarded for diligent credit work and sector selection.

IG Valuations Are OK: Our valuation frameworks point to slightly rich IG valuations, which can be largely attributed to the level of long Treasury rates. As such, we believe the richness is supported by a dovish Fed outlook. In fact, history tells us that IG credit can remain in double-digit territory most of the time in expansionary phases, and we believe that IG benefits from both the demographic demand for fixed income and pension de-risking. Stay underweight the very front end of IG and overweight 3-7 year and the long end.

HY Valuations Are Richer: High yield is about 120bp rich to ‘fair value’ according to our models. In addition, it is important to remember that the market is not the same today as pre-crisis. Adjusting for the differences, HY spreads are close to pre-crisis tights. Loans are cheaper, we think around 10bp cheap to ‘fair value’ at an index level, though they face other challenges.

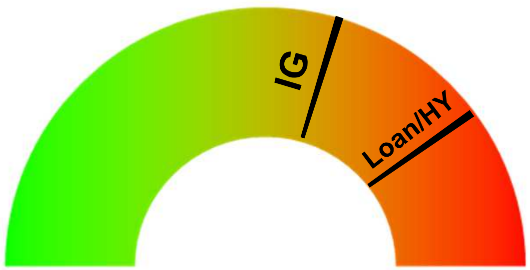
Mezzanine Rather than Equity Tranches: In structured credit markets, given some of the potential idiosyncratic risks and tight pricing on equity tranches, we prefer long positions in mezzanine tranches, which can benefit from a low-beta, credit-picking environment.

Low Volatility and Where to Hedge: Volatility can often stay low for years toward the end of a cycle, thus low-vol strategies can add to alpha. However, for investors looking for tactical market hedges, we believe that OTM puts in CDX HY offer the most compelling hedging value in US credit markets.

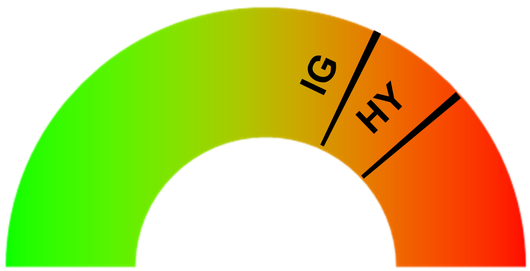
Executive Summary

4. Credit Cycle Visual Summary

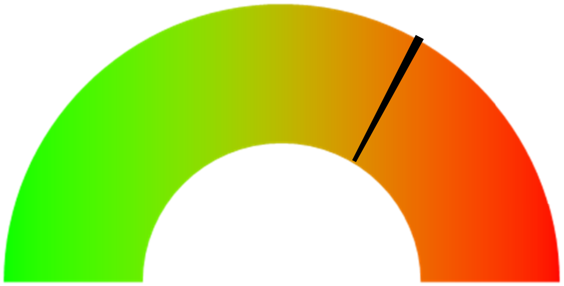
Credit/New Issue Quality



Valuations



Summing It Up



Leverage in the System

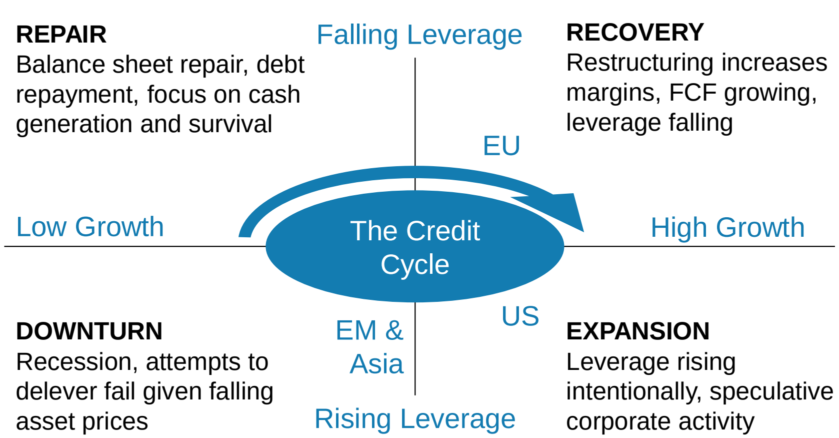
Corporate/Consumer ‘Animal Spirits’

Putting the Current Credit Cycle in Context

Putting the Current Credit Cycle in Context
The Four Stages of a Typical Credit Cycle

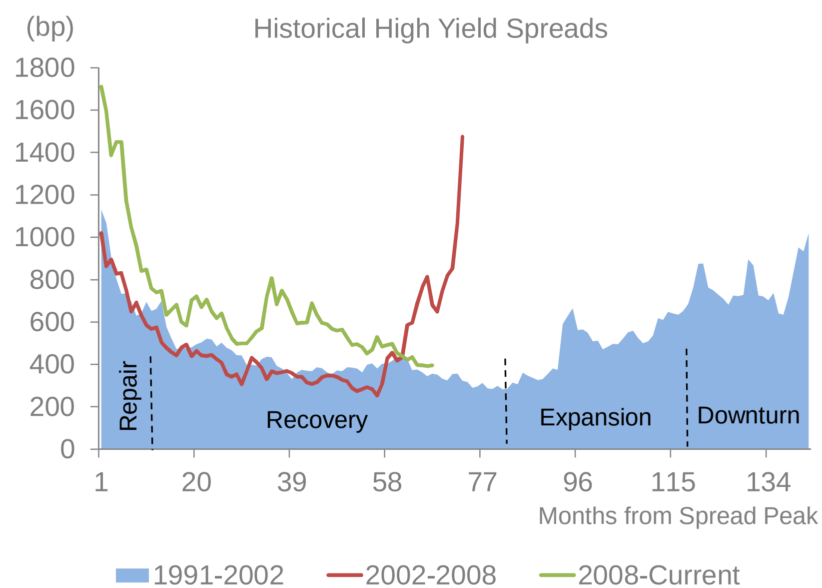
- Credit cycles typically have four phases: 1) Repair – companies focus on balance sheet quality; 2) Recovery – economic growth picks up while leverage continues to drop, an ideal environment for credit; 3) Expansion – corporates get aggressive with balance sheets, voluntarily increasing leverage; 4) Downturn – leverage rises as earnings unexpectedly decline.
- Markets are not synchronized globally. Conditions are most credit friendly in Europe, while many regions in Asia/EM are struggling with slowing growth and rising leverage. The US is somewhere in between. As corporate confidence grows, we believe conditions will feel increasingly 'late cycle,' consistent with historical 'expansions.'
- The credit bull market in the 1990s was atypical in its length. As the current cycle continues (already surpassing the last cycle in duration), a 1990s repeat becomes more probable.

The US Likely in the 'Expansion' Phase



Source: Morgan Stanley

Is this Cycle a Repeat of the 1990s in Length, or Is a Turn Near?



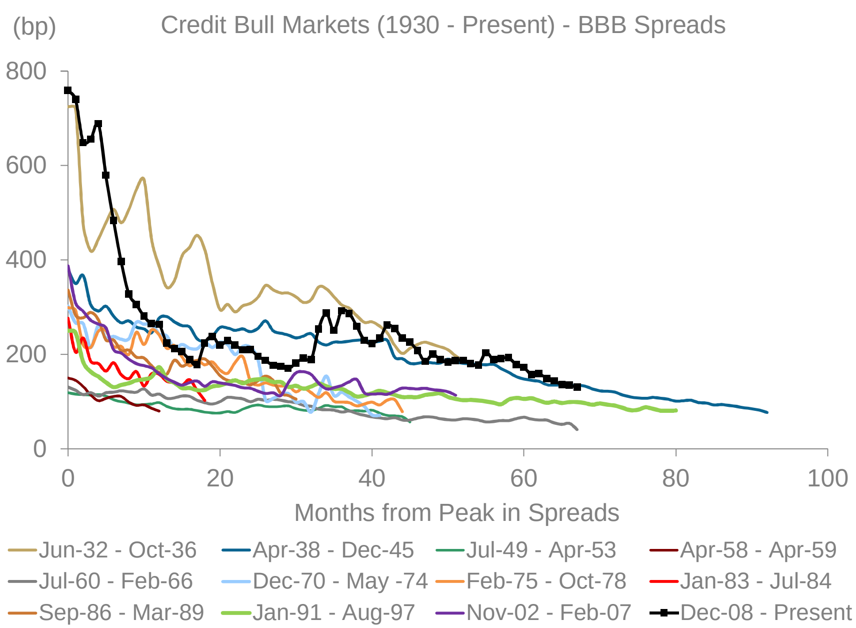
Source: Morgan Stanley Research, the Yield Book

Putting the Current Credit Cycle in Context

Historical Bull Markets in Credit, Over the Last Century

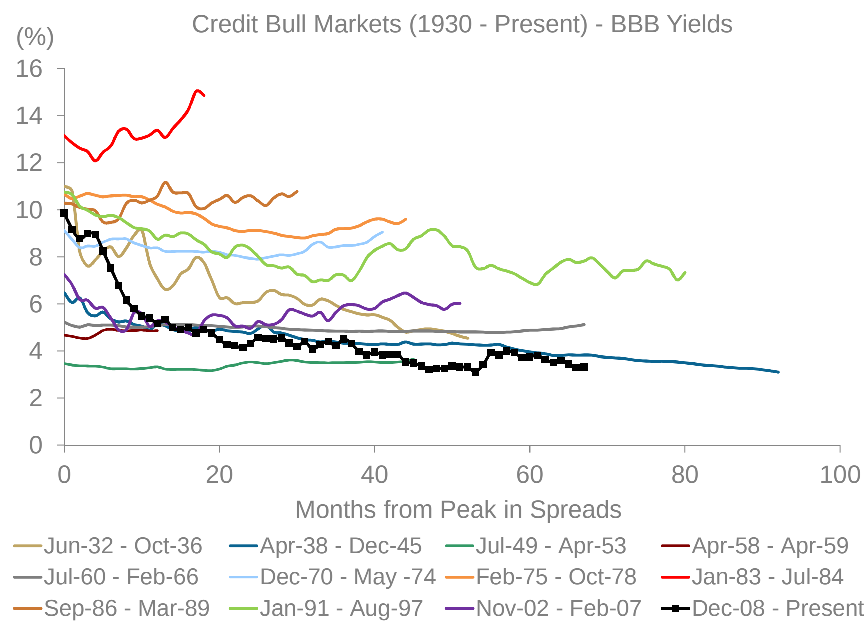
- If this bull market in credit were to end tomorrow, it would be longer than all but two prior cycles (12 total, present included).
- However, it would also end at a wider spread level than all but one prior cycle. That said, yields today are well below those during most prior bull markets, an important point when comparing valuations throughout history.

This Credit Cycle Is Now Longer Than Most, Though Spreads May Have Room to Compress



Source: Morgan Stanley Research, the Yield Book, Moody's, Bloomberg

However, the Historically Low Level of All-in Yield Could Limit the Magnitude of Spread Tightening



Source: Morgan Stanley Research, the Yield Book, Moody's, Bloomberg

Putting the Current Credit Cycle in Context
Economic Cycles and Spikes in Defaults

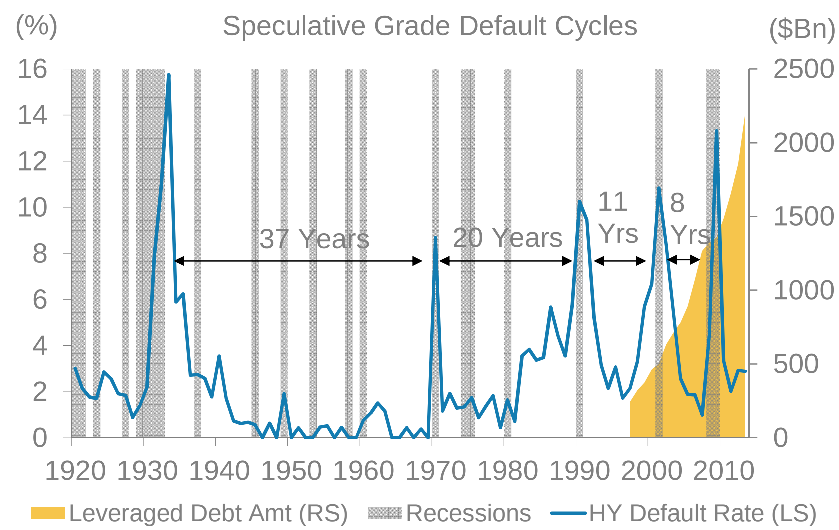
- Although we continue to feel the aftereffects of the 2008/09 credit crisis, at 61 months, this economic recovery/expansion is now much longer than the post-war median of 45 months. However, periods in between recessions have ranged from 1-10 years, a fairly wide distribution.
- There are logical arguments for another long economic cycle. This recovery has been fairly weak, preventing the typical ‘animal spirits’ that often coincide with a peak from building up as quickly this time (more below).
- Defaults in high yield are binary. They spike and then stay low for many years. Default spikes always come in or after a recession, but recessions do not have to coincide with a spike in defaults. For defaults to spike, we believe you need both a cycle of ‘excessive lending’ and then a recession.
- Default waves have been getting closer together over time, coinciding with the growth in leveraged finance markets, even though recessions have occurred less frequently in modern history.

This Economic Cycle Has Lasted 61 Months So Far (Median of 45)

Peak	Trough	Contraction Peak to Trough	Expansion Trough to Peak
Nov-48	Oct-49	11	37
Jul-53	May-54	10	45
Aug-57	Apr-58	8	39
Apr-60	Feb-61	10	24
Dec-69	Nov-70	11	106
Nov-73	Mar-75	16	36
Jan-80	Jul-80	6	58
Jul-81	Nov-82	16	12
Jul-90	Mar-91	8	92
Mar-01	Nov-01	8	120
Dec-07	Jun-09	18	73
Current Cycle			**61**
1945 - 2009 Median		***10***	***45***

Source: National Bureau of Economic Analysis

Default Spikes Becoming More Frequent, Even as More Time Passes Between Recessions



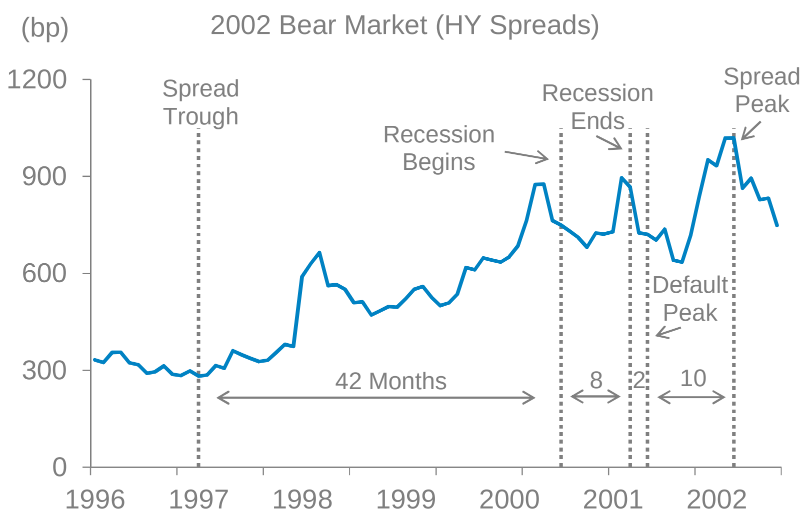
Source: Morgan Stanley, Moody’s, S&P LCD

Putting the Current Credit Cycle in Context

A Timeline of Spreads, Defaults and Recessions

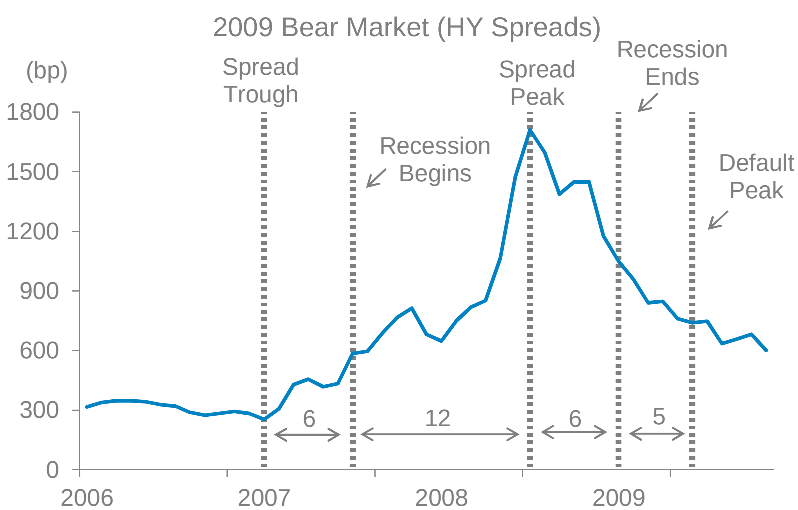
- An important point when thinking about a credit cycle: Spreads typically trough before the recession hits and well before the spike in defaults. The market is the best leading indicator.
- As a result, buying credit because defaults are low will not always work. The year spreads trough, defaults will also be low. In the 2002 bear market, spreads troughed about 4.5 years before defaults finally peaked.
- In the 2009 bear market, spreads bottomed 2.5 years before defaults topped. In fact, buying around the time when defaults are most severe has historically been a winning strategy.
- So those buying credit today need to believe defaults will be low for the next few years, not just this year.

A Long Lag in the Late-90s Between the Spread Trough and the Default Peak



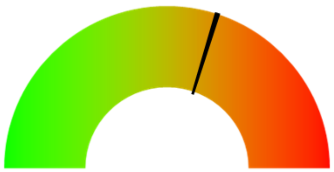
Source: Morgan Stanley, the Yield Book, Moody's, NBER

In the 2009 Cycle, Spreads Bottomed 2.5 Years Before Defaults Topped



Source: Morgan Stanley, the Yield Book, Moody's, NBER

Where Are the Extremes, and How Is This Cycle Different?



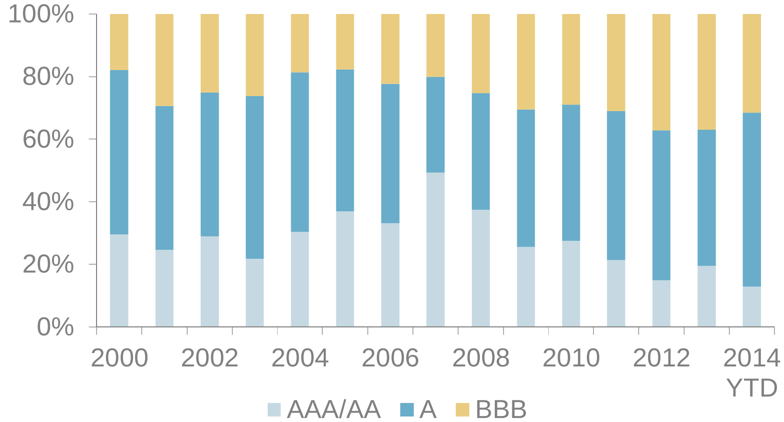
Where Are the Extremes and How Is This Cycle Different?

Credit Quality of New Issuance Fading in IG

New issue quality has fallen and along with past downgrades has precipitated a significantly lower average rating in the IG index. BBB new issuance (as a percentage of total issuance) in 2013 reached 20-year highs, although this year's levels are somewhat lower, with BBB new issuance (as a percentage of total rated IG issuance) at approximately 30%.

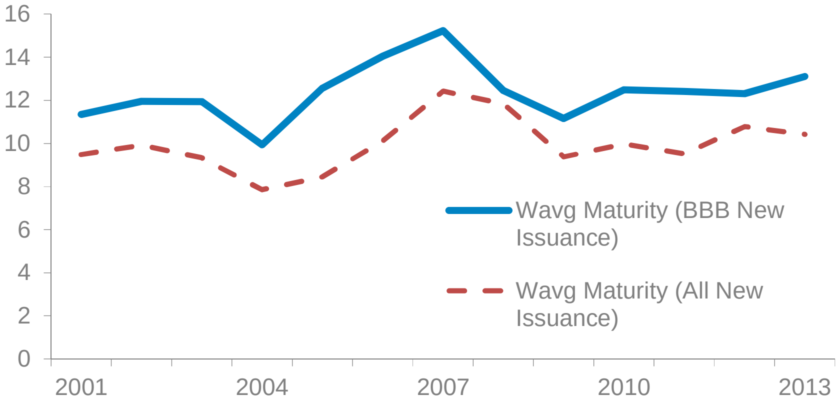
BBB issuance is increasingly longer dated and from higher-beta sectors. Telecom, Oil & Gas, and Metals / Mining made up a disproportionate share of lower-quality new issuance, which suggests that in a bear-case scenario, this cohort may have greater downside.

New Issue Quality Has Deteriorated

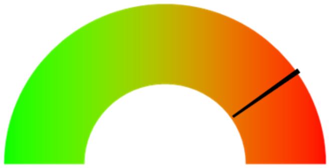


Notes: Chart only includes IG rated debt by S&P. Source: Morgan Stanley Research, Yieldbook, Bloomberg, Deal Logic.

BBB Issuance Is Longer Dated…



Notes: The bottom chart dashed line includes all new issuance including non-rated. Source: Morgan Stanley Research, Yieldbook, Bloomberg, Deal Logic.



Where Are the Extremes and How Is This Cycle Different?
Loan/HY Credit Quality Getting Increasingly Weaker

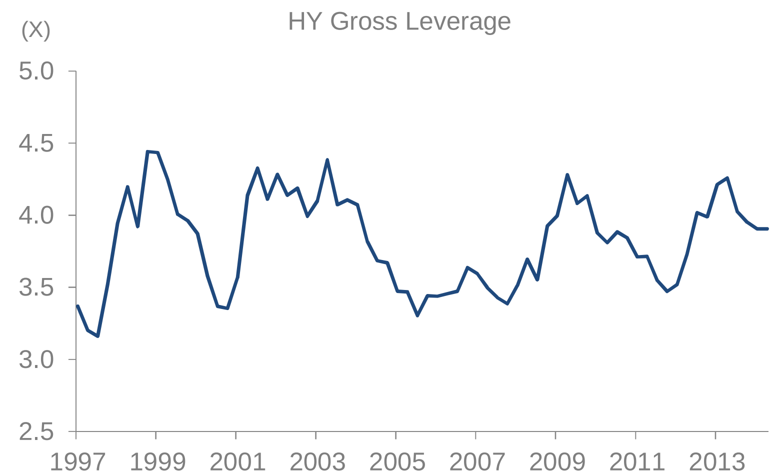
- While each statistic below – such has the high volume of cov-lite issuance – may not be a problem by itself, taken in aggregate, new issue quality has clearly deteriorated. In fact, as we show below, new issue quality is likely somewhere between 2006 and 2007 levels, in aggregate.
- As the cycle progresses, corporate confidence should grow, and investors will continue reaching for yield, driving lower credit quality, as is typically the case in an expansion.
- Balance sheet leverage also rose fairly quickly from the end of 2011 to the middle of 2013 as lackluster EBTIDA growth did not keep pace with fairly robust increases in total debt. Leverage has dropped modestly though over the past few quarters in high yield.
- However, other balance sheet metrics look better. For example, interest coverage is elevated as companies have been able to refinance at very low interest costs.

New Issue Quality Has Deteriorated

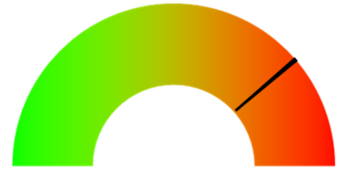
	2006	2007	2014
Cov-Lite Percentage	7.4%	25.0%	61.4%
Cov-Lite Absolute ($Bn)	23.6	96.6	298.2*
Cov-Lite Sr Debt/ EBITDA	4.08x	4.99x	5.14x
Cov-Lite Loans Rated Single B	24.5%	32.7%	51.4%
Debt Cushion below First-Lien Covenant Loans**	33.2%	33.2%	21.1%
Large LBO Loan Leverage	5.43x	6.23x	5.6x
MM LBO Loan Leverage	4.72x	5.61x	5.2x
PIK-Toggle Volume ($Bn)	4.6	15.7	8.6*
Equity Contributions for LBOs	33.3%	32.9%	37.0%
Dividend/Buyback Loan Volume ($Bn)	40.3	38.2	63.1*
2L Loan Volume ($Bn)	28.3	30.1	48.2*
CCC Bond Issuance	13.5%	23.6%	11.7%
HY Bond Refinancing Volumes	38.7%	38.1%	54.5%
LBO Volumes ($Bn)	233.0	433.7	178.5*

Source: Morgan Stanley Research, S&P LCD, Moody's
Notes:
*These numbers annualized by multiplying 1H14 numbers by 2.
**Debt cushion for '06/'07 is 2005-2010 average.

Balance Sheet Leverage Is Elevated but Off Peaks

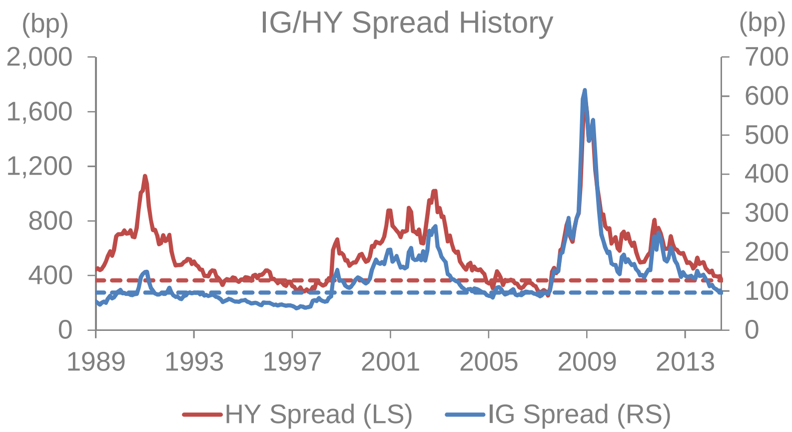


Source: Morgan Stanley Research, Bloomberg



Where Are the Extremes and How Is This Cycle Different?
HY Valuations Close to Prior Cycle Troughs

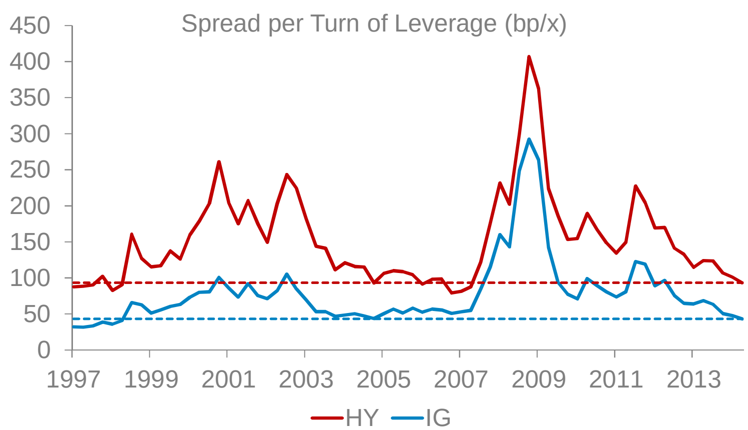
Credit Spreads Near Pre-Crisis Tights



Source: Morgan Stanley Research, the Yield Book

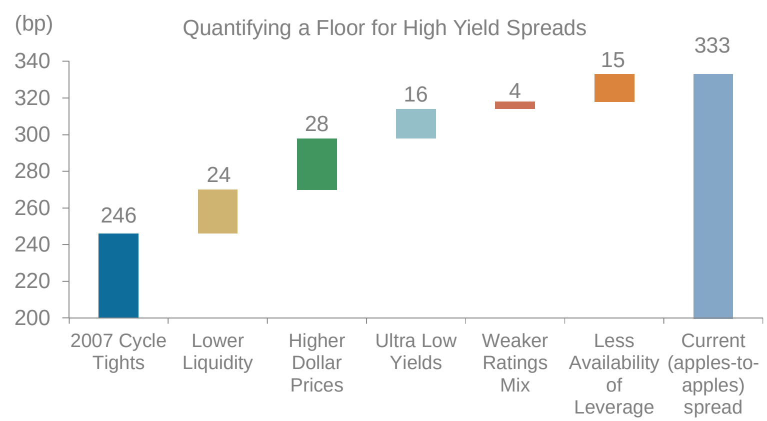
- Credit spreads are at post-crisis tights, and getting closer to pre-crisis tights.
- Leverage is higher today than in 2007, so 'leverage-adjusted,' spreads are even lower, relative to history. HY is about 120bp rich to 'fair value' according to our work.
- However, valuations can clearly remain at or through current levels for a long period of time.
- In our view it is important to note that comparing today's spreads to those in the mid-90s or in 2007 is not apples to apples. The market has changed. Different prices, yield levels, rating mixes, liquidity backdrops, etc., need to be considered.
- Loans are considerably cheaper than HY, we think around 10bp cheap to 'fair value' at an index level.

Adjusted for Leverage, Spreads Even Tighter

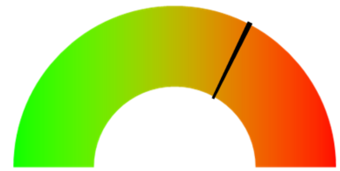


Source: Morgan Stanley Research, the Yield Book, Bloomberg

Today's Credit Market is not the Same as 2007



Source: Morgan Stanley Research, the Yield Book, Bloomberg, Markit



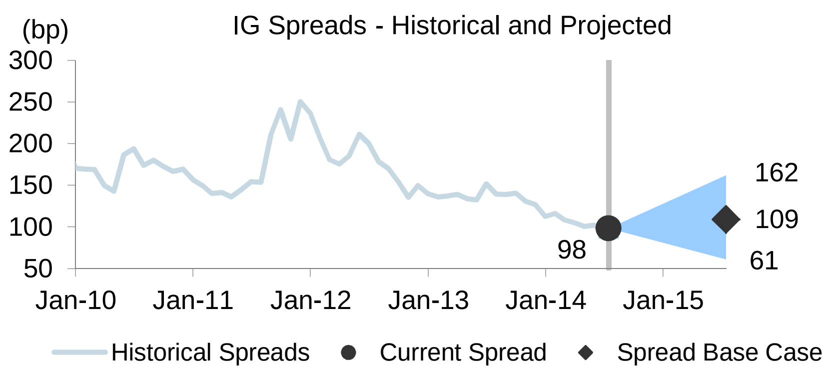
Where Are the Extremes and How Is This Cycle Different?

Macro Conditions Indicate IG Valuations Are Tight

While valuations are tight, IG credit will likely remain a decent 'carry trade,' according to our model. However, we acknowledge that our model is based on input projections, which rarely inflect ahead of the cycle turn. Therefore, we remain vigilant about changing inputs and highlight our bear case as a possible outcome if conditions deteriorate significantly.

Long-end bond technicals (outside our model) are a unique aspect of the current market and support current valuations. De-risking flows from defined-benefit corporate pension plans remain a long-term technical support for long-duration fixed income markets. While recent asset allocation trends affirm this view, lower long-end yields coupled with changes in actuarial guidelines are impacting the funded status of the largest plans and could have a meaningful impact on the trajectory of these flows in the coming months.

Modestly Overweight IG Credit Given Expectations for Positive Excess Returns (1-Year Forecast)



Source: Morgan Stanley Research estimates, Bloomberg, Yieldbook

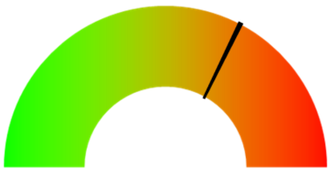
IG Spread Model Inputs Based on MS Forecasts

Factor	Bull Case	Base Case	Bear Case	Factor Sensitivity
Balance Sheet Leverage	2.10x	2.20x	2.30x	+0.3x
GDP Growth QoQ (%)	3.7%	2.8%	2.3%	-0.5%
S&P 500 Fwd EPS ($)	$128	$123	$118	-3.6%
10-year UST Rate (%)	3.55%	3.10%	2.15%	-0.4%
Primary Dealer Financing ($Bn)	78.7	78.6	78.4	-1.9%
3m S&P 500 Implied Variance	13%	14%	17%	+9.9%
Spread Projection (bps)	61	109	162	10

Source: Morgan Stanley Research estimates, Bloomberg, Yieldbook

Where Are the Extremes and How Is This Cycle Different?

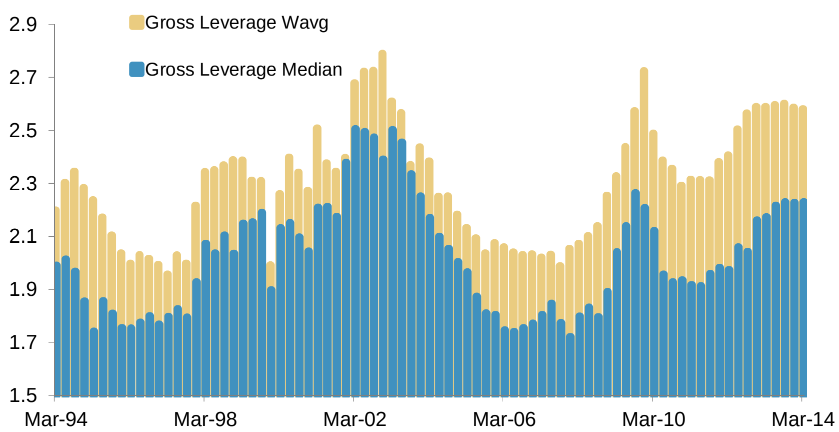
IG Non-Financials Fundamentals: Some Late-Stage Signs



The later stage of a cycle typically coincides with substantial debt issuance, still positive but peaking earnings, and riskier corporate behavior. Currently, IG fundamentals are consistent with these trends as leverage had been increasing (before flattening recently as earnings growth is finally catching up to issuance). In addition, margins remain healthy but have moved sideways in the last quarter.

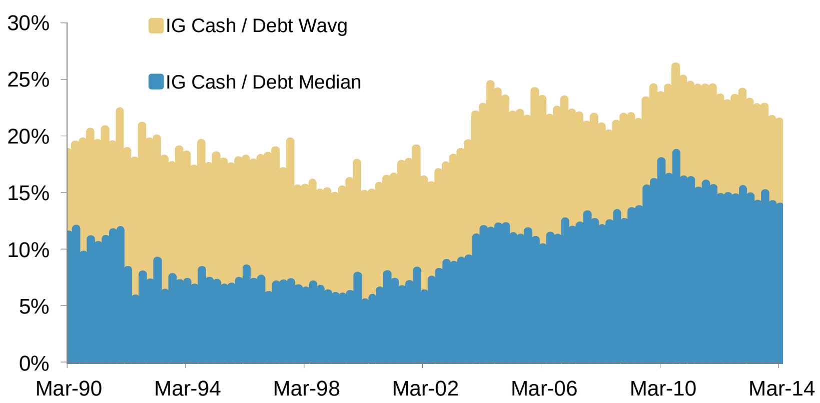
Firms have issued prolifically, in part given the low level of rates. So far this year, gross issuance ($655Bn YTD) is on pace to match or exceed last year's total of over $1tn. Much of this debt has been held on balance sheet in cash. Firms did this initially to help insulate balance sheets against systemic risks, although now they are using issuance for riskier purposes.

Gross Leverage Is Elevated…

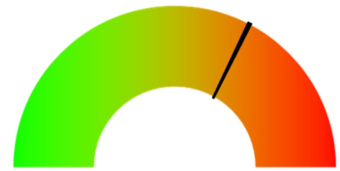


Notes: Gross leverage is Total Debt / LTM EBITDA
Source: Morgan Stanley Research, Yieldbook, Bloomberg.

…And Cash to Debt Is High But Falling



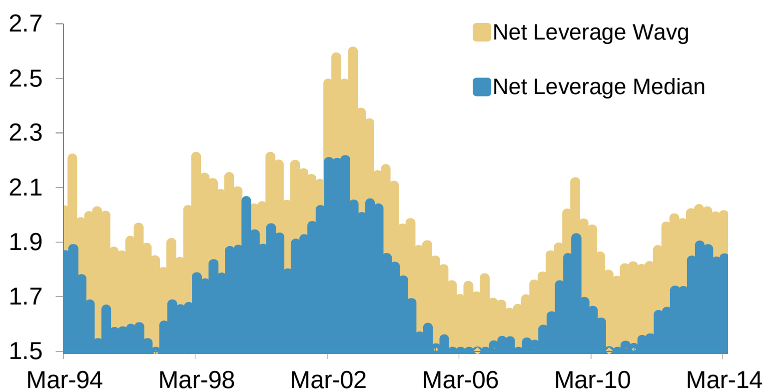
Source: Morgan Stanley Research, Yieldbook, Bloomberg.



Where Are the Extremes and How Is This Cycle Different?

IG Firms Look Healthier in Other Regards

Net Well Below Gross Leverage



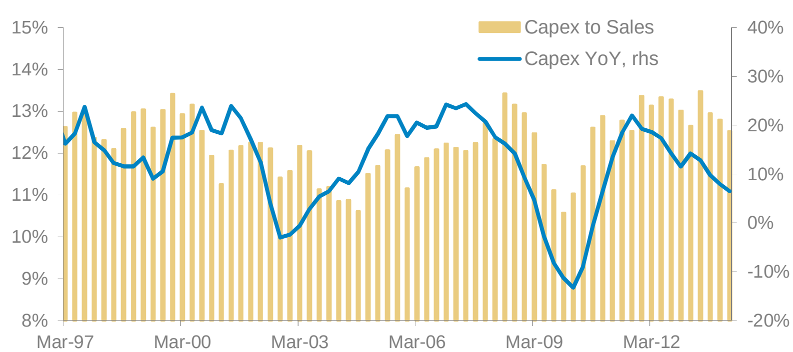
Notes: Net leverage is (Total Debt less Cash) / LTM EBITDA.
Source: Morgan Stanley Research, Yieldbook, Bloomberg.

Although balance sheets have weakened, there are buffers. For example, firms have large cash balances. In addition, interest coverage may remain high given ultra low yields.

Net leverage looks better than gross. The 2002 business cycle trough coincided with deterioration in over-levered sectors (TMT, Autos). These firms did not enjoy the cash balances of present day issuers. Therefore, if a 2002 earnings-driven recession were to play out today, the impact would not be as severe in our view.

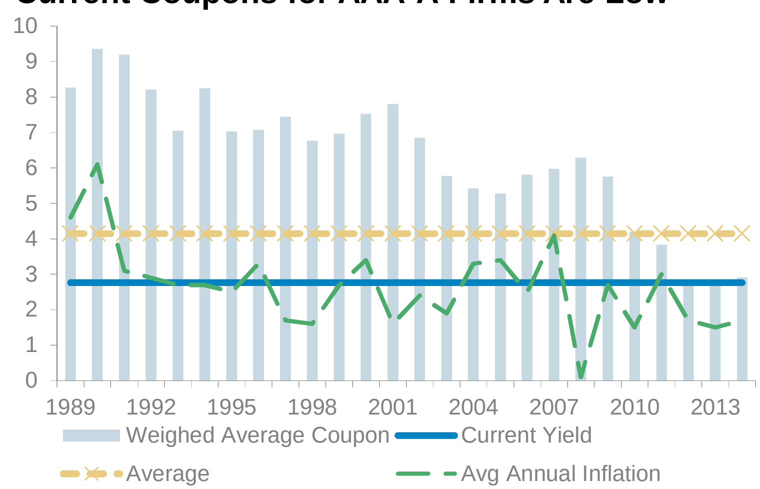
Corporates maintain spending discipline. Capital expenditures growth has been positive, but has declined from its recent peaks.

Capex Growth Generally Weak



Source: Morgan Stanley Research, Yieldbook, Bloomberg.

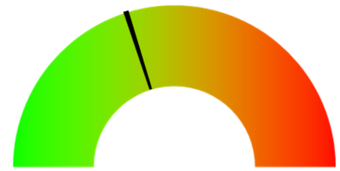
Current Coupons for AAA-A Firms Are Low



Source: Morgan Stanley Research, Yieldbook, Bloomberg.

Where Are the Extremes and How Is This Cycle Different?

IG Financials Feel Much Earlier Stage

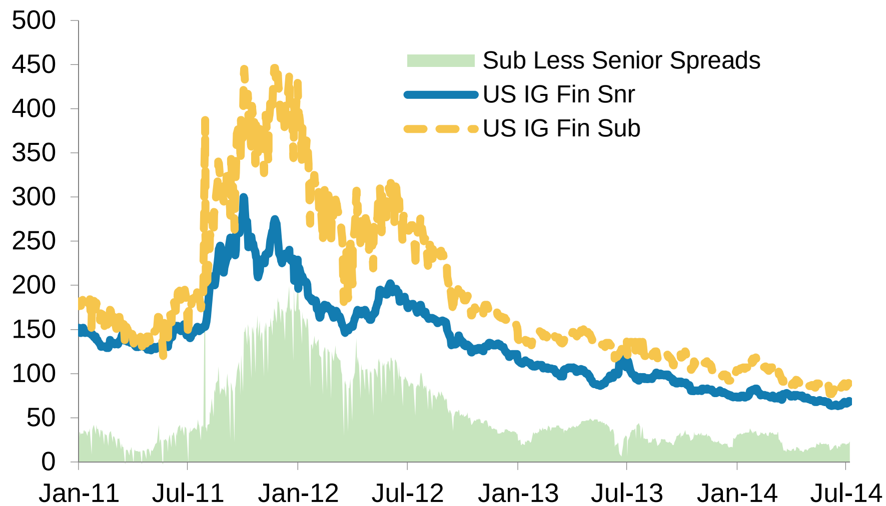


On the other hand, Financials' fundamentals have improved as banks have de-levered significantly. Risk-weighted assets have fallen, while capital ratios have risen in the years immediately after the crisis. Now these ratios have stabilized somewhat, while firms have returned to profitability, suggesting that Financials may be earlier in the broader cycle. CCAR, Dodd-Frank, and rating agency vigilance have all contributed to more conservative balance sheets.

Financials may continue to lead the index. At one-fifth of the amount outstanding and trading volume, banks, specifically, tend to lead the market. Financials have recently traded through the broader index, and fundamentals suggest the sector may continue to trade defensively.

Not all parts of the market warrant tight valuations. Sub-debt has rallied significantly and now trades nearly on top of senior. Since the financial crisis, banks have been incented to issue to build up capital reserves. Regulators have looked favorably on sub-debt issuance because it provides another indicator of the market's outlook on credit risk for a specific bank. We have valued the relative spreads of senior vs. sub for several banks previously and found that using a variety of techniques, the two should trade at a significantly larger differential (~75-100bp instead of the ~25bp today).

Financials Sub Trades Near Senior Spreads…

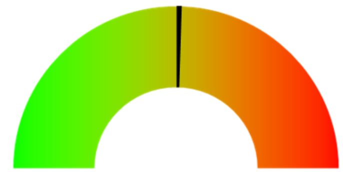


Notes: Time series is for the America IG senior index less sub index
Source: Morgan Stanley Research, Yieldbook, Bloomberg, Deal Logic.

…While Valuations Indicate They Should Trade Wider

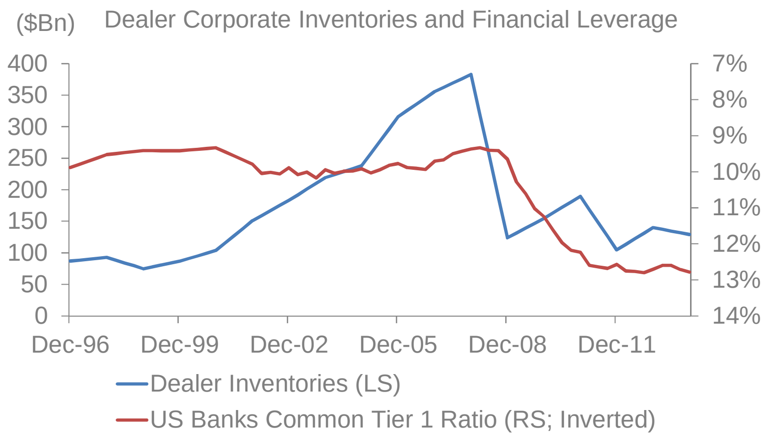
Results	HoldCo Sen Spreads (bp)	HoldCo Sub Spreads (bp)	Sen / Sub Difference	Sen / Sub Ratio
Actual				
Pre-Crisis	15-100	25-150	0-50	1.0-1.7x
Crisis	100-700	200-1000	10-450	1.2-3.0x
Today	60-115	90-155	30-45	1.3-1.5x
Merton Framework				
Baseline 1	28-141	104-307	75-167	2.2-4.3x
Baseline 2	46-155	60-181	21-50	1.1-1.5x
CCAR	191-351	494-700	303-350	1.9-2.9x
OLA (Sen)	33-149	120-323	77-163	2.1-3.3x
OLA (Sub)	33-149	104-307	71-157	2.1-3.2x
Risk Neutral Securitization Framework				
Baseline	40-110	150-250	110-140	2.2-3.5x
CCAR	500-650	900-1100	340-430	1.5-1.8x
OLA (Sen)	35-105	150-250	115-145	2.4-4.0x
OLA (Sub)	35-100	125-225	95-125	2.3-3.9x

Notes: For Merton framework, baseline 1 uses only Opco and Holdco debt, while baseline 2 uses the entire debt complex. Sub spreads are from a representative bond with duration near 5y senior CDS duration. Source: Morgan Stanley Research, Bloomberg.



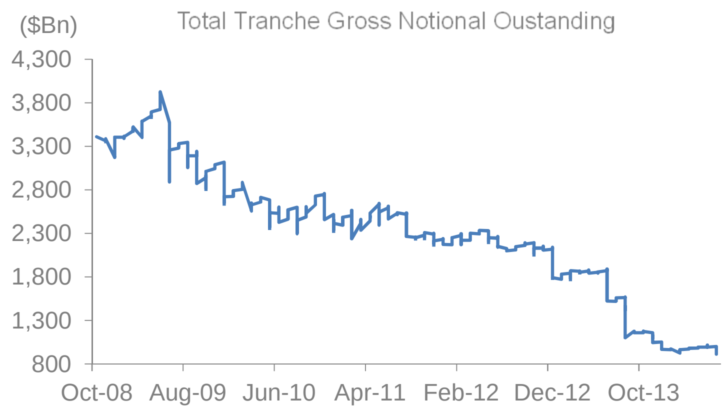
Where Are the Extremes and How Is This Cycle Different?
Financial System Leverage Well Below Pre-Crisis

The Banking System is Far Less Leveraged Today…



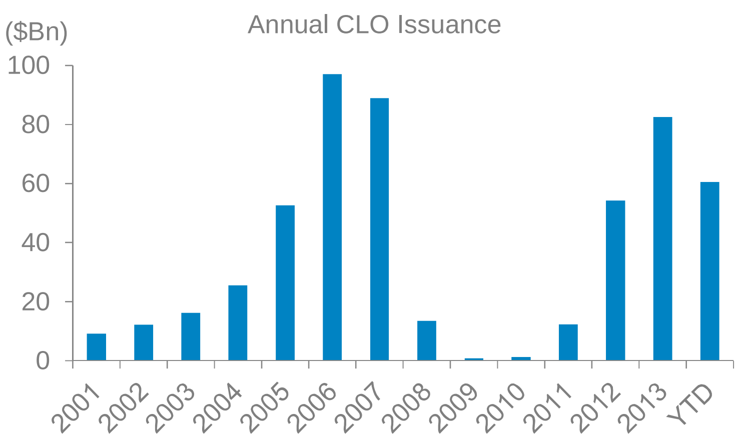
Source: Morgan Stanley Research, Bloomberg, Federal Reserve

…And the Use of Synthetic Products in Certain Forms Does Not Exist Nearly to the Same Extent



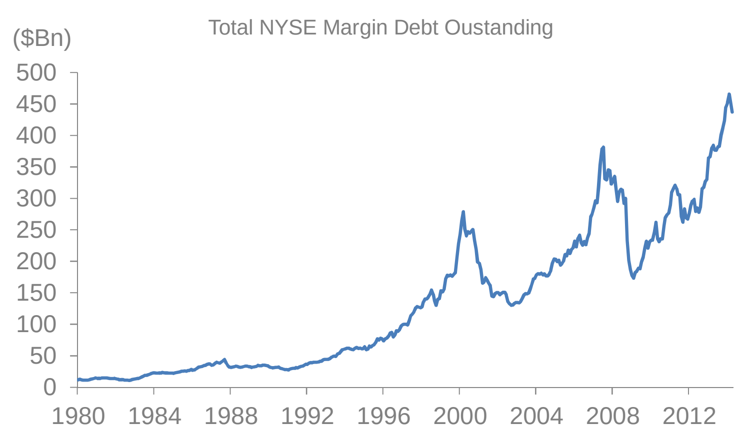
Source: Morgan Stanley Research, DTCC

However, the Use of Structural Leverage has Come Back in Pockets of Markets…

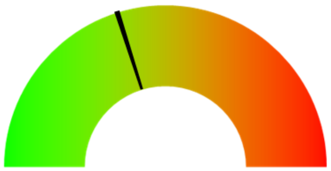


Source: Morgan Stanley Research, S&P LCD

…And the Use of Financial Leverage Has Returned in Others

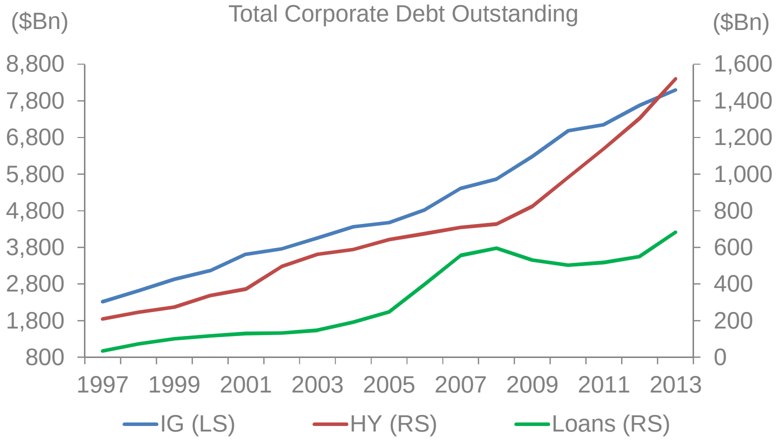


Source: Morgan Stanley Research, Bloomberg



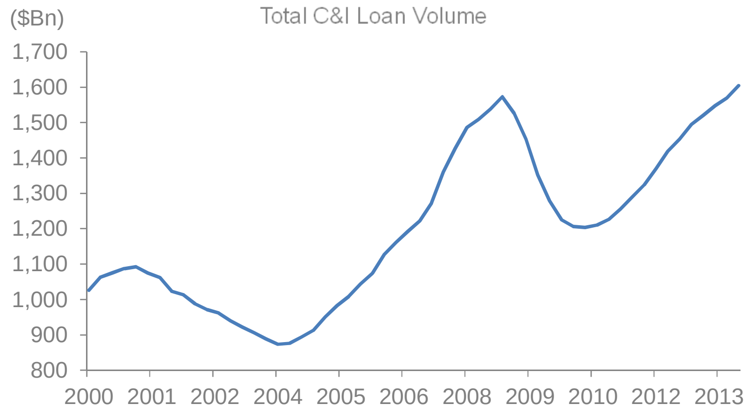
Where Are the Extremes and How Is This Cycle Different?
'Animal Spirits' Still Generally Contained

Corporate are Increasing Total Debt



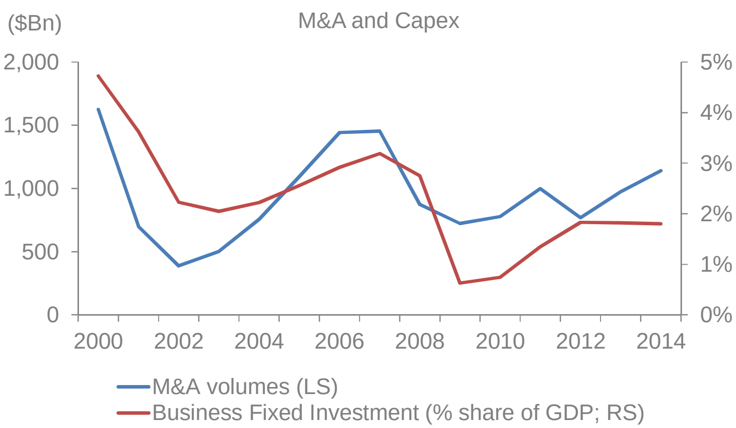
Source: Morgan Stanley Research, the Yield Book, S&P LCD, SIFMA

Loan Growth in General Moving Higher



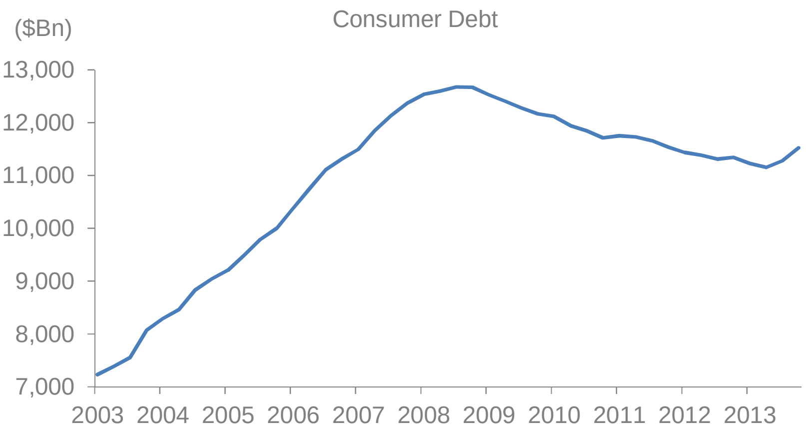
Source: Morgan Stanley Research, Federal Reserve, Datastream

However, Corporates Behavior Still Relatively Conservative in Aggregate…



Source: Morgan Stanley Research, Bloomberg, NBER

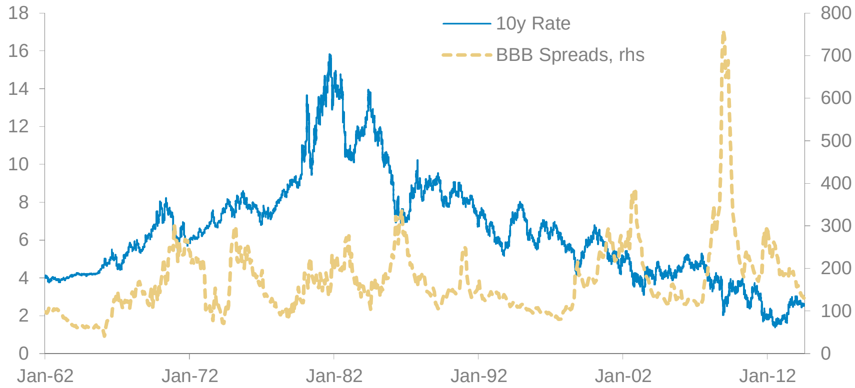
…And Consumers Just Coming Out of Hibernation



Source: Morgan Stanley Research, FRBNY Consumer Credit Panel, Equifax

Where Are the Extremes and How Is This Cycle Different?
Credit Spreads Have Tightened, Despite Uniquely Low Rates This Cycle

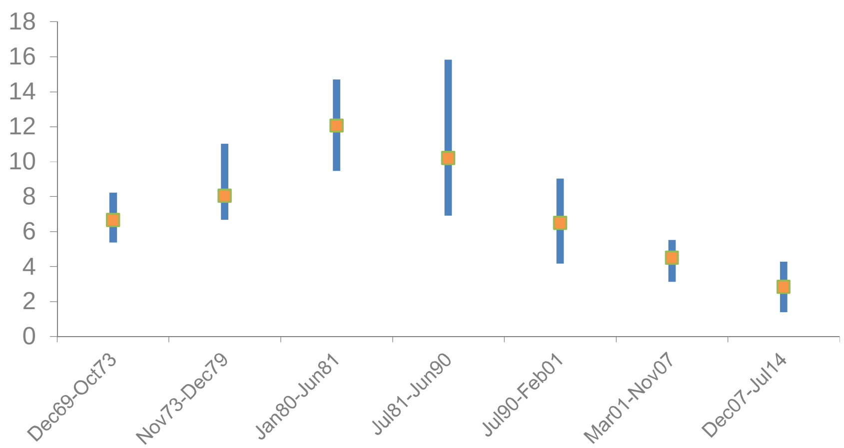
10y Rates vs BBB Spreads



This cycle has been unique given the extent and magnitude of Fed stimulus, encouraging investors to move out the risk spectrum. As such, rates and spreads have rallied in concert, unusual for short timeframes.

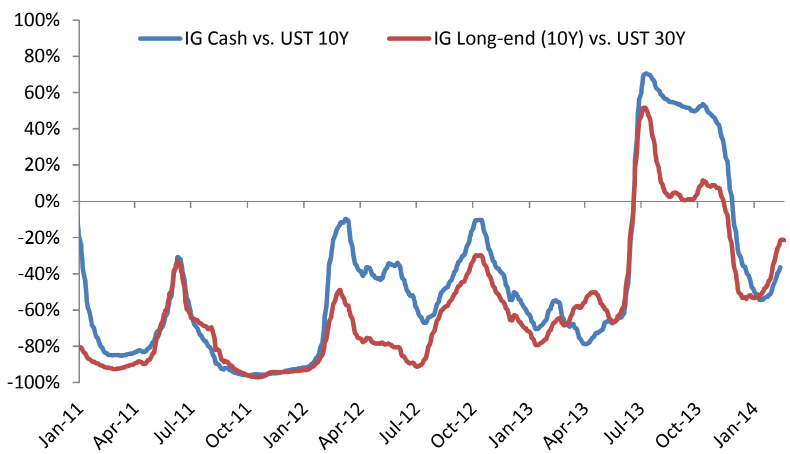
Rates/spread correlation has returned to normal. However, should the Fed get worried about inflation and/or bubbles and change rhetoric accordingly, higher rates may be credit negative. As such, we could get a replay of the summer of 2013 when the rates/ spread correlation was positive.

Rates This Cycle Have Been Much Lower



Notes: For 10y rates
Source: Morgan Stanley Research estimates, Bloomberg, Yieldbook

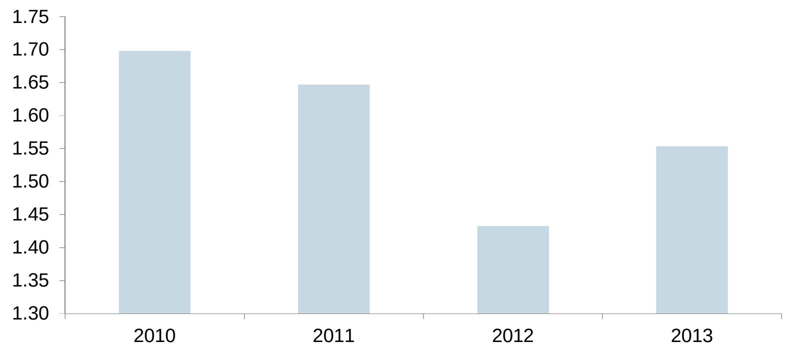
Rates vs. Spreads Correlation (6m Trailing)



Source: Morgan Stanley Research, Yieldbook, Bloomberg.

Where Are the Extremes and How Is This Cycle Different?
The Liquidity Profile May Be Shallower

Average Monthly Trade Size by Year Fell ($MM)…

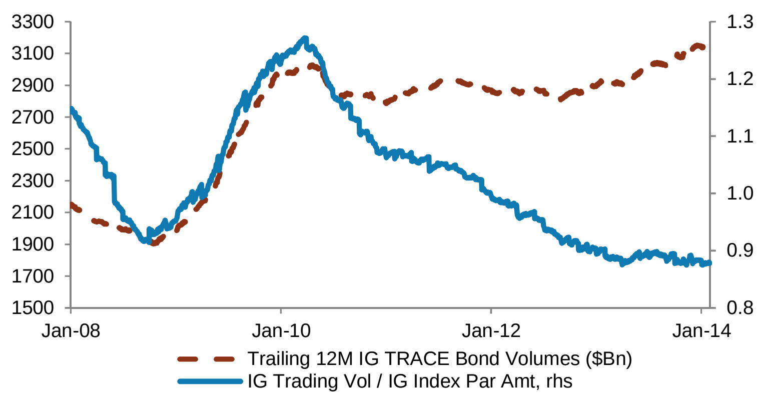


Notes: For trades with >$100K size. Source: Morgan Stanley Research, Market Axess.

More trading, but a bigger market: Trading volumes for bonds have increased 50% since 2008 but have not outpaced debt growth, leading to lower market turnover. In response, investors are using more transactions (+53% since 2008) and lower block sizes. Bid-ask quotes have fallen steadily since the crisis (but are marginally wider than pre-crisis), with margins falling from 35bp in 2008 and 17bp in 2010 to 8bp currently (according to FINRA Trace data).

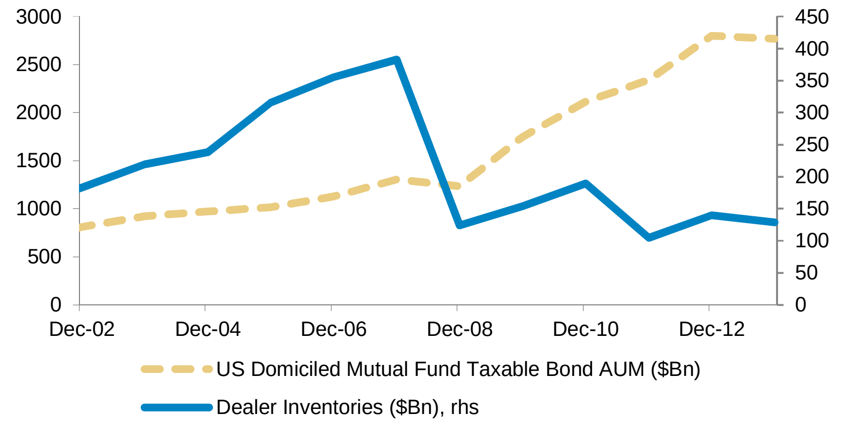
In a sharp sell-off, liquidity may fall precipitously. With sell-side inventory-absorption capacity much lower than pre-crisis, combined with the growth in credit markets, market liquidity could dry up more quickly than in the past, with meaningful impacts on credit valuations.

…As IG Volumes Traded Rose Post-Crisis, But Are Still Outpaced by Market Size



Notes: 12m trailing volumes are a rolling daily sum over the past 250 business days. IG index par amount is for the Citi BIG corporates index.
Source: Morgan Stanley Research, Bloomberg, FINRA Trace, Yieldbook

Dealer Inventories Shrinking as the Buy Side Grows

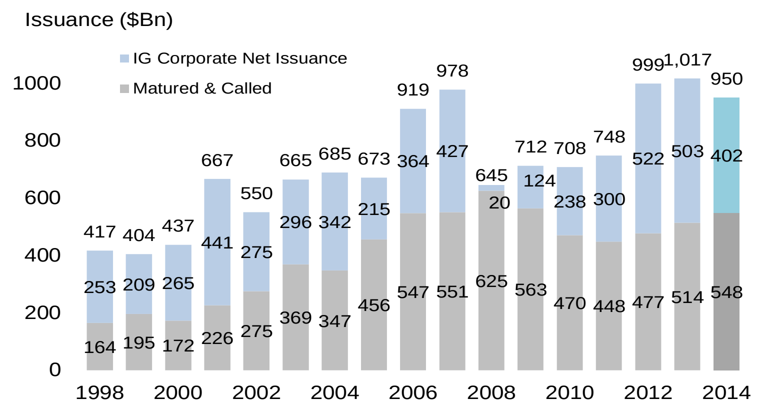


Notes: Mutual fund data includes taxable bonds. Source: Morgan Stanley Research, ICI, Bloomberg, Federal Reserve.

Quantifying the Next Downgrade/Default Wave

Quantifying the Next Downgrade/Default Wave
IG Credit Markets Have Grown Substantially Since The Last Cycle

Issuance Has Exceeded the Peak from Last Cycle

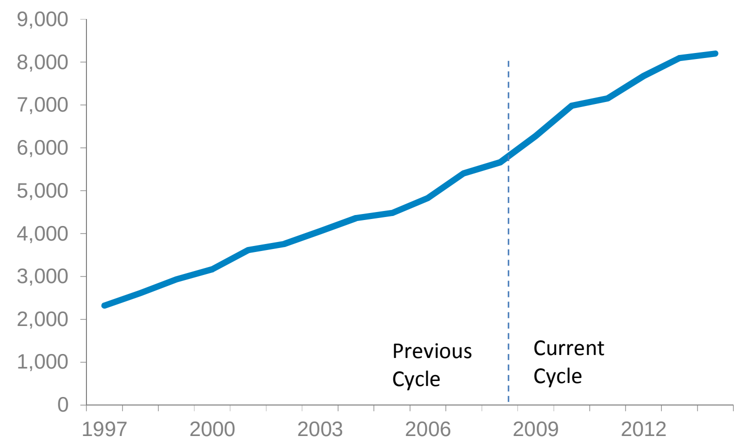


Source: Morgan Stanley Research Estimates, Bloomberg, Yieldbook.

The IG market has more than doubled in size since 2001: In 2001, the amount outstanding was $3.6tn. At the start of this cycle (2009), the amount outstanding was $6.3tn, while currently the IG market stands at around $8.2tn.

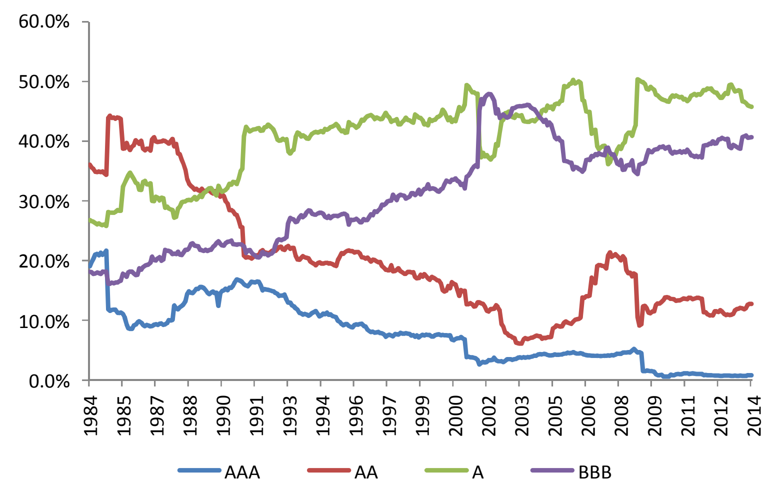
Furthermore, the US IG index skews towards A/BBBs , which have higher probabilities of a HY downgrade. The majority of growth in IG over the past decade has occurred at the lower end of the market, and now the index is approximately 86% sub-AA, compared to 78% and 55% in 2001 and 1990, respectively.

IG Market Size ($Bn)



Source: Morgan Stanley Research, Bloomberg, Yieldbook, SIFMA

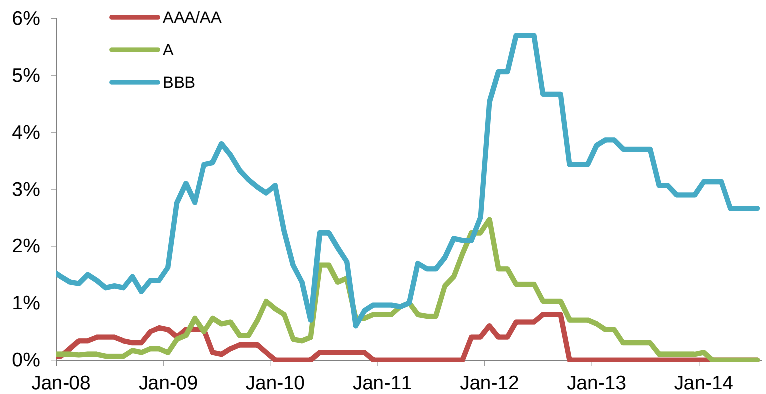
IG Index Has Become Lower Quality



Notes: Above chart only for index bonds
Source: Morgan Stanley Research, Yieldbook, Bloomberg.

Quantifying the Next Downgrade/Default Wave
Ratings Transitions Rates Have Improved, But Market Size Poses Risks

IG-to-HY Downgrade Transition Rates Are Low…

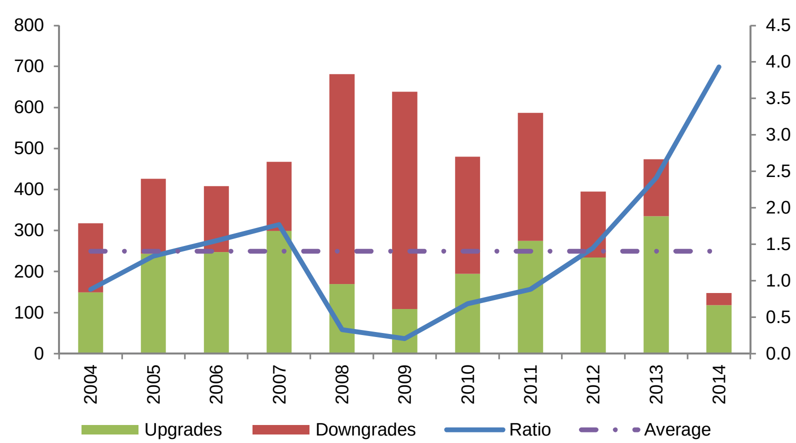


Source: Morgan Stanley Research, Yieldbook, Bloomberg, Moodys.

Credit transition rates run against the broader quality-deterioration trend: Transition rates from IG to HY are falling. In addition, the upgrade versus downgrade ratio has increased markedly of late, and the penalty for higher-rated IG companies to slide down the ratings spectrum remains relatively low.

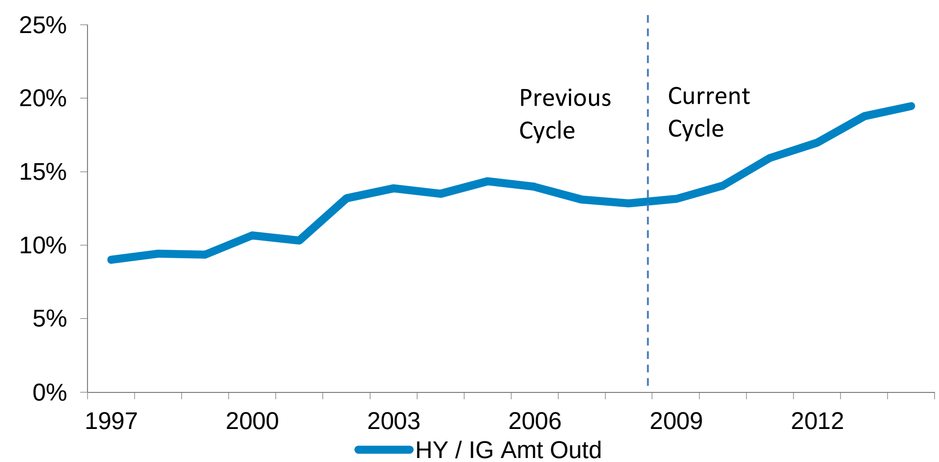
However, given the increase in size of the market post-crisis, even a marginal downgrade wave could change the dynamics of the HY market. As mentioned before, the IG market has grown substantially since 2009, and BBBs have increased the most. Therefore, a general or sector-specific catalyst could not only markedly increase the size of the HY market but also provoke specific-name-based selling from IG-mandated investors.

…While Overall Up-to-Downgrade Ratios Are High…



Source: Morgan Stanley Research, Yieldbook, Bloomberg.

…But The Supply of Low Quality Credit Is Increasing



Source: Morgan Stanley Research, Yieldbook, Bloomberg, SIFMA..

Quantifying the Next Downgrade/Default Wave

The Potential Magnitude of Downgrades

Given the size of IG, the impact of downgrades may be substantial. Using historical IG to HY transition rates, we generate benign and severe scenarios to see the impact of downgrades. In our benign scenario, the HY bond market (not including loans) can increase by 3-10% (per year) from downgrades. Meanwhile in the severe scenario, a longer expansion may lead to riskier corporate behavior and more market growth, leading to a HY bond market expansion of 6-13% (per year) in the downturn.

A Relatively Benign Scenario

Item	Time (Yrs from Today) Expansion	Downgrades / Default Cycle				
	1	2	3	4	5	6
IG Market Size ($Bn)	8,510	8,677	8,726	8,714	8,766	8,810
Total IG Downgrades (%)	1.1%	1.2%	1.6%	1.7%	0.7%	0.6%
AAA / AA Downgrade to HY rate (%)	0.0%	0.0%	0.1%	0.3%	0.0%	0.0%
A Downgrade to HY rate (%)	0.0%	0.4%	0.7%	0.8%	0.1%	0.1%
BBB Downgrade to HY rate (%)	2.7%	2.7%	3.1%	3.4%	1.7%	1.4%
IG Downgrades ($Bn)	89	107	136	149	61	50
Potential Incremental HYM Size (%)	5.4%	6.3%	8.4%	9.5%	3.7%	3.0%

Methodology: For our benign scenario, we use transition rates to HY based upon the 50th, 65th, 75th, 35th, and 25th percentiles since 2007 for years 2-6. For the severe scenario, we use the 85th, 90th, 95th, 75th, and 65th percentiles, respectively for years 5-9.

Source: Morgan Stanley Research estimates, Bloomberg, Yieldbook, SIFMA

A Relatively Severe Scenario

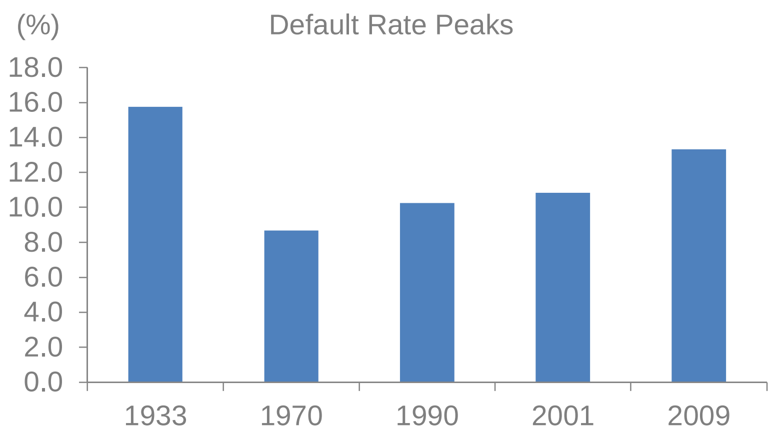
Item	Time (Yrs from Today) Expansion				Downgrades / Default Cycle				
	1	2	3	4	5	6	7	8	9
IG Market Size ($Bn)	8,538	8,751	8,875	8,955	8,881	8,776	8,539	8,396	8,271
Total IG Downgrades (%)	0.7%	0.7%	0.7%	0.7%	2.1%	2.2%	2.7%	1.7%	1.5%
AAA / AA Downgrade to HY rate (%)	0.0%	0.0%	0.0%	0.0%	0.4%	0.5%	0.7%	0.3%	0.1%
A Downgrade to HY rate (%)	0.1%	0.1%	0.1%	0.1%	1.3%	1.4%	1.7%	0.8%	0.7%
BBB Downgrade to HY rate (%)	1.7%	1.7%	1.7%	1.7%	3.7%	3.9%	4.9%	3.4%	3.1%
IG Downgrades ($Bn)	63	64	64	64	185	195	228	139	122
Potential Incremental HYM Size (%)	3.8%	3.6%	3.4%	3.2%	9.1%	10.1%	12.5%	7.9%	6.7%

Notes: Market size is for entire market not just index. Downgrade rates are on the issuer level from Moodys. We are assuming an average issuance size for each issuer.
Source: Morgan Stanley Research, Moody's, S&P LCD, Yield Book.

Quantifying the Next Downgrade/Default Wave

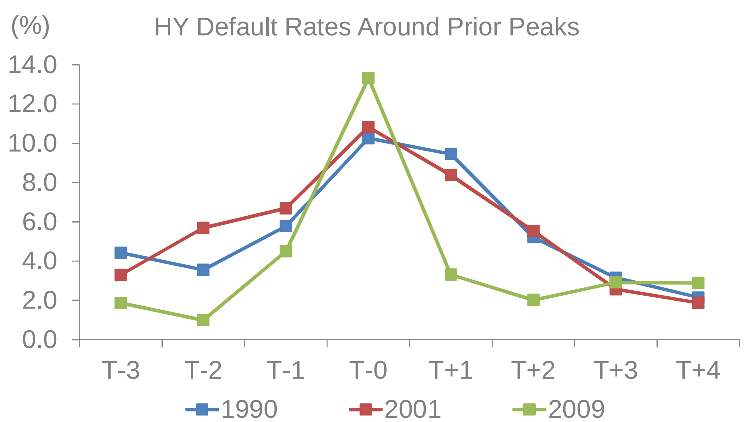
The Components: When? How Long? Size of Market? Default Rate?

Usually a ~10% Default Rate in the Worst Year



Source: Morgan Stanley Research, Moody's

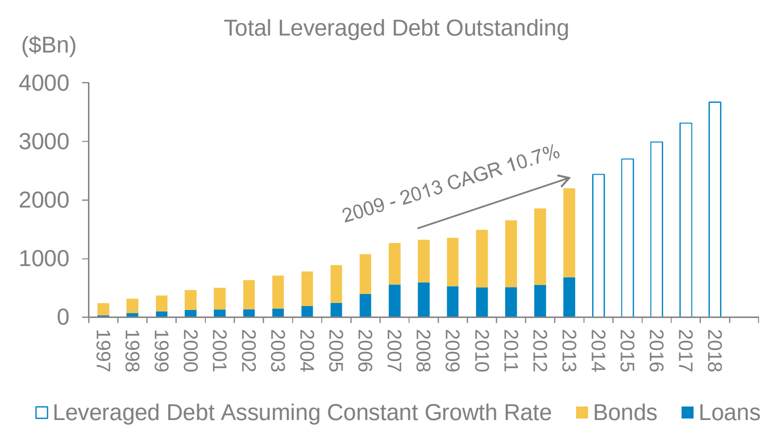
Defaults Were Severe in 2009, but the Wave Did Not Last Long



Source: Morgan Stanley Research, Moody's

- The last default wave was unique in certain ways. The spike in defaults was sharp in 2009, but in part given unprecedented Fed stimulus, the wave did not last long.
- Often the year prior to the default spike and the two years after also see reasonable defaults. The 2009 default cycle lasted around 2 years, whereas the 2001 cycle was more like 4.5 years.
- If the next downturn occurs in the next year or so and defaults spike in 2016, we think the subsequent default wave would be benign.
- If the next downturn is 4-5 years from now, putting the default wave closer to 2020, defaults could be much more severe. The market would have much more time to grow, and credit quality would have more time to deteriorate.

The Longer the Recovery, the Bigger the HY/Loan Market When the Cycle Turns



Source: Morgan Stanley Research, S&P LCD

Quantifying the Next Downgrade/Default Wave
The Potential Magnitude of Defaults

A Relatively Benign Scenario for Defaults

	Time (Years from today)					
	Expansion	Default Cycle				
	1	2	3	4	5	6
BB Default rate	0.30%	0.25%	1.50%	2.00%	0.29%	0.25%
B Default rate	1.75%	2.13%	8.00%	5.00%	2.50%	2.40%
CCC Default rate	6.50%	14.97%	23.83%	12.00%	7.00%	5.00%
HY Default rate	1.96%	3.58%	7.88%	4.73%	2.16%	1.81%
BB Defaults	1.9	1.7	10.7	14.1	2.0	1.8
B Defaults	10.9	14.5	56.3	33.5	16.2	16.1
CCC Defaults	17.1	42.9	66.6	28.7	15.6	11.4
Total HY Defaults	**29.9**	**59.1**	**133.5**	**76.3**	**33.8**	**29.3**
Cumulative HY Defaults	**29.9**	**59.1**	**192.6**	**268.9**	**302.7**	**332.0**
Cumulative loan Defaults	**13.4**	**26.8**	**88.0**	**123.8**	**140.0**	**154.0**
Total HY Market at end of year	**1,649**	**1,694**	**1,614**	**1,568**	**1,622**	**1,682**
Total Loan Market at end of year	**747**	**777**	**758**	**747**	**780**	**815**

Source: Morgan Stanley Estimates, Moody's, S&P LCD, Yield Book

- In our view, the magnitude of defaults depends on when the cycle turns. If the cycle turns soon, the subsequent default wave would likely be more benign.
- If the expansion continues for another 4-5 years, not only will credit markets continue growing, but 'excesses' will build. In that scenario, we could see a 5-year cumulative default rate around 30%, similar to the 2002 cycle. In addition, we would expect the cycle to last longer (4 years, instead of ~2 in 2008/09).
- Even if we assume fairly modest growth for HY and loans over the next 4 years, in the severe scenario, the HY and loan markets would be $3 trillion in size combined when defaults begin.
- As a result, in our severe scenario, 5Y cumulative default rates (loans and bonds) hit $872bn.
- So while the default rate is near that of the 2002 cycle, default volumes are over double.

A Relatively Severe Scenario for Defaults

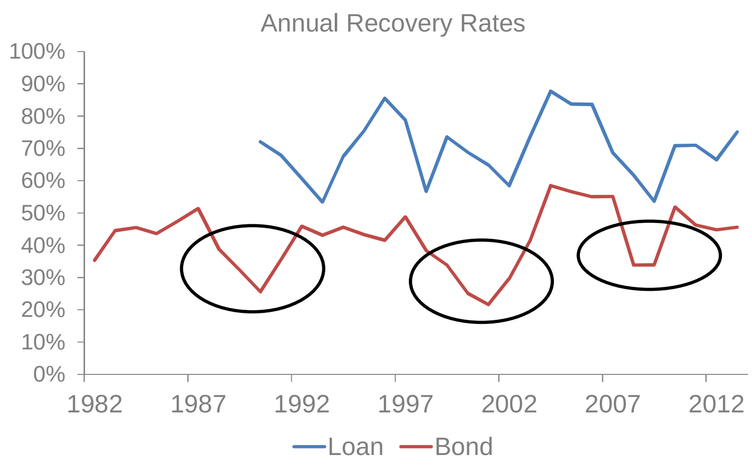
	Time (Years from today)								
	Expansion				Default Cycle				
	1	2	3	4	5	6	7	8	9
BB Default rate	0.30%	0.30%	0.30%	0.30%	1.39%	2.11%	2.50%	2.40%	2.20%
B Default rate	1.75%	1.75%	1.75%	1.75%	5.01%	7.00%	10.94%	6.00%	4.00%
CCC Default rate	6.50%	6.50%	6.50%	6.50%	14.00%	20.00%	23.00%	6.85%	6.27%
HY Default rate	1.96%	1.97%	2.01%	2.05%	5.29%	7.45%	9.47%	4.54%	3.55%
BB Defaults	1.9	2.1	2.2	2.3	11.1	17.5	20.4	19.3	17.5
B Defaults	10.9	11.9	12.6	13.3	40.0	57.1	85.4	43.8	28.1
CCC Defaults	17.1	18.6	20.7	23.0	54.0	76.5	77.4	19.9	17.4
Total Defaults	**29.9**	**32.5**	**35.4**	**38.6**	**105.2**	**151.0**	**183.2**	**83.0**	**63.1**
Cumulative HY Defaults	**29.9**	**62.4**	**97.9**	**136.5**	**105.2**	**256.2**	**439.4**	**522.4**	**585.4**
Cumulative loan Defaults	**13.4**	**28.2**	**44.6**	**63.0**	**51.8**	**123.5**	**212.6**	**254.2**	**286.2**
Total HY Market at end of year	**1,649**	**1,761**	**1,881**	**1,988**	**2,026**	**1,936**	**1,826**	**1,776**	**1,826**
Total Loan Market at end of year	**747**	**818**	**894**	**978**	**963**	**941**	**915**	**902**	**892**

Source: Morgan Stanley Estimates, Moody's, S&P LCD, Yield Book

Quantifying the Next Downgrade/Default Wave
Focus on the Tail When Thinking About Potential Defaults

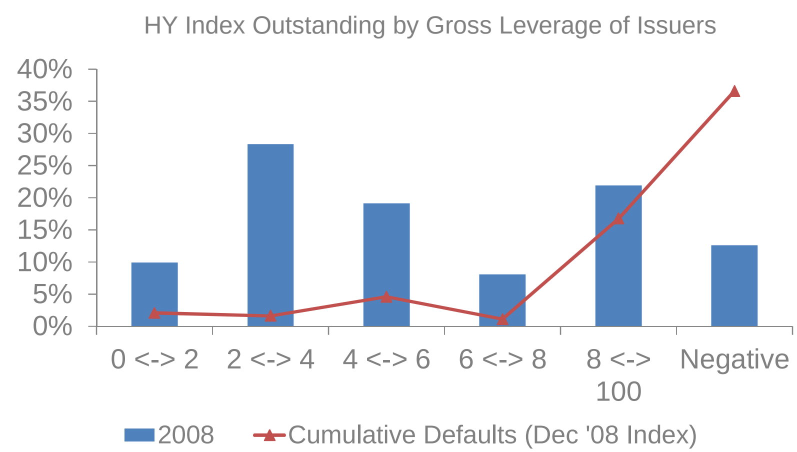
- The average long-term recovery rate for loans is about 70% and for bonds, around 40%. However, the recovery rate itself is negatively correlated with the default rate (high defaults, lower recoveries). For loans in particular, we believe recovery rates will be lower in the next cycle given lower cushions, and a higher percentage of cov-lite loans, especially if the next cycle is longer in duration.
- The size and quality of the tail in the market will drive defaults. This is why lower-quality issuance tends to be a leading indicator of a turn in the cycle. The default rate for companies under 8x leverage when the downturn hits is materially lower than the default rate for companies with over 8x or negative leverage.
- For example, companies with over 8x leverage and under 1x interest coverage were about 10 times more likely to default over a cycle than the rest of the market. Focus on the tail.

Recoveries are Lower in a Downturn



Source: Morgan Stanley Research, Moody's

The 'Tail' Drives Defaults for the Overall Market

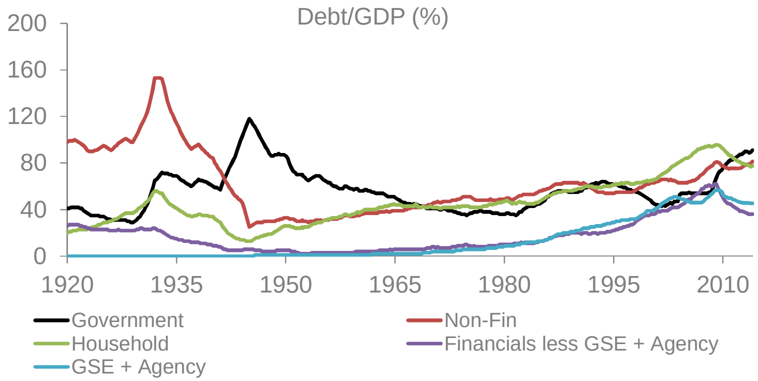


Source: Morgan Stanley Research, Bloomberg, the Yield Book, Moody's

Quantifying the Next Downgrade/Default Wave

What Part of the Market Could Drive Defaults in the Next Cycle?

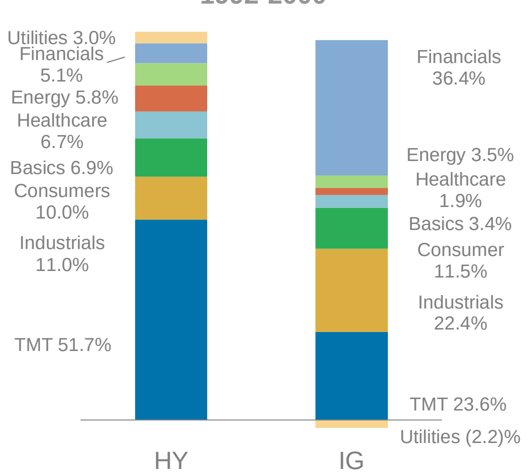
For the Broader Economy, Risks Shifting Away from Private Sector



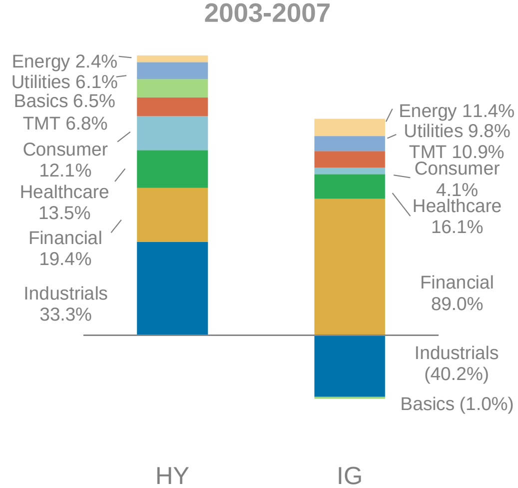
Source: Morgan Stanley Research, Federal Reserve

- Typically, the problem sector in one downturn is not the source of defaults in the next cycle.
- While we can never know for sure what part of the market will see the most defaults, we think it is useful to focus on the sectors that are driving the growth in debt for the broader market. They often lead to the problems in the downturn.
- In the 90s, TMT accounted for over half the growth in the HY market. Tech had a 17% default rate in 2001/2002 combined, and media had a 14% default rate for those two years. Financials accounted for 89% of the growth in the IG market from 2003-2007.
- In the current cycle, Energy and TMT have seen the largest absolute increases in HY/IG bonds outstanding.
- For the broader economy, debt growth has shifted from the private to the public sector.

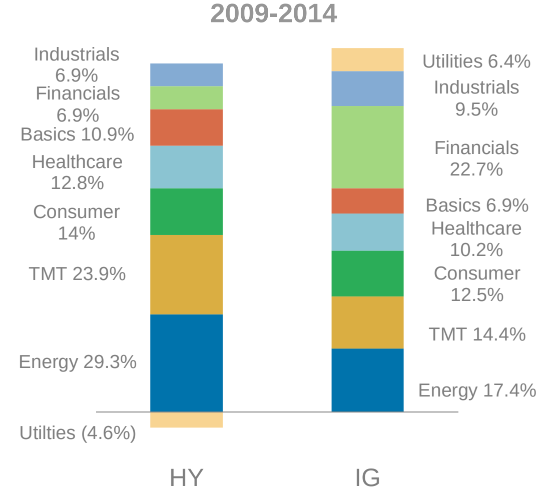
The Growth in Par Outstanding for HY and IG Attributable to Each Sector



Source: Morgan Stanley Research, the Yield Book



Source: Morgan Stanley Research, the Yield Book



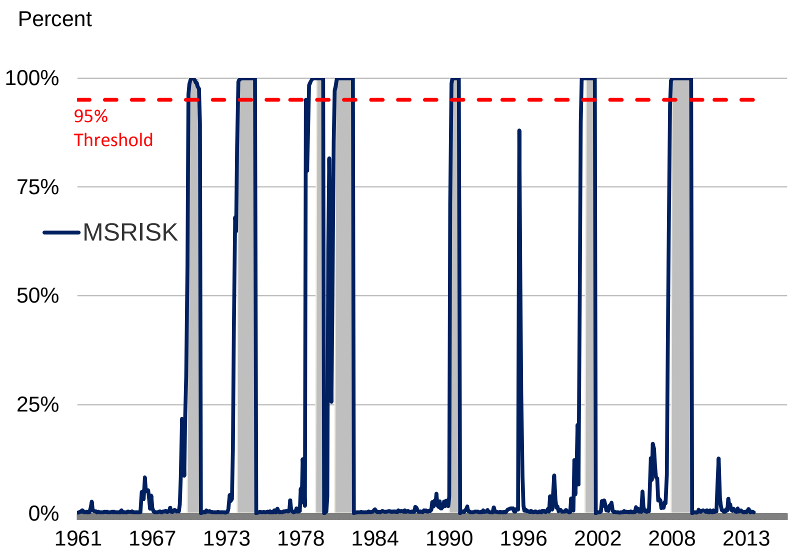
Source: Morgan Stanley Research, the Yield Book

What Are the Signals?

What Are The Signals?
The MSRISK: A Regime-Switching Model to Forecast Recessions

- **The Morgan Stanley Recession Risk Model (MSRISK)** produces an easy-to-interpret probability; the MSRISK is based on a regime-switching framework whose high-risk/low-risk signals provide virtually a "yes/no" answer to whether the US economy is heading toward imminent recession. Currently, the MSRISK indicates a very low risk of recession.

Historical Performance of the MSRISK



Source: Morgan Stanley. **Please see US Economics: "Introducing the Morgan Stanley Recession Risk Model," 7.15.14, for details**.
Note: Areas of gray represent recession dating as determined by the National Bureau of Economic Research

LEI Components

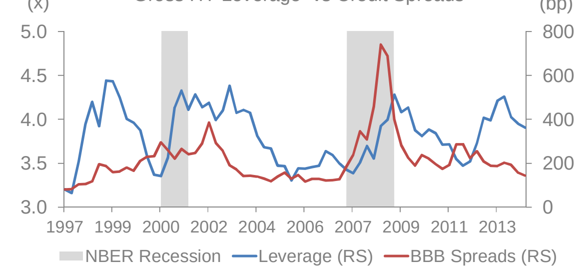
Series	Factor*
Average Weekly Hours, Manufacturing Production Workers	0.2713
Average Weekly Initial Claims, State Unemployment Insurance	0.0336
Manufacturers' New Orders: Consumer Goods & Materials	0.0830
ISM New Orders Diffusion Index	0.1606
Manufacturers' New Orders: Nondefense Capital Goods excluding Aircraft	0.0409
Building Permits: New Private Housing Units	0.0312
Stock Price Index: S&P Composite	0.0392
Interest Rate Spread: 10 Year Treasury Bond and Federal Funds	0.1102
Average Consumer Expectation on Business and Economic Conditions	0.1468
Leading Credit Index	0.0832

*Factors are used to equalize volatility of the contribution of each series. They are computed as inversely related to the standard deviation of MoM changes.

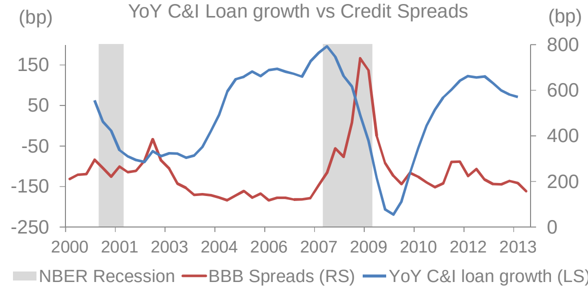
Source: The Conference Board

What Are The Signals?
What to Watch

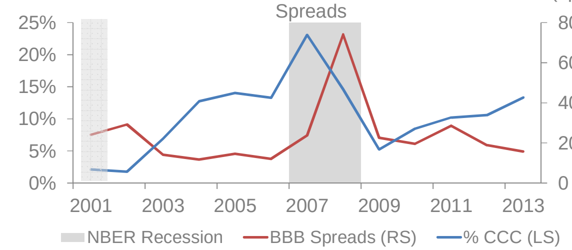
Gross HY Leverage vs Credit Spreads



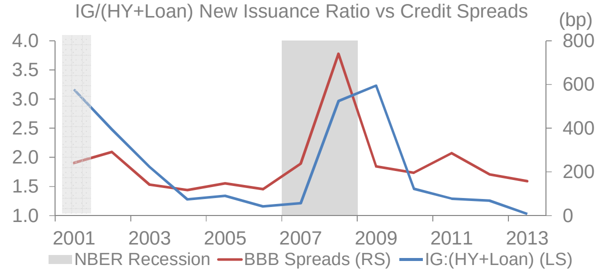
YoY C&I Loan growth vs Credit Spreads



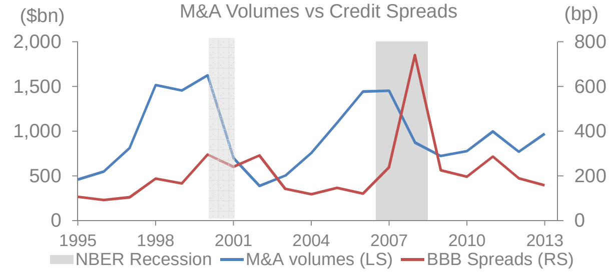
% Of HY New Issuance CCC and below vs Credit Spreads



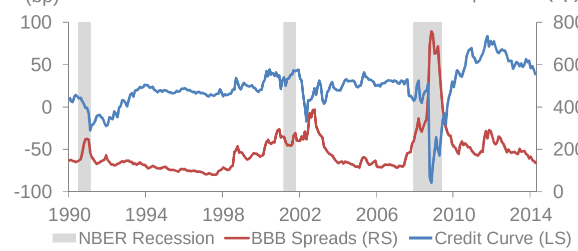
IG/(HY+Loan) New Issuance Ratio vs Credit Spreads



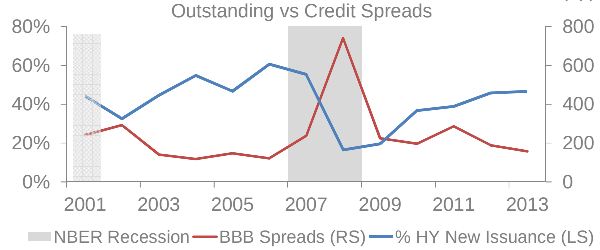
M&A Volumes vs Credit Spreads



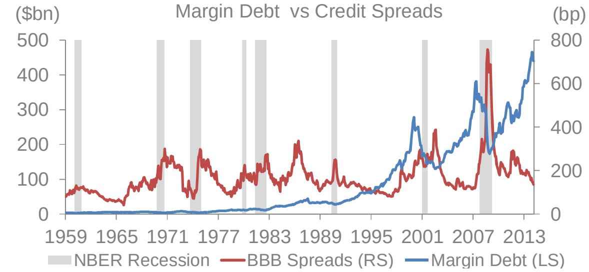
IG Cash Front-End Credit Curve vs Credit Spreads



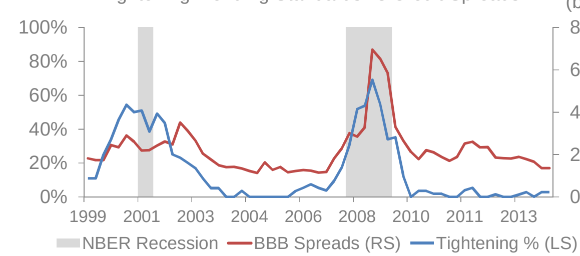
(HY + Loan) New Issuance as % of Combined Outstanding vs Credit Spreads



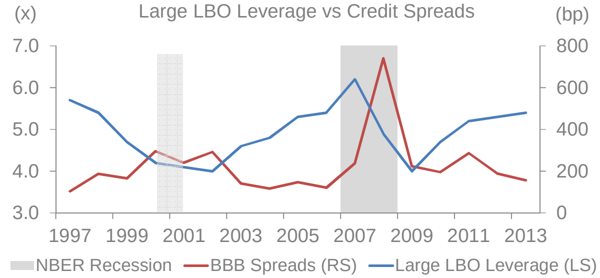
Margin Debt vs Credit Spreads



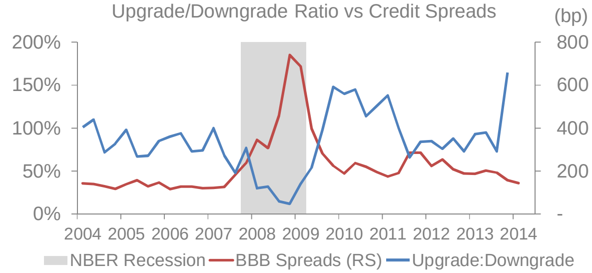
Tightening Lending Standards vs Credit Spreads



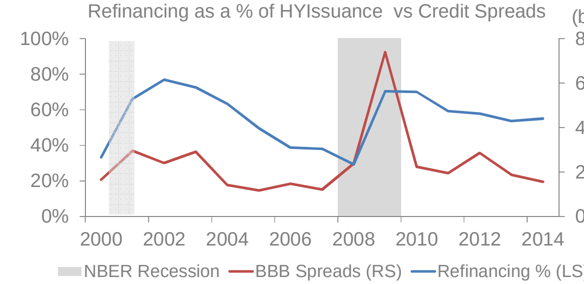
Large LBO Leverage vs Credit Spreads



Upgrade/Downgrade Ratio vs Credit Spreads



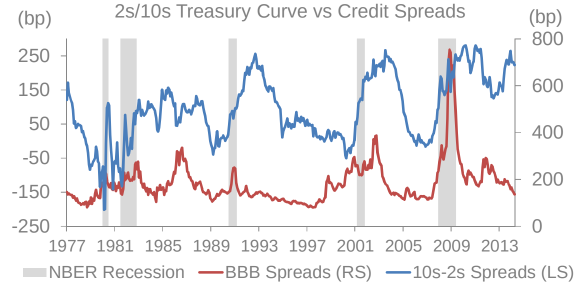
Refinancing as a % of HYIssuance vs Credit Spreads



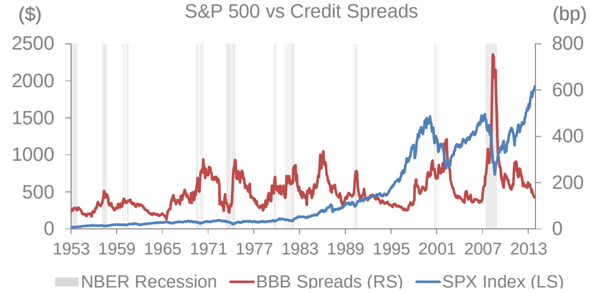
Source: Morgan Stanley Research, Bloomberg, the Yield Book, Moody's, S&P LCD, Federal Reserve

What Are The Signals?
What to Watch (Continued)

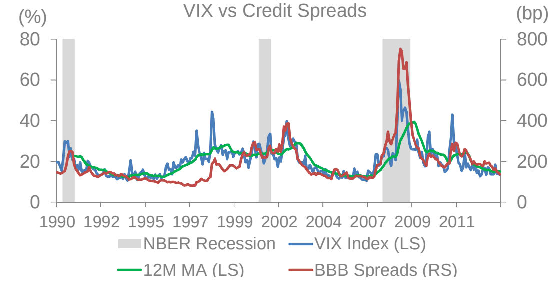
2s/10s Treasury Curve vs Credit Spreads



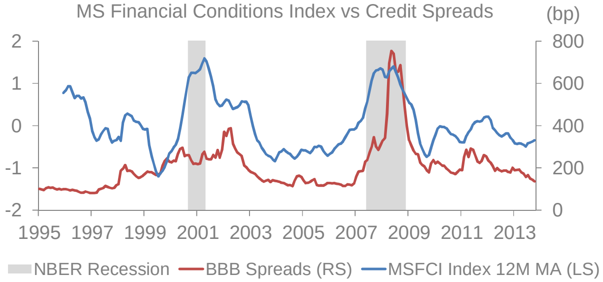
S&P 500 vs Credit Spreads



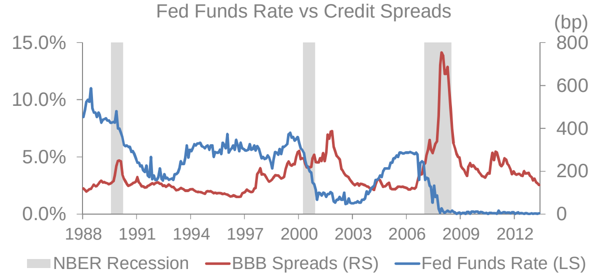
VIX vs Credit Spreads



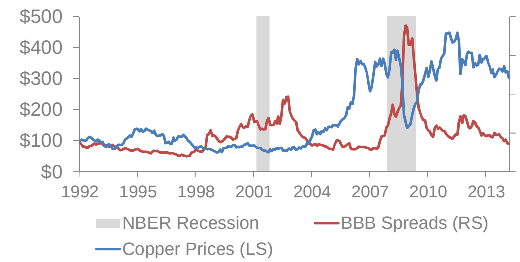
MS Financial Conditions Index vs Credit Spreads



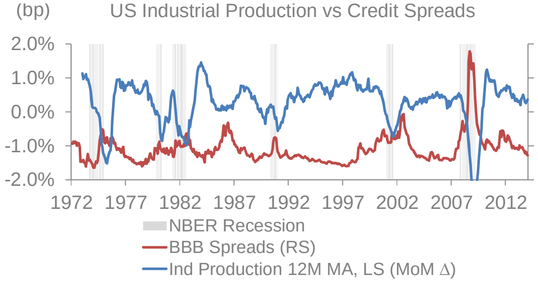
Fed Funds Rate vs Credit Spreads



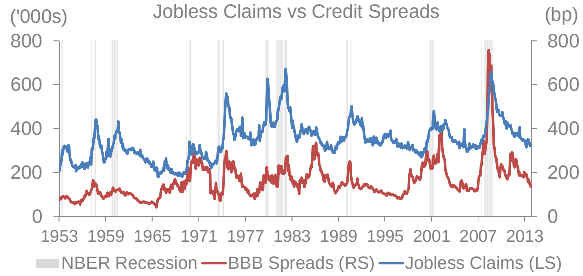
Copper Prices vs Credit Spreads



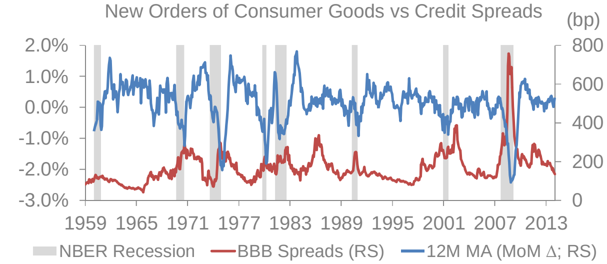
US Industrial Production vs Credit Spreads



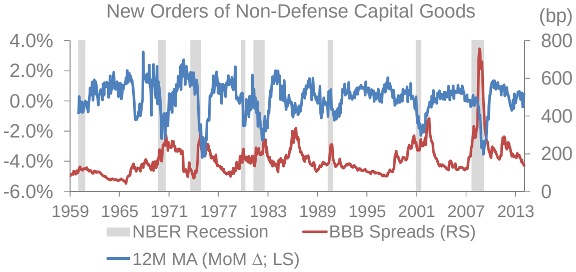
Jobless Claims vs Credit Spreads



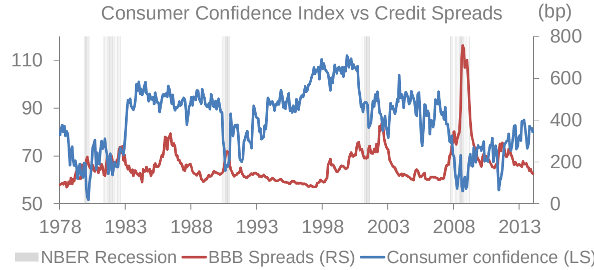
New Orders of Consumer Goods vs Credit Spreads



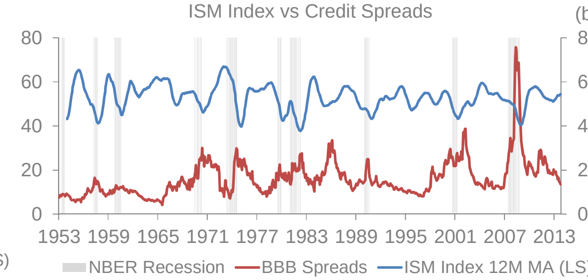
New Orders of Non-Defense Capital Goods



Consumer Confidence Index vs Credit Spreads



ISM Index vs Credit Spreads



Source: Morgan Stanley Research, Bloomberg, the Yield Book, Moody's, S&P LCD, Federal Reserve

What Are The Signals?
Potential Credit Cycle Signals

Indicator	Prior Cycles	Current Cycle
2s / 10s Treasury Curve	Has turned negative in the last 4 cycles before the widening of spreads. In Dec 05 (spread peak Nov 08), Feb 00 (spread peak Oct 02), Jan 89 (spread peak Dec 90), Sep 80 (spread peak Dec 82)	Currently 223bp steep
VIX	The VIX can remain low for a long period of time. It was below 20 (monthly series) from Oct 2003 to June 2007 - a period of 44 months. It broke above 20 on a sustained basis in the middle of 2007.	The VIX hit a post-crisis low of 10.3 in early July, and last hit 20 in Feb 2014.
Fed Funds Rate	In the last cycle, the Fed hiked steadily for 2 years, with the Fed Funds rate peaking at 5.25% in June 2006 and remaining at the same level until Sep 2007.	Rates have been near zero for over 4.5 years. Rate hikes likely a 2015/16 event.
Morgan Stanley Financial Conditions Index	A sustained turn in this index can lead spreads. For example, this index bottomed at the beginning of 2000, and also again in the middle of 2006.	This index has been low and stable over the past year.
Copper Prices	Dr. Copper is often looked at as a leading indicator, temporarily peaking in the middle of 2006.	Copper has been weak, but this could be due more to structural EM challenges.
Gross HY Leverage	The initial rise in leverage can lead the intial widening in spreads. For example, leverage bottomed in late '97 and again in late 2005. However, the sharpest increase in leverage is often when earnings are dropping quickest (2H08-1H09), coincident with or lagging the market.	Leverage rose from the end of 2011 to the middle of 2013, but is stabilizing as profit growth accelerates.
YoY C&I Loan growth	Loan growth tends to lag the broader market. For example, in the last cycle C&I loan growth did not turn positive until the end of 2004, and peaked in early 2008.	C&I loan growth has been positive since early 2011, but could expand further.
% of Total HY New Issuance CCC or below	In the last cycle, steadily increased to a peak in 2007 of 23% as investors reached for yield.	Currently at 11%, well below 2007 levels.
HY/Loan New Issuance as a percentage of outstanding	Peaked in the last cycle in 2006 at 61%, prior to the turn in the market.	This measure is rising, now at 47%, but lower than 2006/7 in part given market size.
M&A Volumes	Tends to peak before major turns in credit mnarkets. For example, annual M&A volumes finished 2006 at 1.4tn and remained roughly flat in 2007. In the prior cycle, M&A volumes peaked in 2000 at 1.6tn.	M&A volumes are accelerating but still well below prior cycle peaks.
IG Credit Curve	Credit curves tend to flatten as spreads widen, and can sharply flatten as a downturn intensifies, but credit curves tend to be more of a coincident indicator. Curves flattened most in the middle of 2002, and late 2008.	Front-end credit curves are steep but have flattened modestly this year
IG Issuance as a % of total new issuance (HY+loans)	Cyclical lows in this ratio tend to precede spread wides as investors reach for yield. In the previous cycle, this ratio bottomed at a low of 1.15-1.2x in 2006 and 2007.	This ratio is below pre-crisis levels given significant gross HY/loan issuance.
Debit balances in margin accounts	Reached a local peak before the credit cycle turned in the last two cycles. For example, this series declined sharply from Mar 2000 to June 2001, and peaked again in the middle of 2007.	Has come off approximately 6% since the peak in Feb 2014.
Fed Senior Loan Officers Survey tightening %	Bank lending standards can lead credit spreads. For example, banks began tightening lending standards modestly in early 2006 and then more meaningfully in the middle of 2007.	Credit conditions are quite loose. 2.8% of banks are tightening conditions.
LBO Leverage Levels	Leverage for large LBOs rose throughout the last cycle, jumping in 2007 to 6.23x.	LBO leverage is currently in between 2006 and 2007 levels at 5.65x.
Upgrade / Downgrade ratio	Upgrades relative to downgrades can be high later in a cycle, but they also peaked temporarily in 2010, so not necessarily a reliable indicator.	Upgrades/downgrades is high at 165%.
Refinancing percentages	The percentage of issuance for refinancing tends to drop steadily in a cycle, bottoming around the time spreads trough. Refinacing was 38.1% of HY issuance in 2007.	Refinancing percentages are around the long-term average, though total volumes are higher.

Source: Morgan Stanley Research, Bloomberg, the Yield Book, Moody's, S&P LCD, Federal Reserve

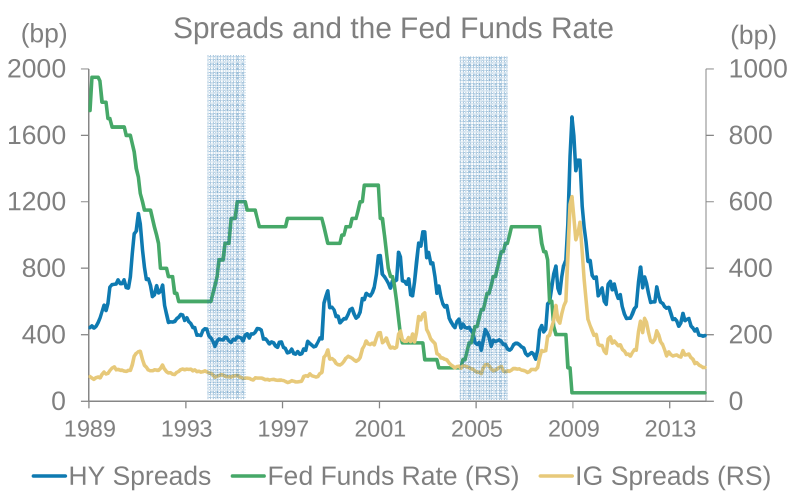
Investment Implications

Investment Implications

Late in a Cycle – Fed Hikes, Treasury Curve Often Bear Flattens

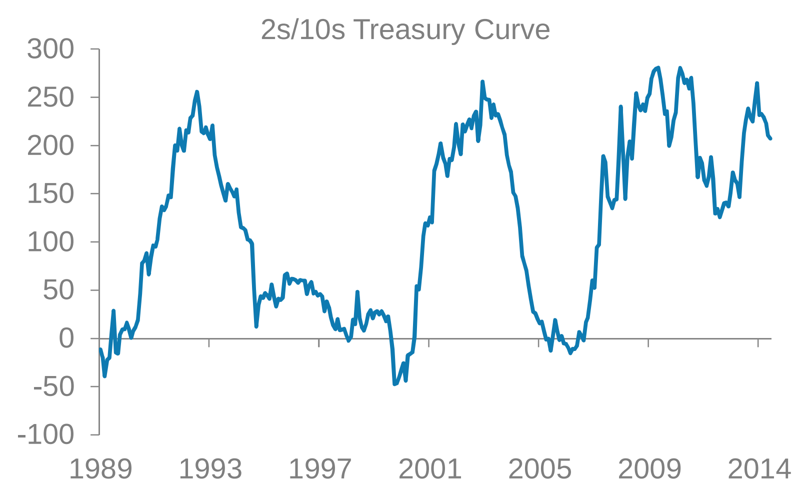
- If this cycle plays out like the last few, the Fed may begin steadily hiking rates in the near future, and the Treasury curve will slowly bear flatten. What are the implications for credit?
- First, markets usually see volatility around the first rate hike. Credit and equities both corrected in 1994 and 2004. However, spreads generally moved sideways with positive excess returns in the following few years. Hence, a rate-hike cycle is often a decent 'coupon clipping' environment.
- Second, as front-end Treasury yields begin to rise, and volatility in the front end increases (usually the case leading up to the first rate hike), the risk/reward of short-duration credit may deteriorate. Eventually (after the rate-hike cycle), much higher yields in the front end will increase the attractiveness of short duration, potentially leading to a steeper credit curve, but the path to get there may be bumpy.
- Third, rising rates and a flattening Treasury curve create an ideal environment for leveraged loan flows. In this scenario, we would expect to see flows into loans, potentially at the expense of longer duration high yield, like in 2003-2006.

Spreads Often Move Sideways as the Fed is Hiking



Source: Morgan Stanley Research, Bloomberg, the Yield Book

A Flattening Treasury Curve Has Important Implications for Credit



Source: Morgan Stanley Research, Bloomberg

Investment Implications

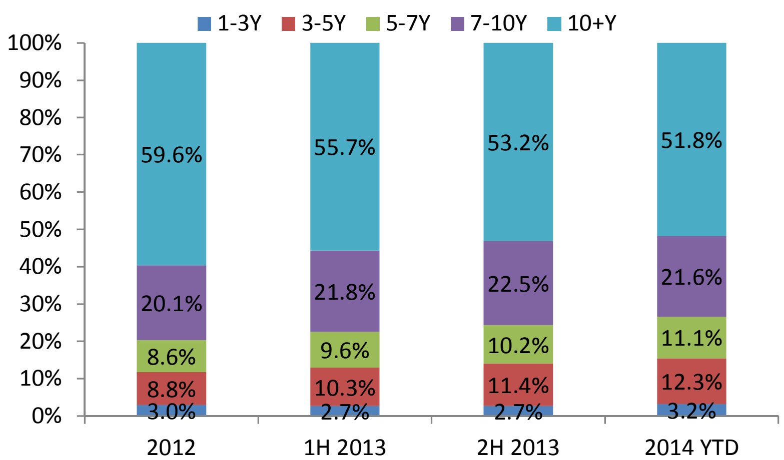
Front-end Inefficiency – A Pressure Point in the IG Market

Front-end IG Spreads Close to 10 Year Tights

Spreads	Current	10yr Tights	2003-2007 Average	Percentile
IG Corp Index	101	82	111	24%
1-3Y	43	42	77	0%
3-5Y	63	62	95	0%
5-7Y	100	79	114	22%
7-10Y	111	80	118	28%
10+Y	146	112	141	30%

Source: Yieldbook

Front-end Is a Bigger Contributor to IG Market Volatility Today



Source: Morgan Stanley Research, Note: For details, please refer to our interest rate strategy team's report (see US Interest Rate Strategist: The Desolation of Spring)

While we are likely at least a year away from the first Fed rate hikes, the front end of the US investment grade market is worth looking at closely, given both the valuation and technical landscapes and its importance to the broader credit markets.

IG Front End Less Efficient Today: For market participants who are positioned to invest across the curve, the absolute and risk-adjusted valuations of front-end yields in IG represent a bigger challenge today than over the past 2 years. The 1-7Y sector of the IG market contributed to just over 20% of the market's volatility in 2012 and 1H 2013. So far in 2014, the contribution has gone higher, to over 27%.

Front-end Spreads at 10-Year Tights: For investors focused on spreads, the valuation backdrop is unappealing today. The cash credit curve is significantly steeper today than it was pre-crisis. The front end (1-3Y) and the 3-5Y sector trade very close to their tights over the past decade. The long end in contrast trades wider than pre-crisis average levels.

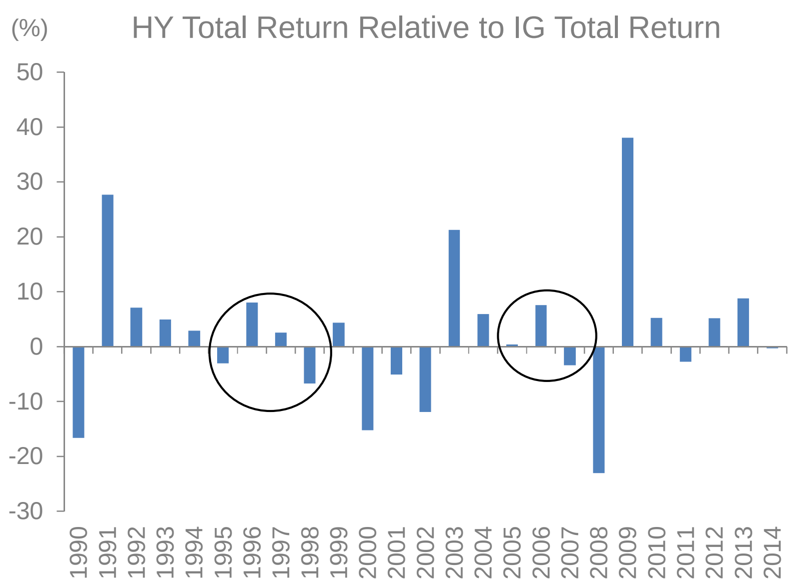
Our Front-end Curve View: We believe that investors should watch front-end yields and the impact of fund flows closely to gauge value. We currently have an underweight recommendation on the 1-3 year sector, but have an overweight recommendation on the 3-7 year sector, the latter benefiting from better valuations, still steep curves, and better expectations to realize roll-down.

Investment Implications

Beta Does Not Have to Outperform Later in a Cycle

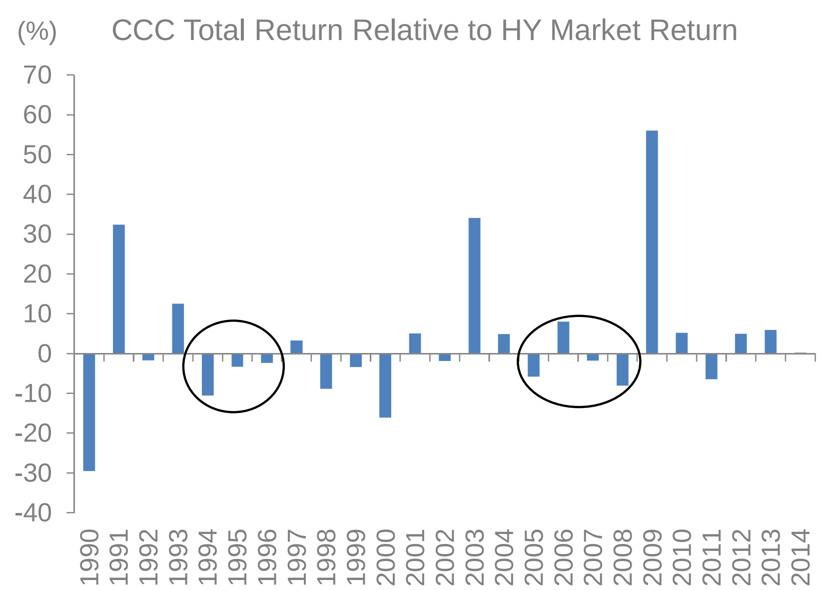
- Beta almost always outperforms in big up-years or -months. For example, as we mentioned in *"Ten Tall Tales," 4.25.14*, CCCs outperformed the HY market 92% of the time when HY was up over 3% in a month. However, those months tend to come early in a cycle. For example, the biggest years of CCC outperformance were 1991, 2003 and 2009, the first years of a recovery.
- However, we also cited that taking all the positive months for HY back to 1990, CCCs total returns were above those of the high yield index just 63.6% of the time. And as we show below, it is not uncommon for CCCs to underperform the HY market, and for HY to underperform IG later in a bull market.
- HY excess returns are typically above IG excess returns throughout the bull market, but often by only a small amount later in a cycle (and this is before 'risk-adjusting' these returns).
- Finally, beta always underperforms meaningfully preceding a downturn. Given this fact, and the performance data above, we think later in a cycle, investors should wait for corrections to buy beta, but not simply reach for yield.

HY Typically Outperforms IG Early in a Cycle, but Not Necessarily in Back Half



Source: Morgan Stanley Research, the Yield Book

CCCs Do Not Always Outperform in a Bull Market, Particularly Later in the Cycle



Source: Morgan Stanley Research, the Yield Book

Investment Implications

Late Cycle Sectors

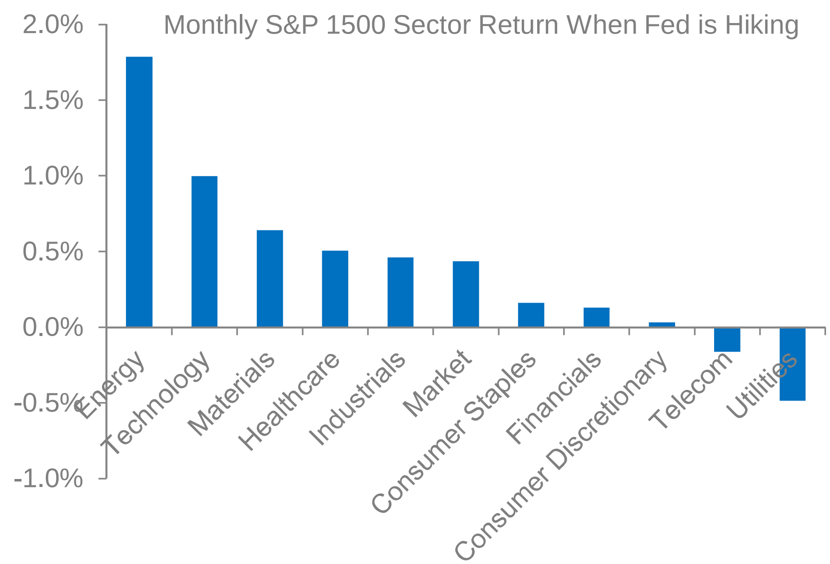
- On average, later in a cycle the Fed is hiking rates, the Treasury curve is flattening, growth is strong and inflation is rising. This backdrop is far better for some sectors than others, both in terms of fundamental performance and outright returns.
- While credit performance is mixed (potentially due to a lack of sufficient data), using equities as a proxy, when the Fed is hiking, Energy, Tech, Materials, Healthcare and Industrials have performed well. Financials, Discretionary, Telecom, and Utilities have underperformed.

Credit Returns Later in a Cycle

	Median Monthly Total Return			
	Jan 95 - Jun 97		Jan 05 - Jun 07	
	IG	HY	IG	HY
Financials	1.01%	0.98%	0.16%	0.69%
Energy	1.10%	1.08%	0.38%	0.81%
Basics	1.18%	1.24%	0.40%	0.76%
TMT	1.12%	1.20%	0.46%	0.95%
Industrials	1.14%	0.56%	0.29%	0.53%
Utilities	0.97%	1.27%	0.32%	0.57%
Healthcare	1.07%	1.26%	0.20%	0.95%
Consumer	1.08%	0.99%	0.29%	1.05%
Corporates	1.12%	1.04%	0.25%	0.82%

Source: Morgan Stanley Research, Bloomberg

S&P 1500 Sector Returns Later in a Cycle



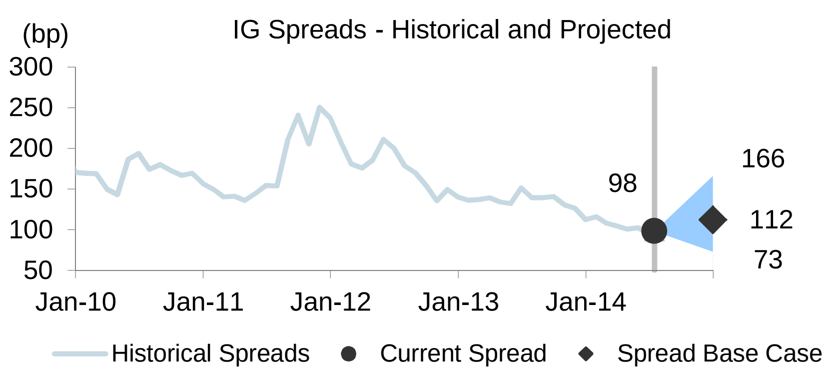
Source: Morgan Stanley Research, Bloomberg, the Yield Book

Investment Implications
Stay Overweight US Investment Grade

Over the next 3 months, risks are weighted to slightly wider spreads. We continue to think US IG offers a solid carry story, but our short-dated spread target is slightly wider than current index spreads. Leverage has flat-lined, rates are range-bound, and our 2Q GDP growth tracking estimate has increased somewhat, to 3.4%, due to improved residential investment, inventories, and retail sales. Meanwhile, technicals remain strong, while volatility is very low.

Risks on the horizon. There are several macro risk factors that may push spreads wider in the short term, including volatility from Europe, EM, or the Middle East . These factors may impact US GDP, S&P 500 earnings, and variance. In addition, M&A continues, but there are forces here that may mitigate some of the negative impact on broader index spreads.

Near-Term Investment Grade Credit Projection (3m Forecast)



Source: Morgan Stanley Research estimates, Bloomberg, Yieldbook

IG Spread Model Inputs Based on Current Markets (Base Case)

Factor	Previous Level	Bull Case	Base Case	Bear Case	Factor Sensitivity
Balance Sheet Leverage (x)	2.23x	2.15x	2.23x	2.31x	+0.3x
GDP Growth QoQ (%)	-2.9%	3.9%	3.4%	2.9%	-0.5%
S&P 500 Fwd EPS ($)	$119	$125	$119	$113	-3.6%
10-year UST Rate (%)	2.59%	2.50%	2.52%	2.05%	-0.4%
Primary Dealer Financing ($Bn)	76.3	81.6	80.0	78.5	-1.9%
3m S&P 500 Implied Variance (%)	14%	10%	13%	16%	+9.9%
Spread Projection (bps)	98	73	112	166	10

Source: Morgan Stanley Research estimates, Bloomberg, Yieldbook

Investment Implications

Overweight Financials in this Cycle

Financials were the best-performing sector in the US IG corporate credit market in 2013. Many risks that investors feared at the start of the year, including potentially negative ratings actions, dire results of the Comprehensive Capital Analysis and Review (CCAR) and a market unable to absorb a wave of new issuance, never materialized – and save for a brief hiccup last summer, Financials have been on a slow, steady grind tighter for over a year.

Source: Morgan Stanley Research, the Yield Book

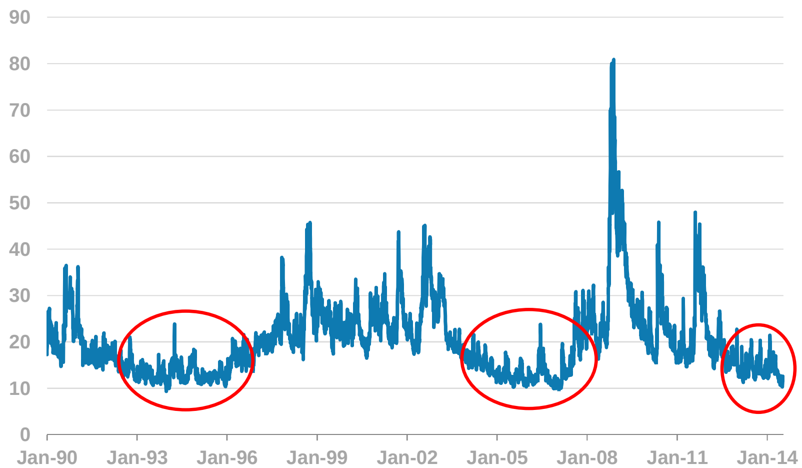
Financials – overweight. After underperforming the rally in the broader market for the first quarter this year, Financials have started to rally beyond the 5bps range they had been stuck in. In our view, this differential between Financials and non-Financials can go further, and we maintain an overweight on the sector. First, the positive story we've seen in bank fundamentals this year should remain a tailwind. Additionally, balance sheets continue to improve, and additional clarity on the regulatory front should be a positive as well. Finally, Financials offer a haven from M&A risk, which is one of our bigger concerns in 2014.

On the downside, uncertainty surrounds the supply story. 50% of the supply through May month-end has been Financials, and the remainder of the year could continue to see greater net supply. Furthermore, our curve views reflect a longer-duration bias, given demand from ALM investors, and Financials rank as the shortest-duration sector in the market today. Thus, a rally in the 10y+ sector could cause Financials to underperform the broad index.

Investment Implications

Volatility Can Remain Low in the Back Half of a Cycle for Years

VIX Below 20%: Periods of Sustained Low Volatility



Source: Morgan Stanley Research, Bloomberg

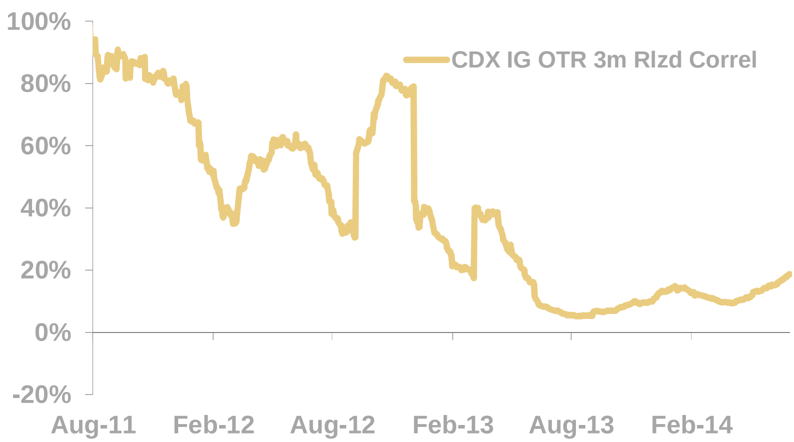
What Defines a Low-volatility World

- Based on history, we define a low-volatility world as equity realized volatility below 15%, VIX below 20%, and CDX IG implied price volatility below 2.25%.
- Such environments can have brief periods of volatility that exceed these thresholds, but they usually do not last long.
- Based on recent market data, the current market environment does feel to us like one of low volatility.

CDX IG: Range-bound in 2014

Source: Morgan Stanley Research

Credit Index Single-name Correlation Remains Low

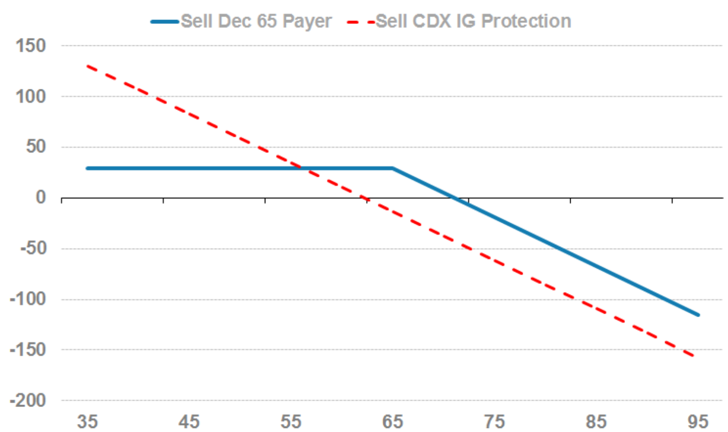


Source: Morgan Stanley Research Note: Credit correlation determined from 117 constituents in the index and the CDX IG NAV realized volatilities.

Investment Implications

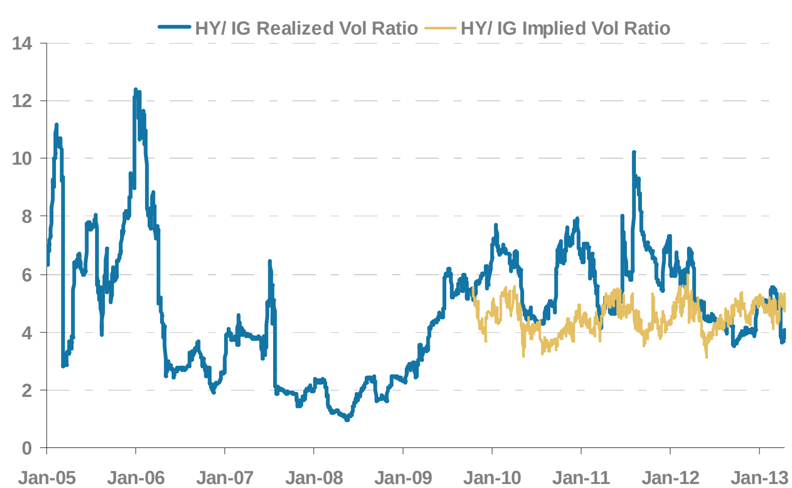
Low Volatility Strategies

Sell Slightly OTM Payers to Monetize Skew



Source: Morgan Stanley Research, Note: PnL in $MM based on Notional of $100MM

Low Vol Environments Benefit IG More than HY



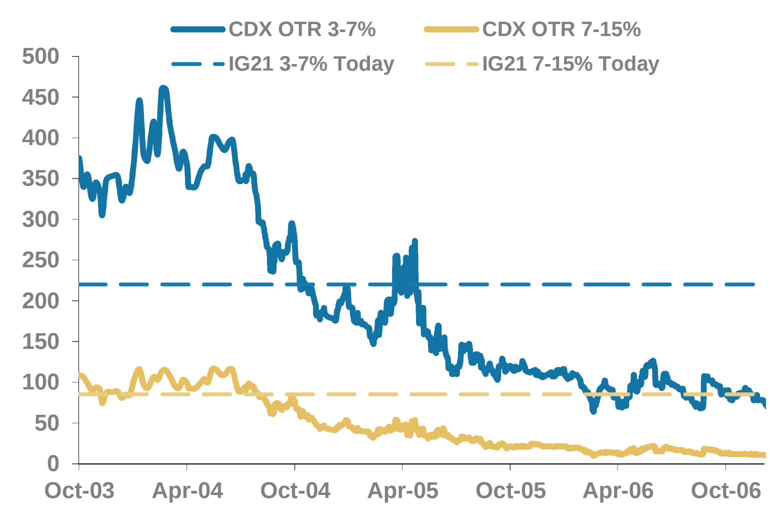
Source: Morgan Stanley Research

Sell Slightly OTM Payers to Cushion Against Small Moves: In a low-vol regime, we think it makes sense to look at selling OTM longer expiry (6M) puts as an efficient way to monetize skew and the wider implied realized spread. Options with these strikes can be relatively expensive due to steep forwards and skew.

Long IG vs. HY: As volatility declines, IG as the systemic risk asset should benefit more and as such we recommend selling vol on IG relative to HY. We would rather hedge tactically in HY.

Mezz Tranches to Lever Carry and Roll-down: Roll-down and carry are important factors to consider in a low-vol market where curves are quite steep. Mezzanine tranches benefit from still wide spreads, roll-down and carry with some amount of credit enhancement to cushion idiosyncratic risk. As such, they become relatively simple ways to lever carry and roll-down.

Mezz Tranche Valuation Through a Low-Vol Period



Source: Morgan Stanley Research

Investment Implications

What Can We Learn from Equities?

Equity derivative markets were characterized by a high implied-realized vol spread through the 2004-2007 period. In addition, the vol term structure was at its steepest and downside skew was elevated. We review the performance of some strategies during this period:

- **Outright longs in the SPX 500** outperformed in terms of absolute returns, but had more volatility in performance. Option strategies in general did not have as much absolute return, but much superior Sharpe ratios and draw-down reduction.
- **Over-writing** added little in terms of addition yield but cushioned the downside and improved return per unit vol.
- **Selling ATM puts** did well over a period of time, but not as well as just owning the index outright. However, if done taking into account the delta (i.e., 2x the index notional), this outperformed outright longs significantly.
- **Selling strangles and straddles** had average performance (compared to the underlying), but the lowest volatility.
- **Term structure trades** (sell long-dated options, buy short-dated) had mixed performance on a systematic basis but did better as tactical positions in months when the SPX 500 was down.

Performance of Option Strategies for the SPX 500 (2004-2006)

Strategy Period / Frequency of Roll	Long SPX 500	Overwrite with 3M 5% OTM Call 1 Month	Overwrite with 1M 2.5% OTM Call Hold to Expiry	Sell 3M ATM Put (1x) 1 Month	Sell 3M ATM Put (2x) 1 Month	Sell 3M 95% Put 1 Month	Sell 3M Strangle 1 Month	Sell 6M ATM Straddle 3 Month
Jan 04 - Apr 04	0.0%	1.3%	2.6%	1.1%	2.3%	0.9%	2.2%	1.3%
Apr 04 - Jul 04	-2.4%	-2.3%	-1.6%	0.2%	0.3%	1.2%	1.2%	3.4%
Jul 04 - Oct 04	1.1%	2.0%	3.3%	1.9%	3.8%	1.8%	2.7%	3.3%
Oct 04 - Jan 05	5.9%	5.3%	2.4%	4.0%	7.9%	1.7%	1.0%	-0.3%
Jan 05 - Apr 05	-1.6%	-1.1%	-0.7%	-0.1%	-0.3%	0.3%	0.8%	3.0%
Apr 05 - Jul 05	7.8%	7.4%	6.5%	3.0%	6.1%	1.3%	0.9%	2.6%
Jul 05 - Oct 05	-3.4%	-2.6%	-1.8%	-1.7%	-3.4%	-0.5%	0.4%	1.7%
Oct 05 - Jan 06	7.4%	5.8%	3.0%	4.3%	8.7%	2.4%	0.8%	1.9%
Jan 06 - Apr 06	4.4%	4.9%	5.8%	1.8%	3.7%	1.2%	1.7%	1.8%
Apr 06 - Jul 06	-5.0%	-3.4%	-2.1%	-1.2%	-2.4%	-0.4%	1.2%	2.1%
Jul 06 - Oct 06	10.5%	8.0%	5.8%	3.8%	7.7%	2.1%	-0.4%	0.2%
Oct 06 - Jan 07	5.0%	5.0%	5.3%	2.5%	5.0%	1.2%	1.2%	-2.4%
Average Quarterly	2.48%	2.53%	2.37%	1.64%	3.27%	1.10%	1.15%	1.54%
Max Draw-Down	-5.03%	-3.37%	-2.12%	-1.72%	-3.43%	-0.46%	-0.36%	-2.38%
Volatility	9.63%	7.89%	6.72%	4.16%	8.32%	2.03%	1.72%	

Source: Morgan Stanley Quantitative and Derivative Strategies

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Stock Rating Category	Count	% of Total	Count	% of Total IBC	% of Rating Category
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Equal-weight/Hold	**1339**	**44%**	**469**	**49%**	**35%**
Not-Rated/Hold	**113**	**4%**	**23**	**2%**	**20%**
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Total	**3,078**		**957**		

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