Goldilocks and the Three Bears

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Geneve, 13 Jun 2019

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For professional investors only

Goldilocks and the three bears

They decided to look around some more and when they got upstairs to the bedroom, Papa bear growled, "Someone's been sleeping in my bed,"

"Someone's been sleeping in my bed, too" said the Mama bear

"Someone's been sleeping in my bed and she's still there!" exclaimed Baby bear.

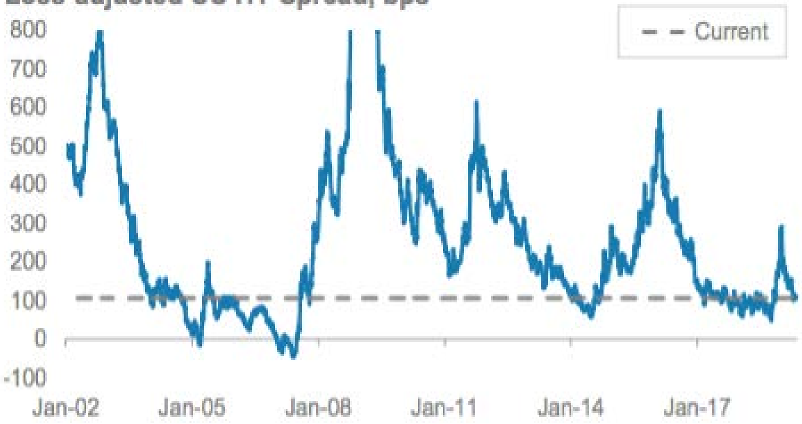
Just then, Goldilocks woke up and saw the three bears. She screamed, "Help!" And she jumped up and ran out of the room. Goldilocks ran down the stairs, opened the door, and ran away into the forest. And she never returned to the home of the three bears.

Goldilocks: a Credit bull market story

Goldilocks is still comfortably sleeping in the "small bed"

Watch out for the 3 bears

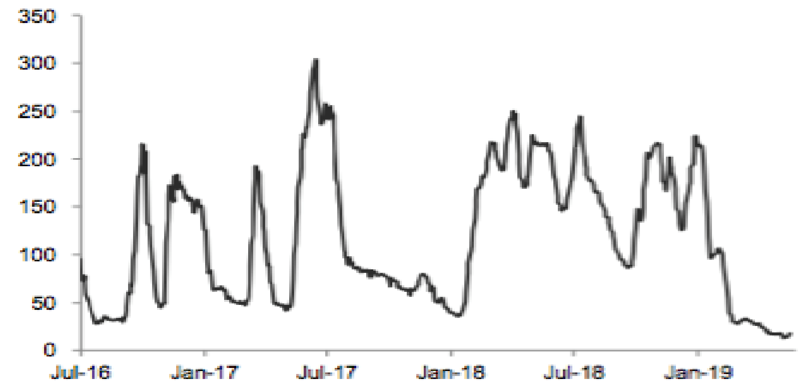
Loss-adjusted US HY Spread, bps



Source: Bloomberg, Moody's, Morgan Stanley Research

Figure 4: Borrow fees of the HYG US ETFs

In bps. The volume weighted average fee of all cash and non-cash transactions. Last obs. is as of May 22



Source: Datalend, J.P. Morgan.

'Goldilocks' Is Very Much in the Price

Source: Bloomberg, Morgan Stanley Research

Global Correlation Index

Source: Bloomberg, Morgan Stanley Research

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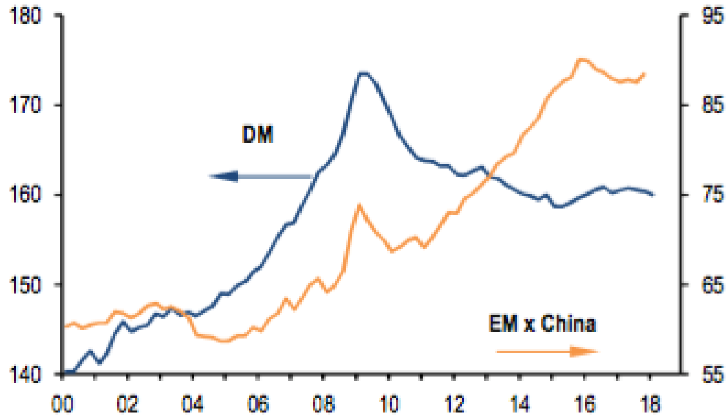
Fixed income is more than ever the backbone of global portfolios

Risk aversion, regulatory changes, demographics and zero rates the main reasons

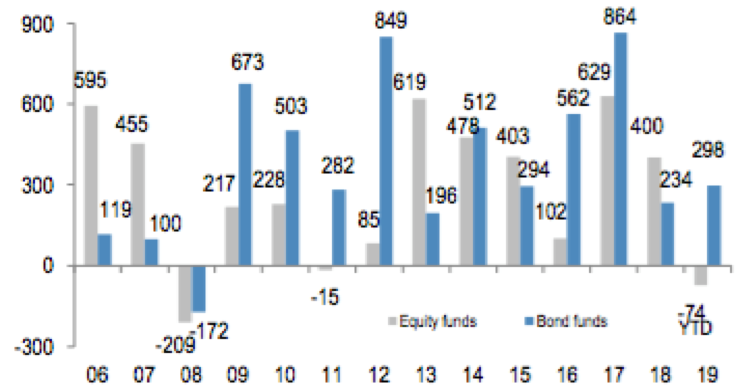
Figure 4: Broad private non-financial credit

% of GDP



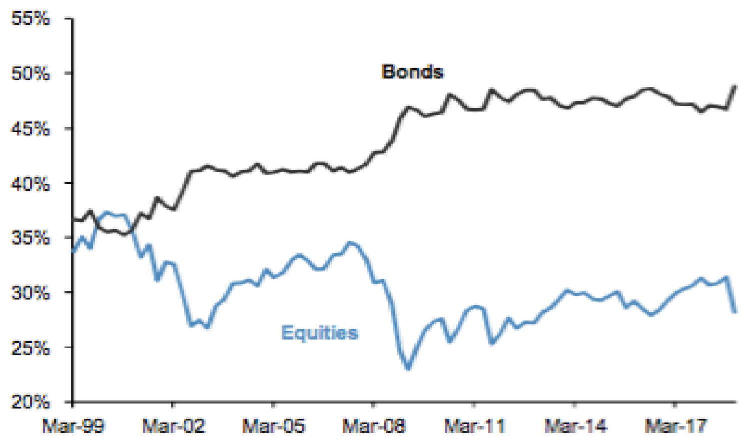
Source: J.P. Morgan.

$bn per year of Net Sales, i.e. includes net new sales + reinvested dividends for MF and ETFs. Flows are from ICI (worldwide data up to Q4'18). Data since then are combination of monthly and weekly data from ICI, EFAMA and ETF flows from Bloomberg.



Source: Bloomberg, ICI, EFAMA, J.P. Morgan.

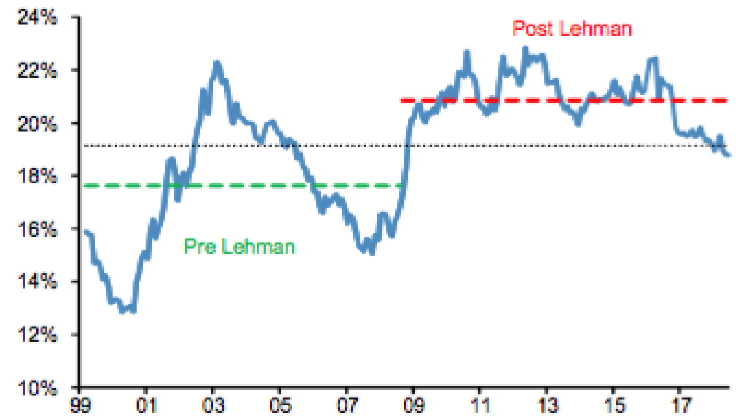
Equity and bond as % of total assets per quarter. G4 includes the US, the UK, Euro area and Japan. Last observation is Q4 2018.



Source: ECB, BOJ, BOE, Federal Reserve flow of funds

Figure 3: Implied bond allocation of global non-bank investors

Global bonds held by non-bank investors as % total holdings of equities/bonds/M2 by non-bank investors. Dotted lines are averages.



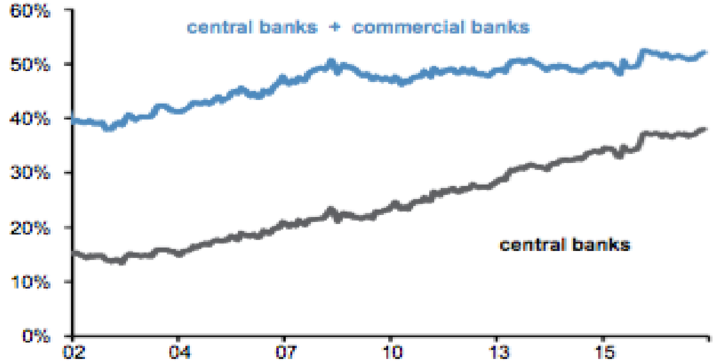
Source: J.P. Morgan.

Global QE caused a structural o/w of Credit and low-vol passive

QE created a scarcity effect on government bonds and tamed macro volatility

Figure 9: Proportion of the global bond universe held by central banks (including reserve managers) and commercial banks

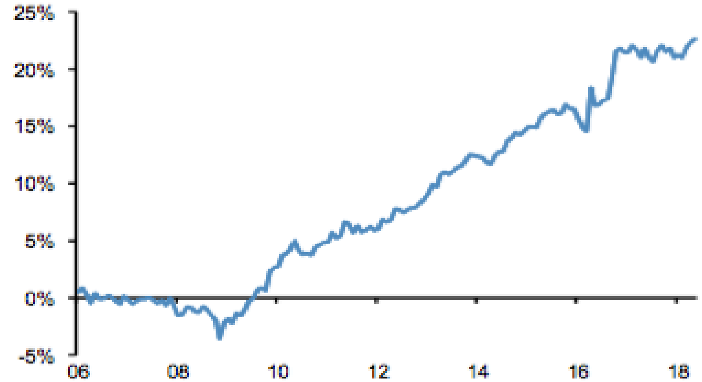
Global bond universe is proxied by the US$57tr market value of Bloomberg's Multiverse Bond Index augmented by Munis and Inflation linked bonds. Central banks include G-4 central banks and FX reserve managers. Commercial banks include G-4 commercial banks only



Source: Fed, BoJ, BoE, ECB, IMF, Bloomberg, J.P. Morgan

Figure 10: Credit overweight of non-bank entities globally

Percentage of non-government bonds in non-bank investors' bond portfolios minus percentage of non-government bonds in the tradable bond universe of the Barcap Multiverse index augmented by Munis and Inflation linked bonds



Source: Fed, BoJ, BoE, ECB, IMF, Bloomberg, J.P .Morgan

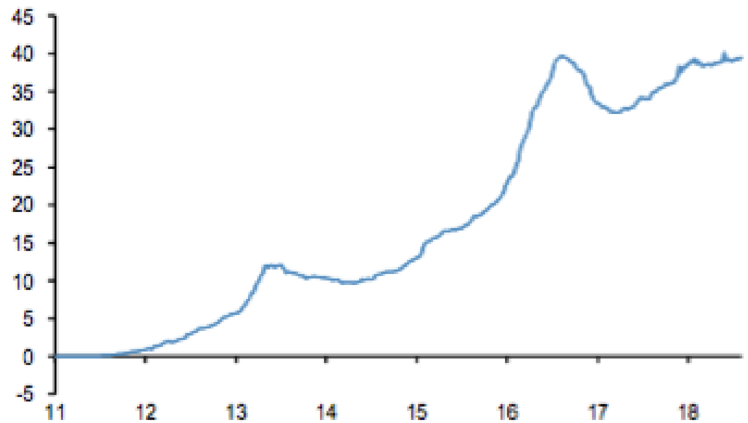
Figure 13: Economic surprises vs. market implied volatility

Economic surprises calculated as the 6-month rolling standard deviation to the JPM Global FRI, and the cross-asset implied volatility proxy is based on a weighted average of 3-month implied volatilities across give asset classes

Source: J.P. Morgan.

Figure 14: Cumulative inflows into low vol ETFs

$bn



Source: Bloomberg, J.P. Morgan.

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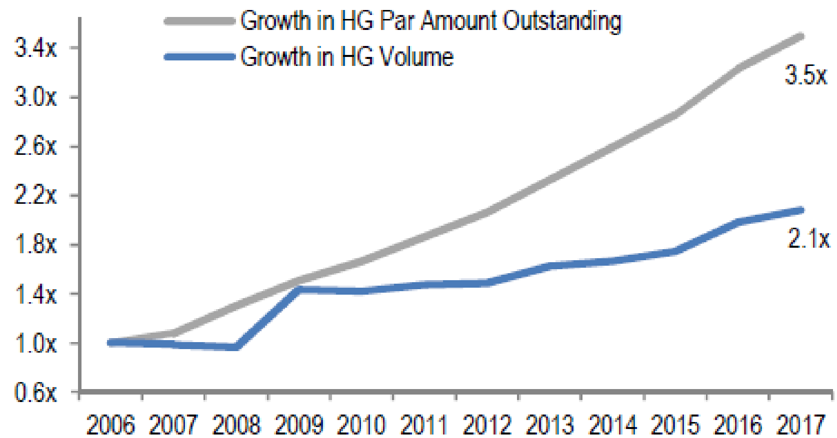
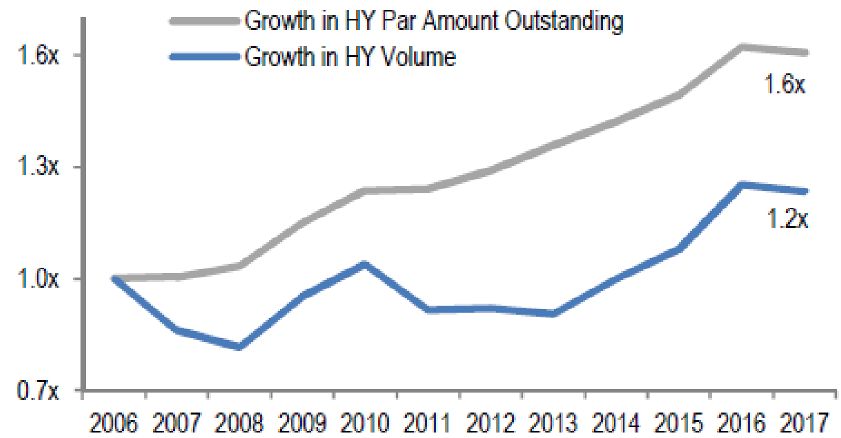
Credit markets huge growth outpaced market trading capacity

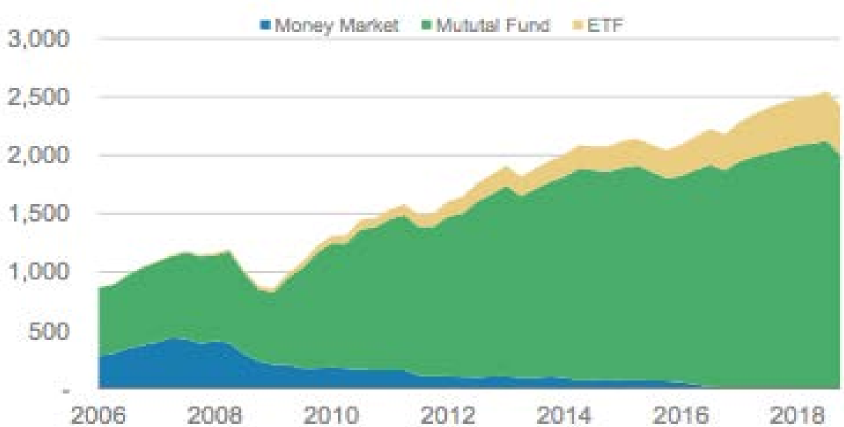
Investors with daily liquidity now control a big portion of the market





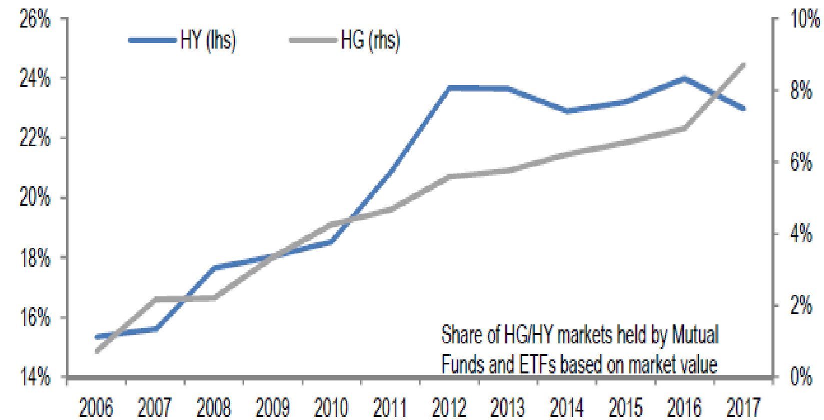
Source: TRACE, J.P. Morgan. Note including 144A post 2015

Credit Asset Ownership ($B)



Source: Federal Reserve data, Morgan Stanley Research

Exhibit 35: Mutual Funds and ETFs own about 9% of the USD HG market and 23% of HY

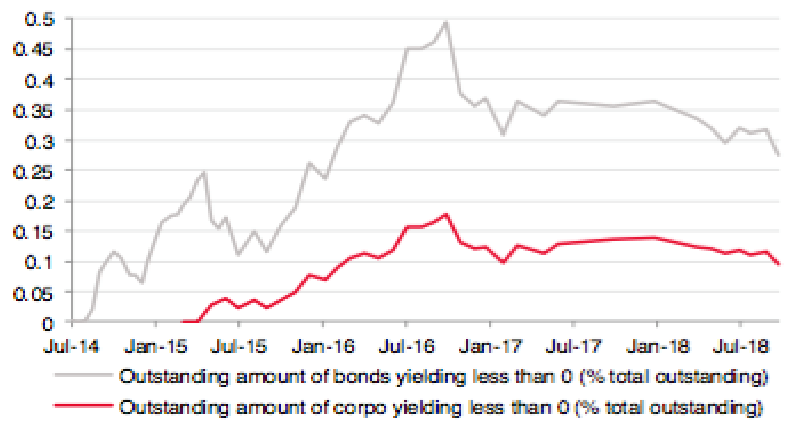


Source: J.P. Morgan, TRACE, Lipper, EPFR

The yield desert is the most relevant legacy burden of the GFC

European sovereign and IG average yield is now about 0.35%, just 20 bps above 2016 lows

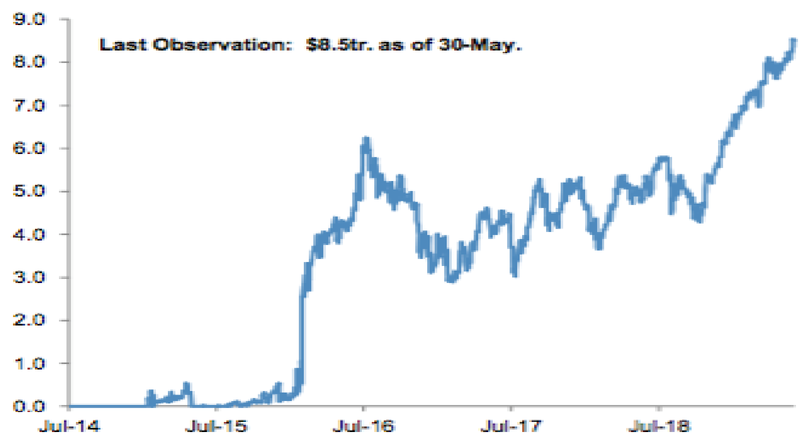
Graph 1. Share of bonds yielding less than 0% in the euro area



Source: SG Cross Asset Research

Graph 2. Share of bonds yielding less than 0% per country

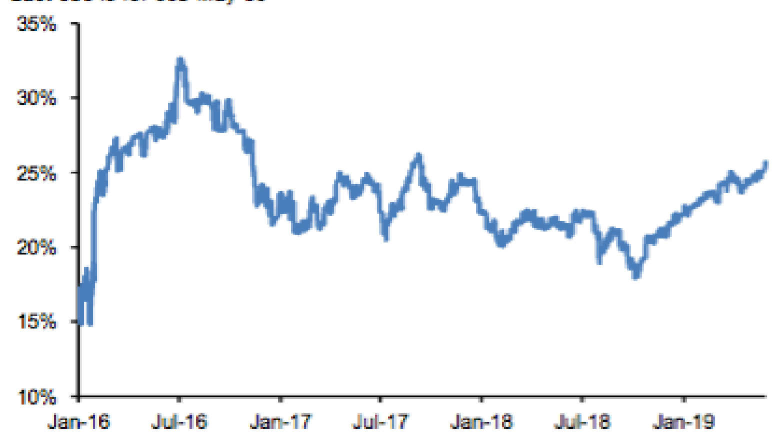
In $tr., Market Value of bonds trading with negative yield within the JPM Global Government Bond Index (JPM GBI Broad Index). Converted to USD at today's exchange rate. Note: This is a total Market Value number and is not adjusted for central bank's buying, whereas the Market Value reflected in current JPM GBI Broad is adjusted. (i.e. Rinban adjustments in Japan, SOMA holdings in the US, BoE purchases in the UK and BoC purchases in Canada).



Source: J.P. Morgan.

Figure 3: Bond Outstanding in negative yield as a % of total outstanding in GABI index

Last obs is for cob May 30th

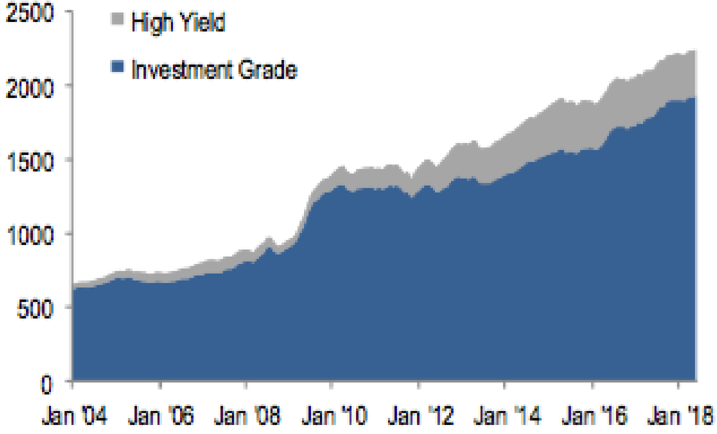


Source: Global Index Research team, J.P. Morgan.

The search for yield reshaped European Credit markets

The structure of the Credit market has undergone profound transformations

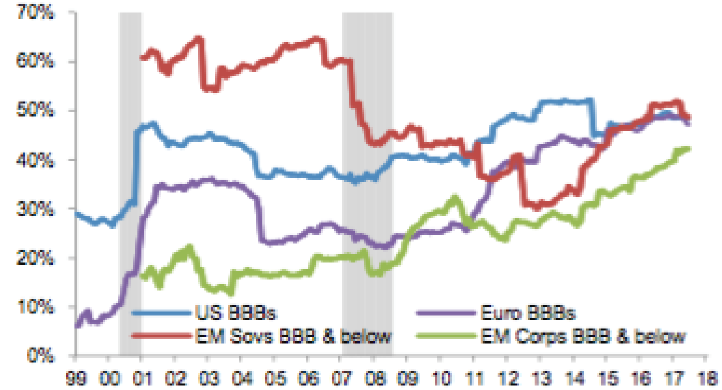
Figure 7: Euro credit market size, €bn



Source: J.P. Morgan, Markit Group.

Figure 5: Average credit quality has declined to cycle low

Percentage of BBBs in index for U.S. & Euro HG Credit, and percentage of BBBs & below for EM Sovereigns & Corporates

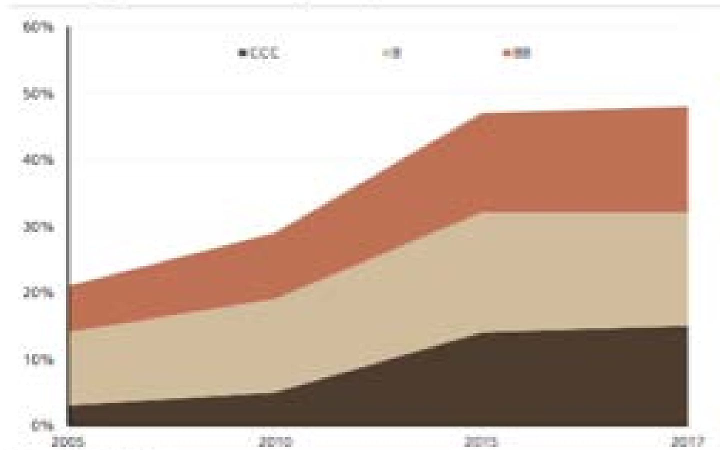


Source: J.P. Morgan

Figure 3: Euro Investment Grade Duration of New Issues

Source: J.P. Morgan.

Figure 14: The share of risky firms in EU credit markets is growing (Moody's Issuer Weighted Share of EU Corporates)



Source: Moody's, UBS

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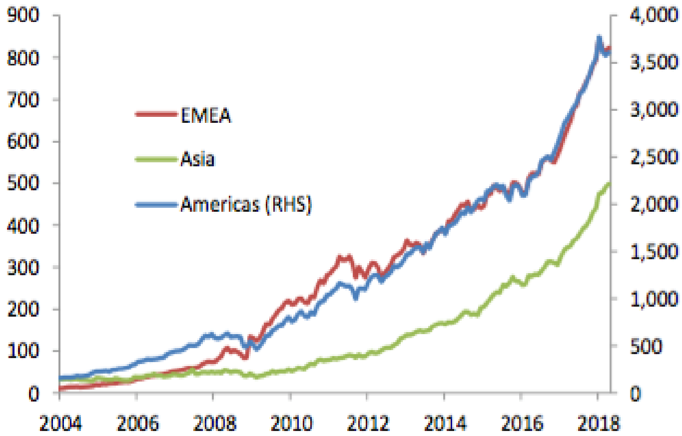
Tamed macro volatility promoted Passive/Momentum mentality

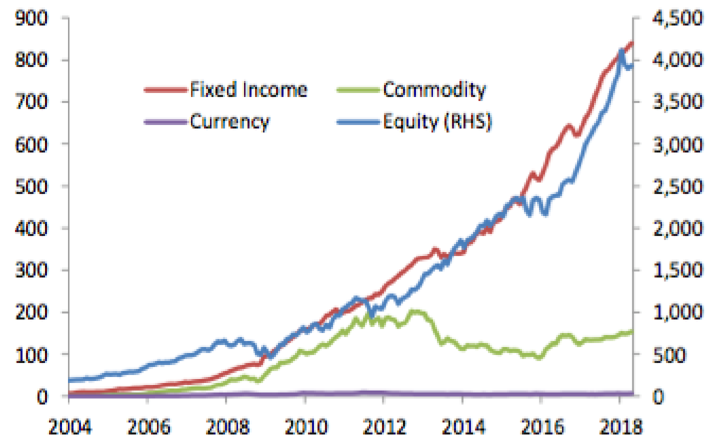
The US$2 TRL rotation after GFC exposes the market to the risk of larger drawdowns

Figure 5: Global ETF AUM historical trends by region ($Bn)



Source: J.P. Morgan Quantitative and Derivatives Strategy, Bloomberg.

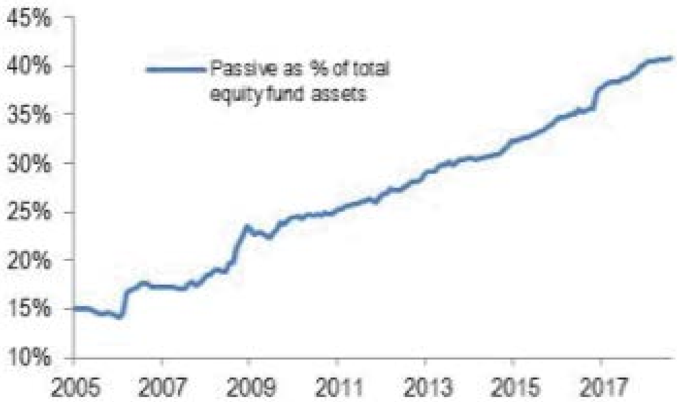
Figure 6: Global AUM historical trends by ETF type ($Bn)



Source: J.P. Morgan Quantitative and Derivatives Strategy, Bloomberg.

Figure 1: Passive equity investment has doubled since 2005

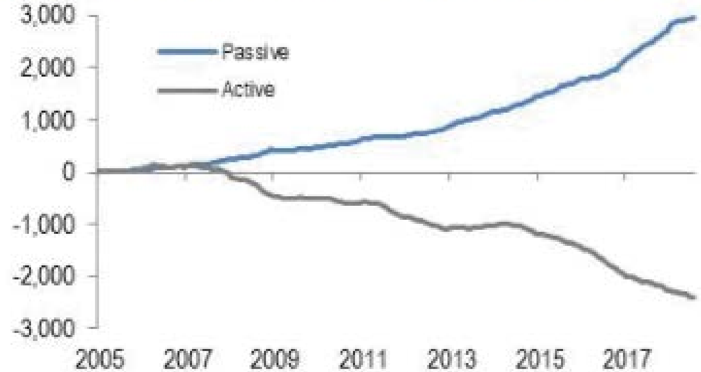
Passive funds' (i.e. ETFs + mutual funds) share of total global equity fund AUM



Source: J.P.Morgan QDS, EPFR

Figure 2: Strong inflows into passive equity funds, while active funds have experienced outflows

Cumulative net flows into passive and active equity funds since 2005



Source: J.P. Morgan QDS, EPFR

Goldilocks - Conclusions

- 10Y on from the GFC, **Fixed income is more than ever the backbone of global portfolios**, having increased it relative weight towards Equity on the back of rising risk aversion, demographic trends, supportive regulations and zero rates on bank accounts.

- The implementation of ultra-expansionary monetary policies has flooded the Global Bond market with liquidity by Central banks and FX reserve managers, which today hold in their portfolios about 39% of the market ($TRL 22 out of a market capitalization of $TRL 57). Together with commercial banks (14% of the market), they control more than half of the market (53%), much more than in the past. The resulting depressing effect on government yields and tamed macro volatility have forced a **structural and significant overweight In Credit** and promoted a **complacent attitude to passive management.**

- Huge demand for Credit products, and low all-in funding costs for the corporate sector, allowed a **dimensional jump of Credit markets size**, which has not been followed by a proportional increase in trading volumes. As a consequence, **liquidity risks** are definitely higher today, taking also into account the growing importance of investors with daily liquidity requirements.

- In **Europe**, where monetary policy normalizations has never started, **the yield desert is the most important legacy burden of the GFC**. Credit markets are still the only credible source of income

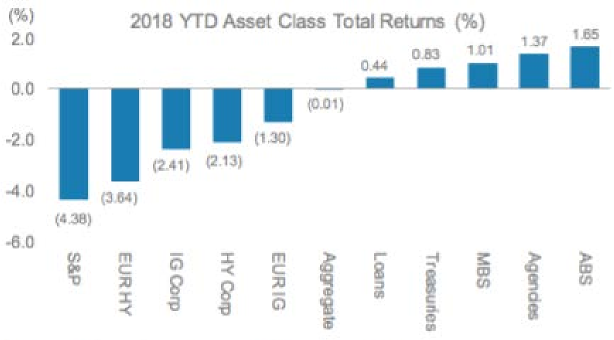
- The **search for yield has reshaped Global Credit Markets in a more speculative direction**. Not only markets have tripled or quadrupled in size with no parallel growth in markets trading capacity, but the structure is biased towards **higher duration** and **lower credit quality.**

- **Passive** and **momentum-driven strategies** have dominated since the end of the GFC, especially in Equity, where the risk of big and quick drawdowns is higher today as a consequence.

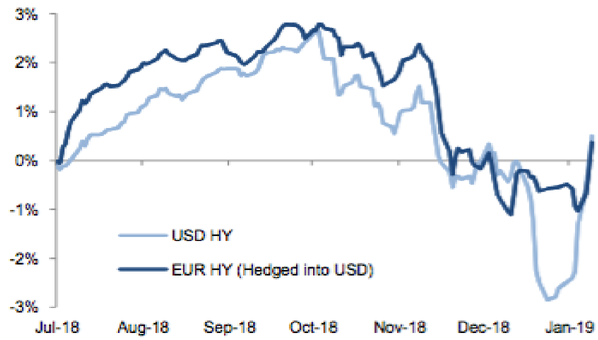
Baby Bear: the Credit Cycle

2018 euro Credit returns were negative almost everywhere

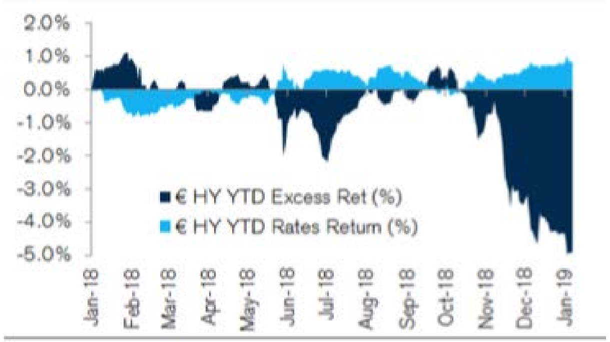
Excess returns even worse. Dispersion and decompression on the rise



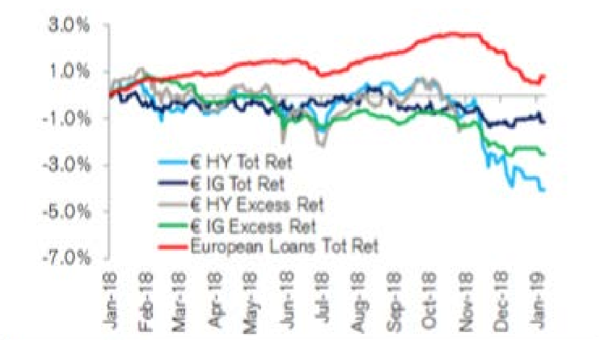
Source: Morgan Stanley Research, Bloomberg, FTSE Fixed Income, Markit



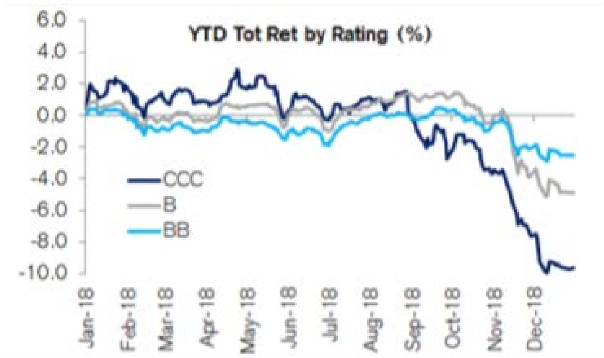
Source: J.P. Morgan, MARKIT Group.



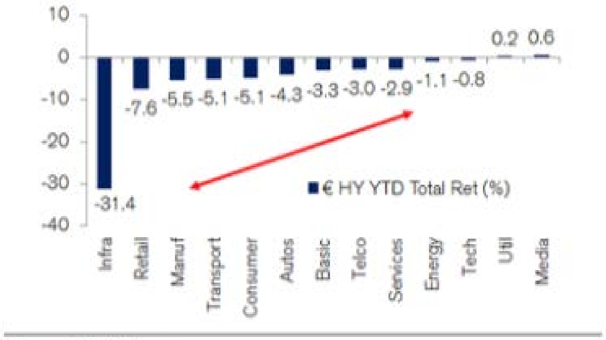
Source: Credit Suisse



Source: Credit Suisse



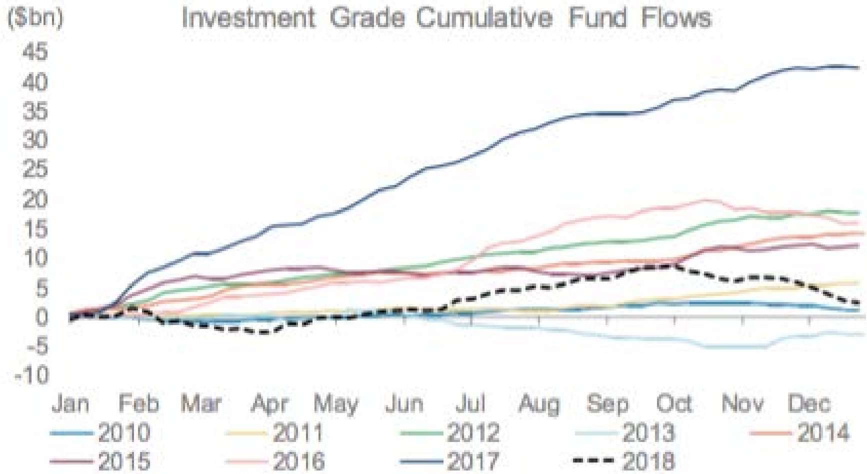
Source: Credit Suisse



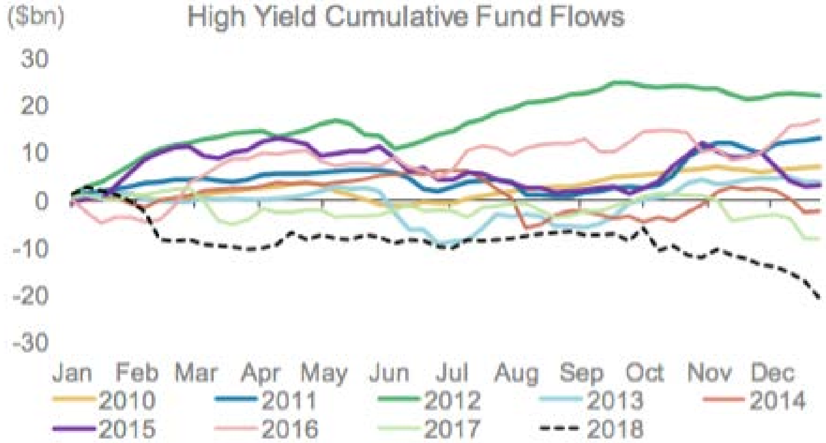
Source: Credit Suisse

2018 was essentially about poor market technicals

Worse year since the GFC in terms of flows

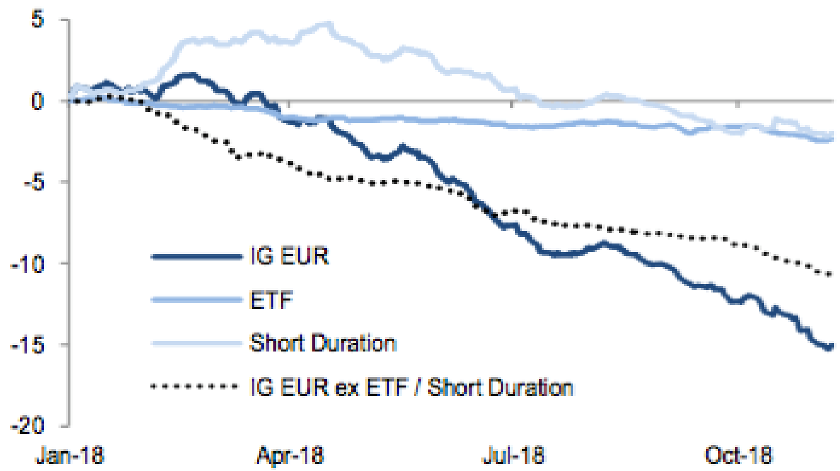


Source: Morgan Stanley Research, EPFR



Source: Morgan Stanley Research, EPFR

Figure 38: Cumulative Fund Flows, €bn



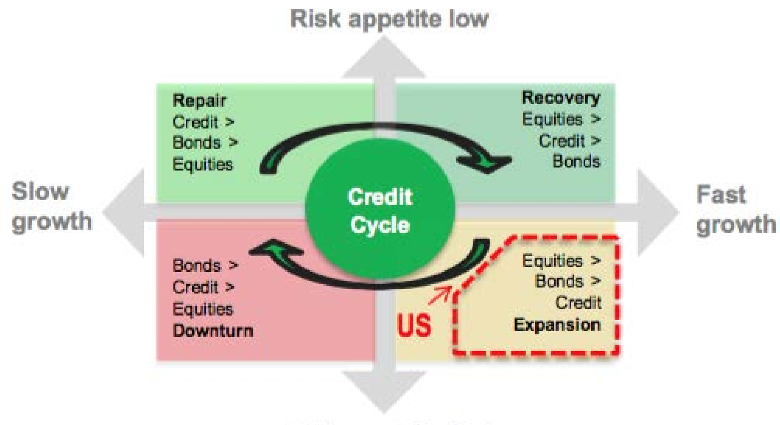
Source: J.P. Morgan, Bloomberg.

Figure 78: Cumulative YTD European HY Retail Fund Flows, % AUM

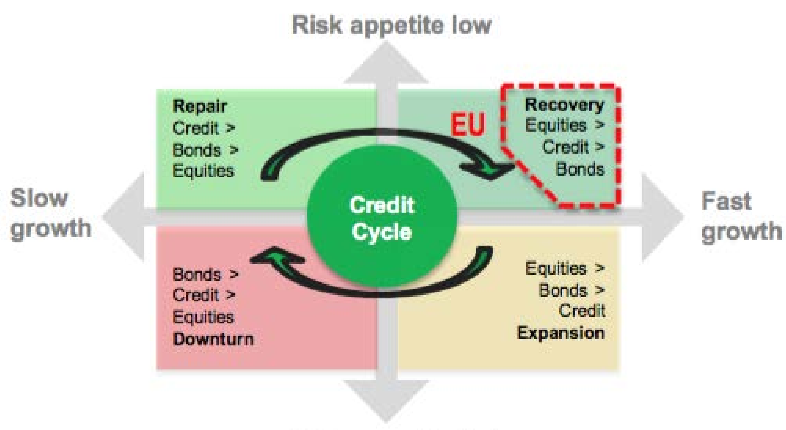
Source: J.P. Morgan, Bloomberg.

Widening spreads triggered anxiety about the end of the cycle

Global credit cycle past his top. Us Credit-Rates-Equity sequencing completed in 2018



5. Source: BNP Paribas



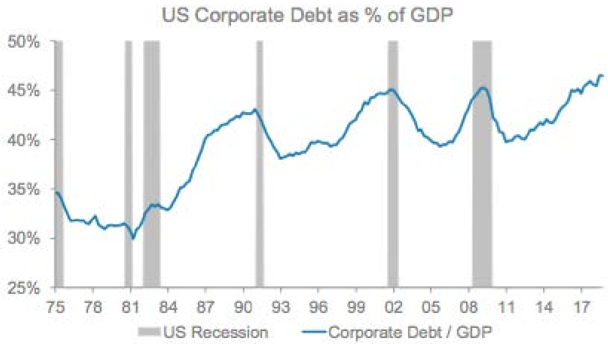
Source: BNP Paribas

Credit Cycle Indicator	2007 Cycle Most Extreme Level	Current Cycle 10	11	12	13	14	15	16	17	18	Signal
Loan Covenant Quality Indicator (higher worse)	2.49	n/a	n/a	3.2	3.5	3.8	3.8	4.1	4.0	4.1	
New Issue Leverage on all 1L Loans (x)	3.6	2.9	3.2	3.4	3.6	3.8	3.6	3.9	3.9	4.2	
LBO transactions > 6x Leverage	51%	6%	22%	21%	27%	47%	40%	46%	46%	48%	
Debt Cushion Below Loan	33%	n/a	28%	28%	24%	20%	25%	22%	21%	21%	
Loan Deals with EBITDA Adjustment	15%	10%	16%	14%	11%	15%	22%	16%	20%	27%	
Loan B- or Below % of Issuance	13%	5%	7%	10%	13%	19%	12%	11%	15%	22%	
LBO Purchase Price Multiple (x)	9.7	8.5	8.8	8.7	8.8	9.7	10.3	10.0	10.6	10.6	
M&A Loan Volumes ($bn)	91	34	36	55	79	122	108	93	143	170	
% of US Spec Grade Issuers with B2 or Lower CFR	53.2%	55.8%	56.3%	58.3%	60.9%	62.7%	63.3%	62.8%	62.8%	63.7%	
Credit Cycle Growth in Loans Outstanding	458%	-14%	-11%	-5%	18%	44%	51%	52%	70%	88%	
Credit Cycle Growth in IG Outstanding	71%	25%	38%	55%	72%	85%	108%	127%	138%	142%	
Credit Cycle Growth in BBB Outstanding (Non-Fin)	51%	26%	33%	58%	80%	93%	133%	146%	167%	181%	
IG Gross Leverage (x)	1.75	1.76	1.80	1.87	1.95	2.03	2.22	2.39	2.44	2.43	
Debt / GDP - Non-Financial Corporates	45.4%	39.7%	40.4%	41.0%	41.5%	42.1%	44.0%	44.9%	45.6%	46.2%	
Ex-Fin Net Stock Buyback Volumes S&P 500 ($bn)	420	189	272	260	321	398	382	326	342	428	
M&A Issuance % of IG Supply	9%	7%	11%	14%	12%	11%	25%	22%	17%	25%	
Non-US Ownership of Corporates	26.1%	23.7%	23.2%	23.4%	24.1%	24.7%	26.0%	28.0%	29.9%	28.3%	
HY Gross Leverage (x)	3.51	3.87	3.46	3.97	3.82	3.90	4.55	4.73	4.54	4.38	
Debt / GDP - Non-Mtge Consumer	18.2%	17.4%	17.5%	17.8%	18.1%	18.6%	18.6%	19.2%	19.3%	19.1%	
CRE Price Index	106	70	75	79	87	98	107	117	126	133	
Consumer Confidence Index	112	63	65	67	78	93	96	113	123	135	
LTM IG Issuance % of IG Outstandings	25%	13%	12%	17%	15%	16%	17%	16%	16%	12%	
Mutual Fund/ETF Ownership of Corporates	11.2%	13.0%	12.9%	14.9%	15.7%	15.7%	15.2%	15.3%	15.8%	15.9%	
Auto Origination < 620 FICO ($bn)	139	60	71	90	98	109	125	119	114	115	
M&A/LBO Issuance % of HY/Loans Supply	74%	26%	29%	27%	28%	44%	51%	39%	25%	46%	
Credit Cycle Growth in HY Outstanding	110%	39%	45%	60%	84%	92%	97%	93%	96%	91%	
LBO Loan Volumes ($bn)	160	29	42	42	69	76	60	69	111	119	
IG Cash / Debt	14.2%	27.9%	24.3%	21.1%	23.1%	22.6%	17.3%	19.4%	18.7%	13.6%	
IG Interest Coverage Ratio (x)	10.2	11.1	11.8	11.5	11.5	12.2	11	10.3	10.2	9.8	
Global CLO Volume ($bn)	151	5	12	53	92	143	112	90	142	176	
HY/Loan Issuance % of Outstanding	28.2%	17.6%	9.3%	19.1%	22.5%	18.0%	8.8%	7.6%	11.1%	9.3%	
YoY C&I Loan Growth	20.5%	-5.1%	9.7%	13.5%	6.4%	12.0%	10.4%	7.1%	1.5%	5.2%	
CCC or Below Share of HY New Issuance	15.2%	6.6%	9.3%	10.2%	12.3%	10.3%	5.4%	4.1%	10.3%	8.4%	
HY Interest Coverage Ratio (x)	3.86	3.93	4.14	3.89	4.41	4.91	4.32	3.77	4.19	4.58	
IG Capex / Sales	5.2%	4.1%	4.3%	4.4%	4.5%	4.4%	4.7%	4.6%	4.4%	4.4%	
Debt / GDP - Consumer	97.7%	90.1%	86.0%	83.1%	80.4%	78.4%	77.2%	77.0%	76.4%	75.4%	
Debt / GDP - Financial Corporates	124.6%	100.6%	94.4%	89.9%	87.2%	85.2%	82.6%	82.2%	80.2%	78.7%	
Housing Origination < 620 FICO ($bn)	403	77	53	56	67	59	68	69	75	66	

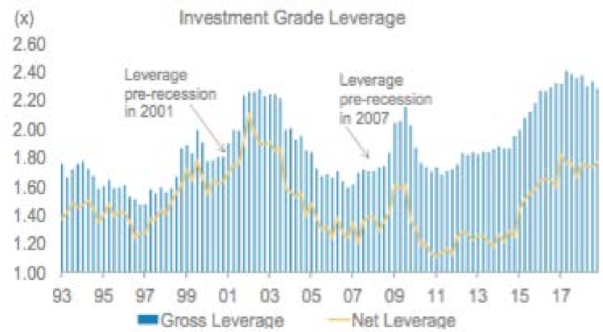
Source: Morgan Stanley Research, Federal Reserve, Bloomberg, FTSE Fixed Income LLC, S&P LCD, S&P Capital IQ, Moody's, Real Capital Analytics, ClarFI.
Note: Dollar volumes are annualized for full-year 2018.

Many measures of leverage and credit quality are worrying

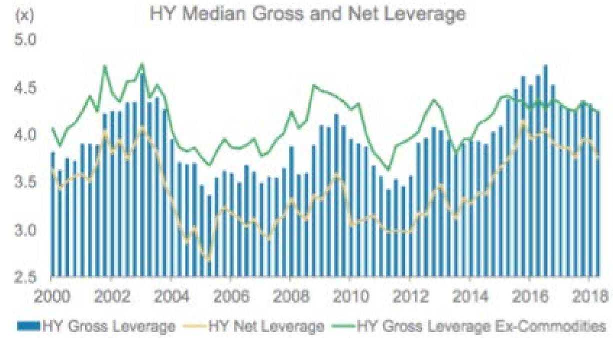
Us IG gross leverage and mid-tier loans close to record. European HY shows worrying signs.



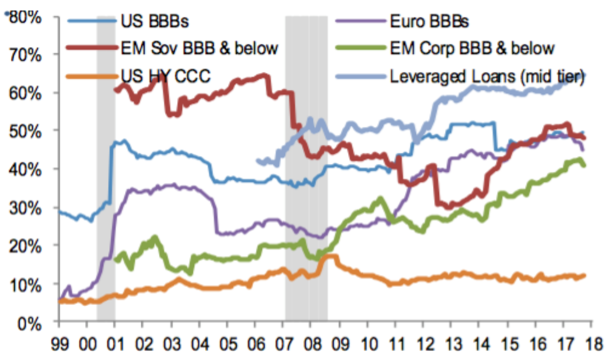
Source: Morgan Stanley Research, Federal Reserve



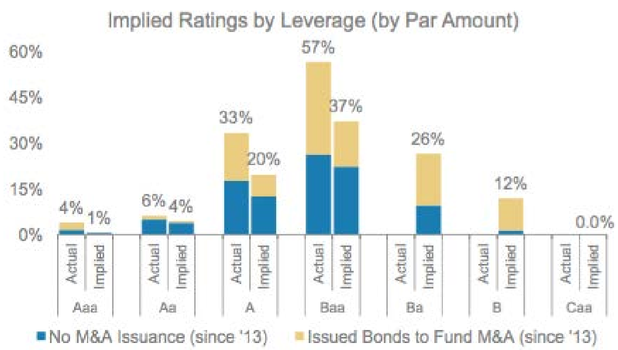
Source: Morgan Stanley Research, Bloomberg, FTSE Fixed Income LLC



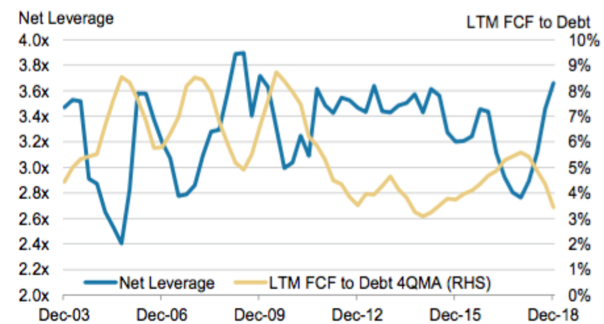
Source: Morgan Stanley Research, Bloomberg, Capital IQ



Source: J.P. Morgan



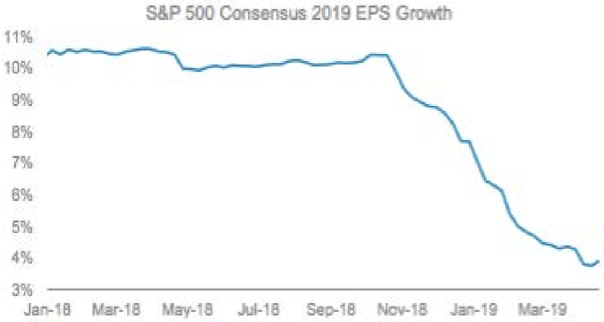
Source: Morgan Stanley Research, FTSE Fixed Income LLC, Bloomberg, Moody's



Source: Bloomberg, company data, Morgan Stanley Research

Margin pressures are slowing down earning growth globally

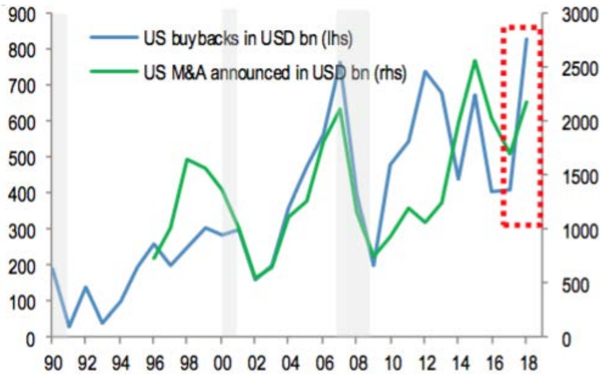
Prepare for more earning revisions and company shareholder friendly activity

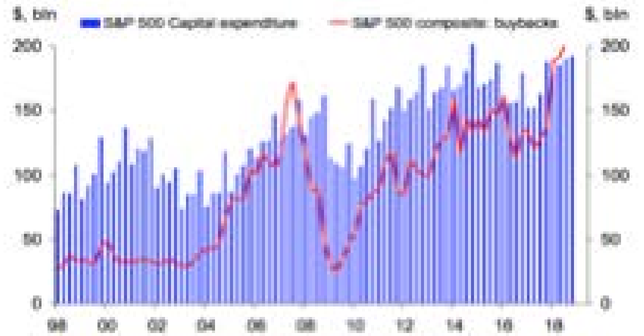


Source: Morgan Stanley Research, Factset

Source: Bloomberg, Morgan Stanley Research

Source: MSCI, IBES, Morgan Stanley Research





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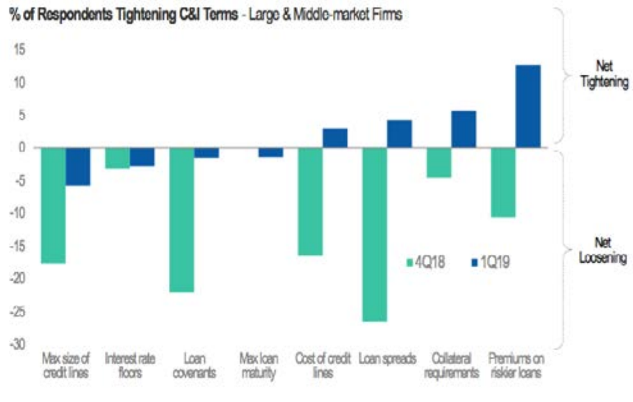
Credit standards and demand for new credit are deteriorating

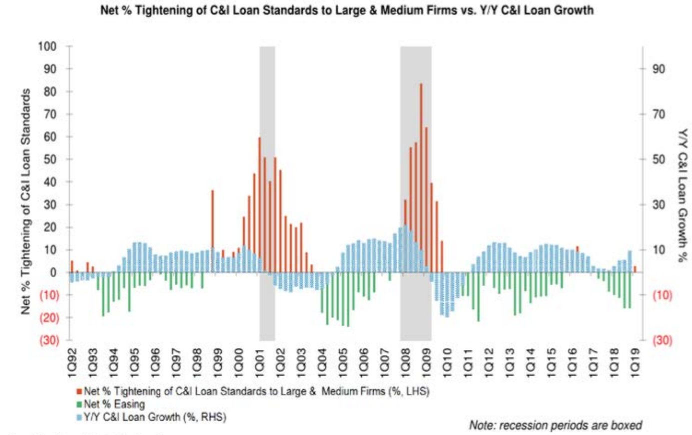
First net tightening in US C&I since 1Q16. Demand for credit weaker in all categories

Changes Since Last Qtr	Demand	Pace vs Last Quarter	Standards	Pace vs Last Quarter
C&I: Large/ Medium Firms	Weaker	Decel	Stable	Previously Easing
C&I: Small Firms	Weaker	Stable	Stable	Previously Easing
CRE	Weaker	Stable	Tightening	Accel
Mortgage	Weaker	Accel	Stable	Previously Easing
Card	Weaker	Accel	Tightening	Previously Easing
Auto	Weaker	Accel	Stable	Previously Tightening
Other Consumer	Weaker	Previously Stronger	Stable	Previously Easing

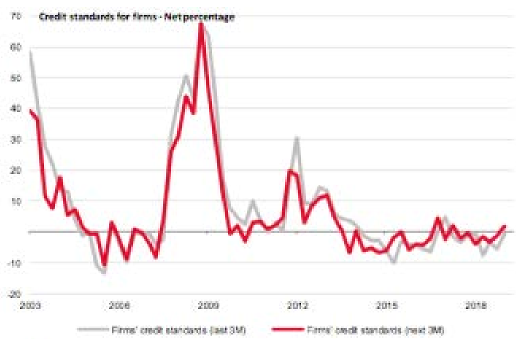
Source: Federal Reserve, Morgan Stanley Research



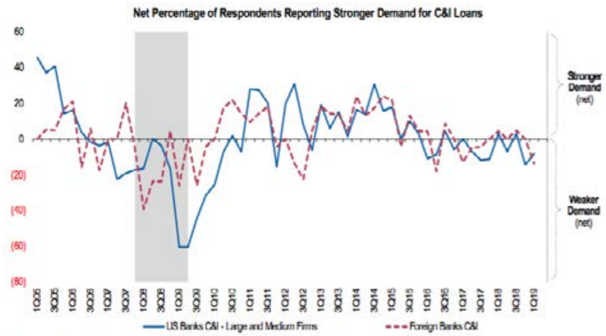
Source: Federal Reserve, Morgan Stanley Research
Note: Large and middle-market firms are defined as those with annual sales of more than $50m



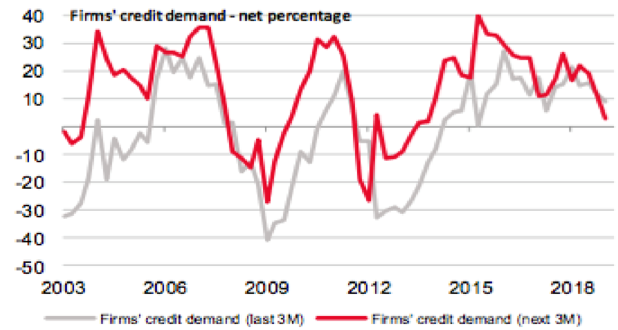
Source: Federal Reserve, Morgan Stanley Research



Source: Datastream, SG Cross Asset Research/Economics



Note: recession periods shaded in grey.
Source: Federal Reserve, Morgan Stanley Research

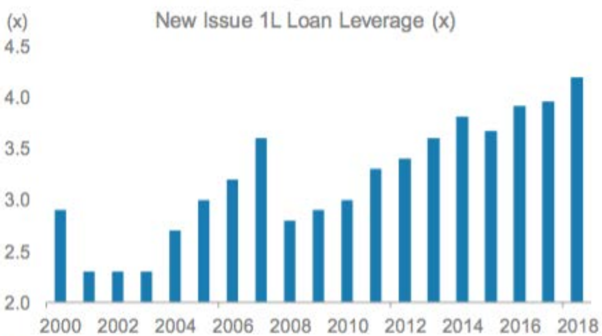


Source: ECB, SG Cross Asset Research/Economics

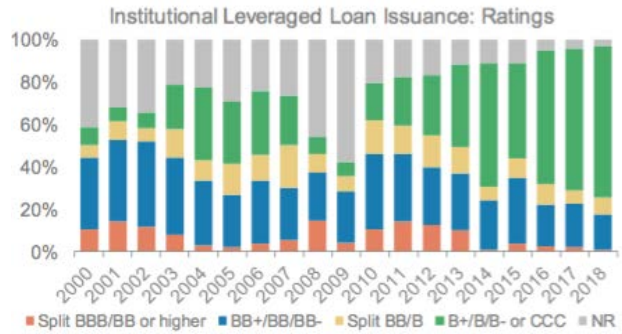
LEMANIK

Leverage loans and primary markets are the most "late-cycle"

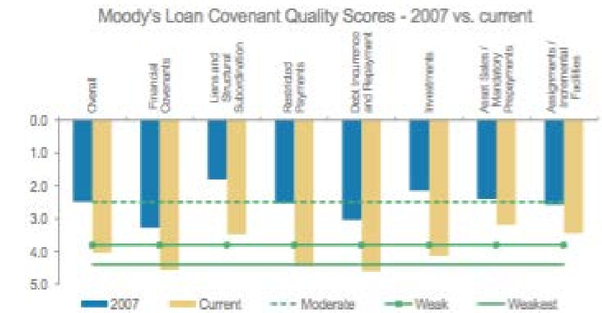
New issue LL 1st lien leverage at record levels. Structures quality at record lows



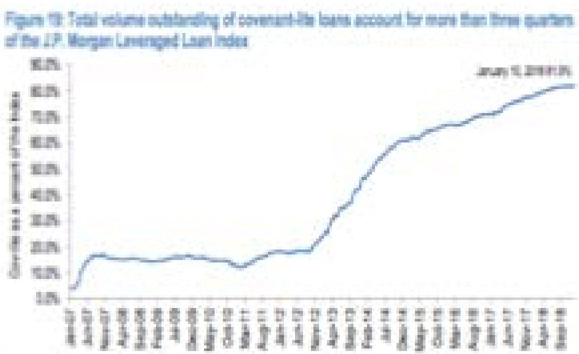
Source: Morgan Stanley Research, S&P LCD



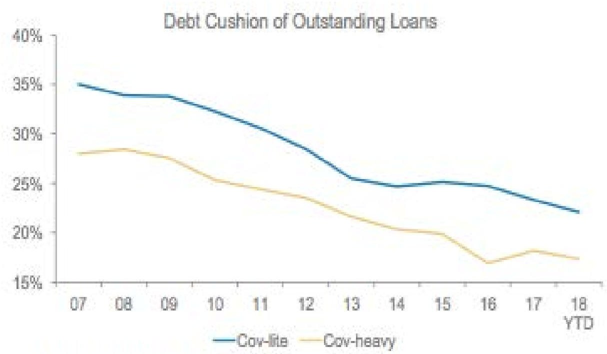
Source: Morgan Stanley Research, S&P LCD



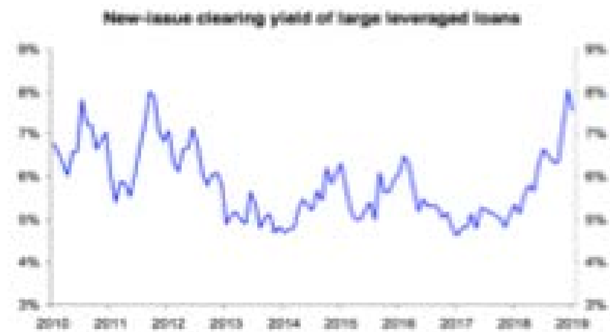
Source: Morgan Stanley Research, Moody's Investors Service



Source: J.P. Morgan



Source: Morgan Stanley Research, S&P LCD



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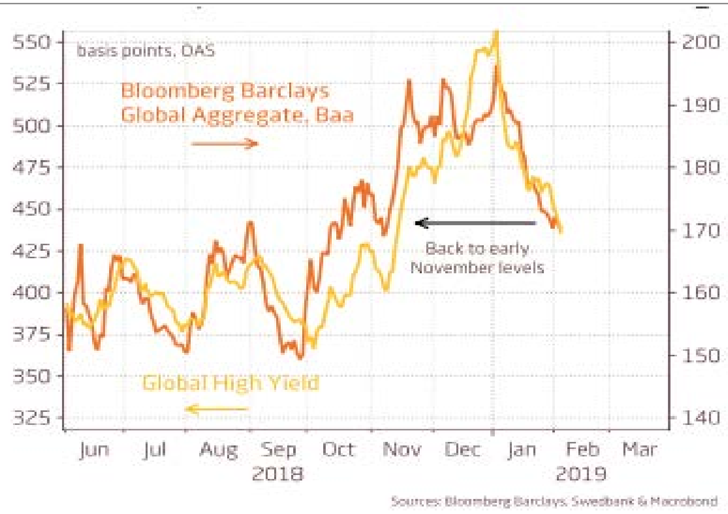
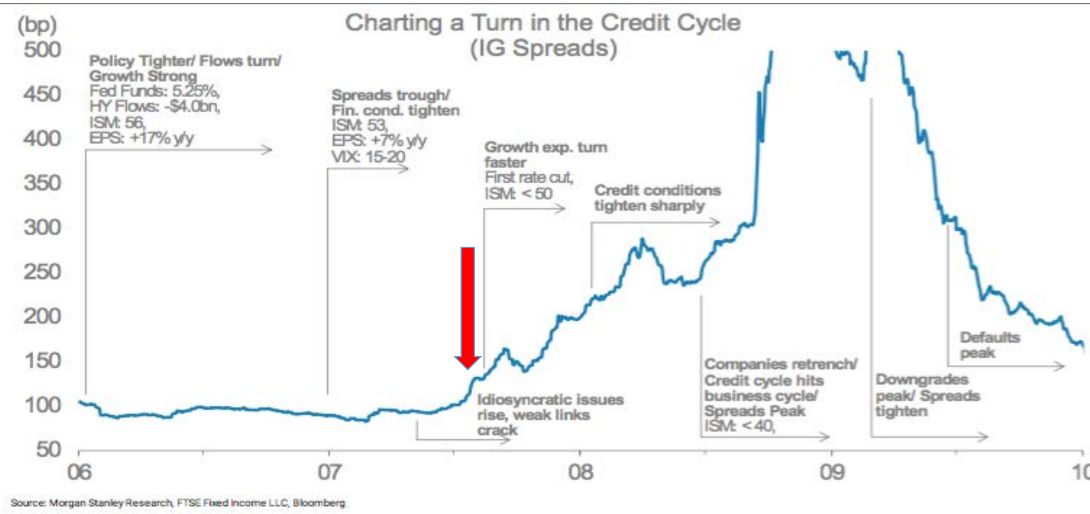
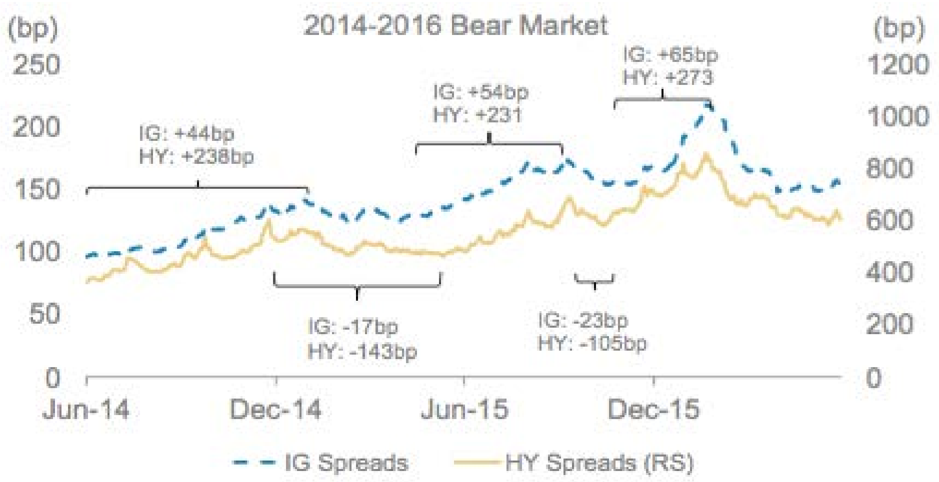
Credit cycle is turning. 2019 YTD tightening is a bear-market rally

Bear markets develop in stages but the time between spread troughs and Recession varies







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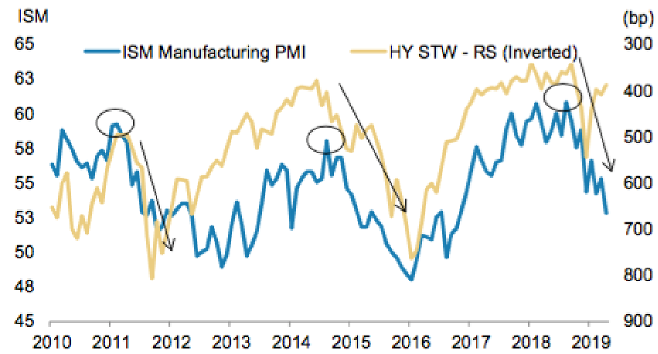
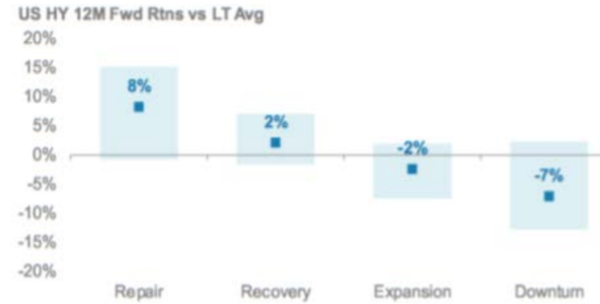
Market behavior in 2018 looked in line with a Bear market start

The period between the last FED hike and the first cut is the worst one for credit spreads

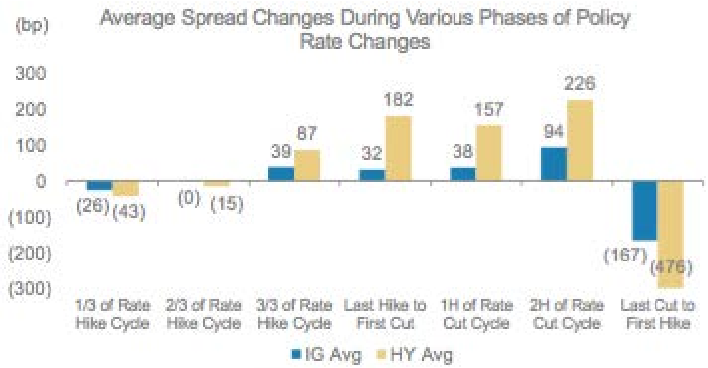
Source: Morgan Stanley Research, FTSE Fixed Income LLC



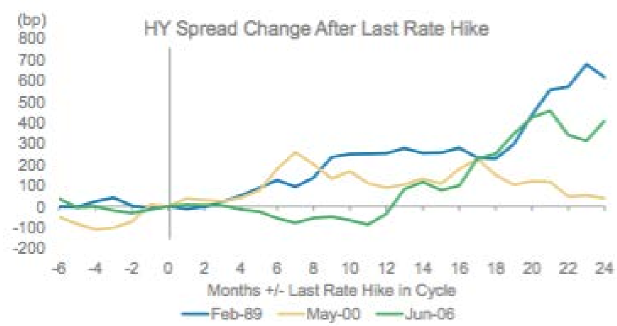
Source: Morgan Stanley Research, Bloomberg, FTSE Fixed Income LLC



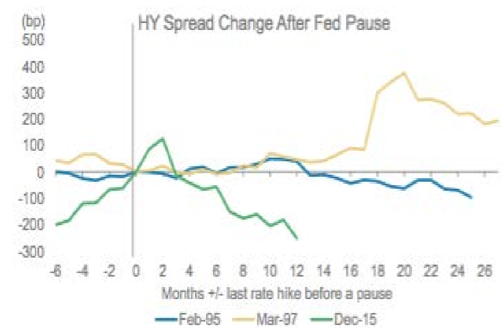
Source: Morgan Stanley Research, Bloomberg. Note: Based on US cycle indicator; Excess returns data from 1988.



Source: Morgan Stanley Research, FTSE Fixed Income LLC, Bloomberg



Source: Morgan Stanley Research, FTSE Fixed Income
Note: Uses spread for "B" rated bonds before 1989



Source: Morgan Stanley Research, FTSE Fixed Income

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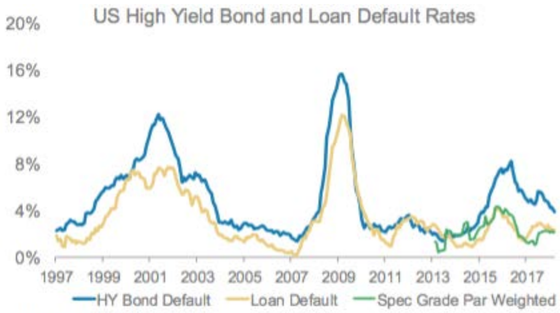
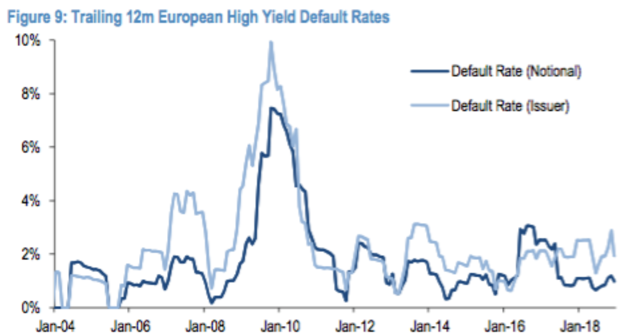
Default rate environment is still benign but will get worse in 2020

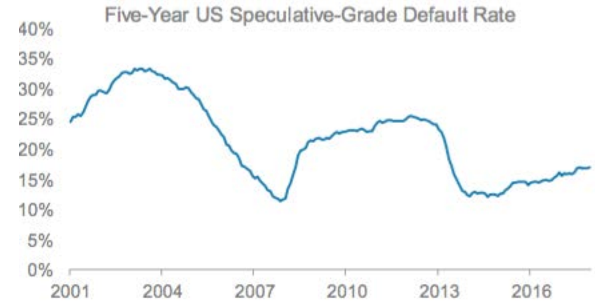
DR should remain low in 2019 but rising more rapidly in the following 2 years



Source: Morgan Stanley Research, Moody's
Note: HY bond and loan default rates are issuer-weighted, spec grade default rate is par-weighted

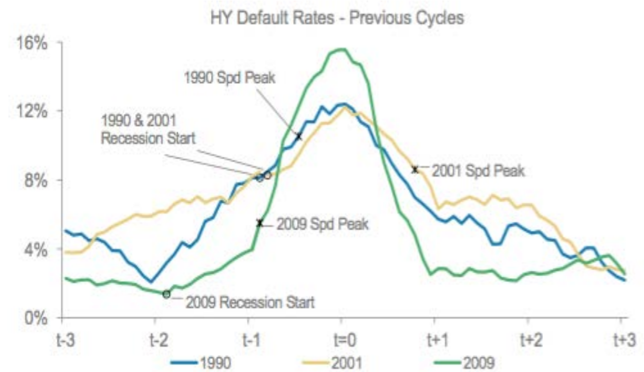


Source: J.P. Morgan, MARKIT Group.



Factor	Signal	Average Lag to Next Default Peak (Months)	Date of Signal	Implied Default Peak
2s10s Curve	Trough	28	6/30/2019	10/30/2021
Fed Funds Rate	Peak	28	6/19/2019	10/19/2021
Corporate Debt / GDP	Peak	9	3/31/2019	12/31/2019
M&A Volume (12M MA)	Peak	22	7/31/2018	5/31/2020
Corporate Net Margins	Peak	23	9/30/2018	8/30/2020
S&P500 Earnings Growth	Peak	34	9/30/2018	7/30/2021
Financial Conditions	Trough	25	1/26/2018	2/26/2020
US Real Rate - Natural Rate	Cross to > 0	37	6/30/2019	7/30/2022
Unemployment less NAIRU	Cross to < 0	49	3/31/2017	4/30/2021
ISM Manufacturing PMI	Peak	34	8/31/2018	6/30/2021
Average		**28**		**3/8/2021**

Source: Morgan Stanley Research, FTSE Fixed Income LLC, Bloomberg
Note: Debt/GDP is at peak levels compared to past cycles, but we assume it rises for another 9 months. We use forecast values where available from our macro team, for example for the 2s/10s curve, and real rate – natural rate to determine when the variable may peak/trough. We assume earnings growth, margins, and PMIs are peaking right about now. In determining when the signal triggered in past cycles, we use the last local peak/trough when there are several peaks/troughs.



Source: Morgan Stanley Research, Moody's Investors Service, FTSE Fixed Income LLC;
Note: Assumes US bond issuer default rates for 2001, 2009, and current. Assumes US speculative grade default rate (reflects bonds and loans) for 1990. T=0 is the peak default year in that cycle.

Credit trends - Conclusions

- 2018 Credit absolute and excess returns were negative almost everywhere, driven mostly by **poor technicals** (retail outflows). **Dispersion** and **Decompression** were generally on the rise.
- After almost 3 years of mispricing, **global credit spreads finally retraced wider and ended the year at or above their median or fair values**. European spread looked cheaper in relative terms by a corporate fundamental standpoint, but EU HY spreads were penalized by the weaker macro environment and EU IG spreads by the end of the CSPP program.
- US Equity collapse in December completed the Credit-Rates-Equity sequencing initiated in February 2018 with US IG spread lows. **We now think that the Credit Cycle is inverting** as confirmed by **multiple red-flashing late-cycle signals**. 2019 **YTD recovery should be regarded as a tactical rebound**, more powerful than envisage because of the 180 degrees pivot in central banks attitude. Prepare for **new spread highs in the second half of 2019**, close to the highs of the cycle (700-800 bps) or higher in case of a US Recession.
- Most measures of **Leverage** are worrying: Us corporate debt/GDP ratio is at record levels, US IG gross leverage is very close to the highs and US HY net leverage is close to the peak. Euro HY net leverage has risen very quickly during the last 2 quarters, and it's been growing steadily in 2018, with strong debt y/y growth and stagnant Revenue/Ebitda growth. At the same time the **structure of IG markets** today is weaker than in the past, with a much larger presence of BBB which in many cases show even a lower implied rating.
- 2019 **EPS growth** is slowing down significantly versus 2018, driven lower by **margin pressures** on the back of rising **cost-inflation**. On top of that, decelerating growth has driven **larger negative revisions to EPS forecast** globally, another signpost of the cycle inversion. **Shareholder friendly activity** is at record levels to reflect this, which impairs credit profiles.
- **Leverage loans** and **Primary markets** are the most advanced in the Cycle, in terms of 1st lien leverage, rating quality, covenant structure, debt cushions
- **Bear Credit Markets tend to develop in stages**, with tactical rebounds in between. We are probably between stage 2 and stage 3, **in the midst of the large GDP and EPS negative revisions** which will restart the negative trend.
- **Market behaviour so far is in line with previous Bear markets**, or even more negative. **The period between the last FED hike and the first cut is historically the worst for credit spreads.**
- **The Default rate environment** is still benign overall and we are not expecting a significant increase in DR in 2019. However, **Default rates will probably start to increase more materially in 2020 and market will move to price that in the second half of 2019**
- **Short Duration HY** is going to be the only balanced solution to invest in Credit in 2019 from a risk-reward perspective. After the recent sell-off, valuations have improved significantly and currently show the most attractive Yield per unit of volatility. Negative convexity risks less important now, but always to be monitored.

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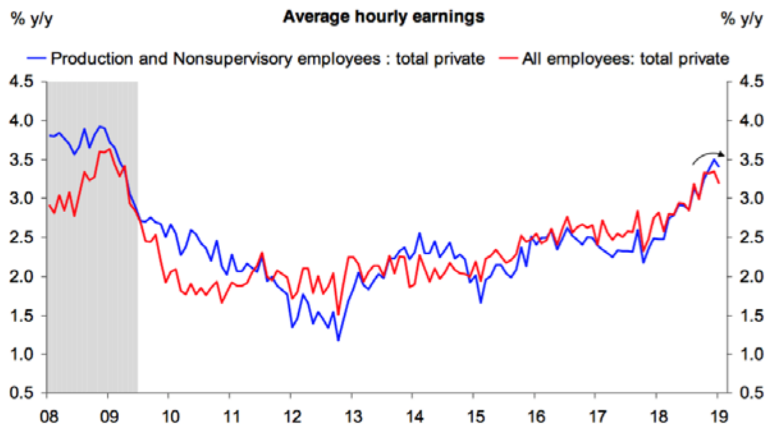
Mummy Bear: the Economic Cycle

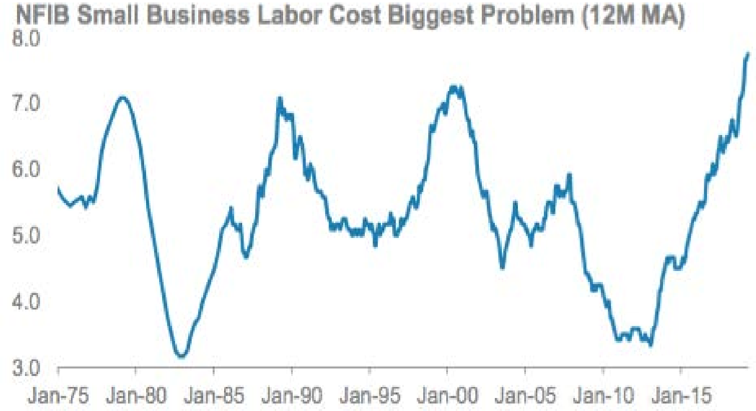
The longest expansion on record since WW2

The US economy has just entered "Downturn" phase and unemployment rate is at 1969 lows

Source: Bloomberg, Morgan Stanley Research



Source: BLS, DB Global Research



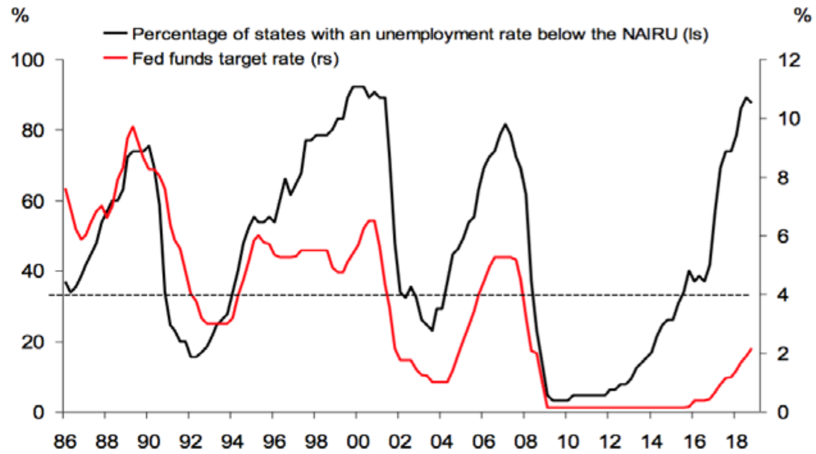
Source: Bloomberg, Morgan Stanley Research.

LEMANIK

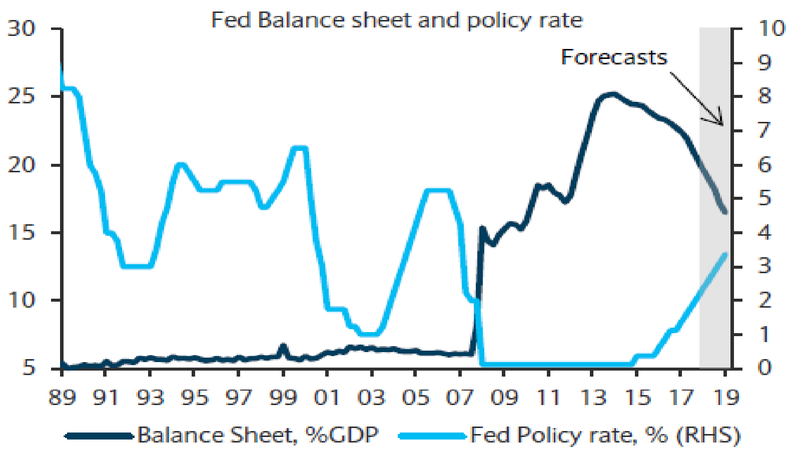
FED normalization happened at different levels

Monetary policy approached “neutrality”. Forward guidance gradually fading

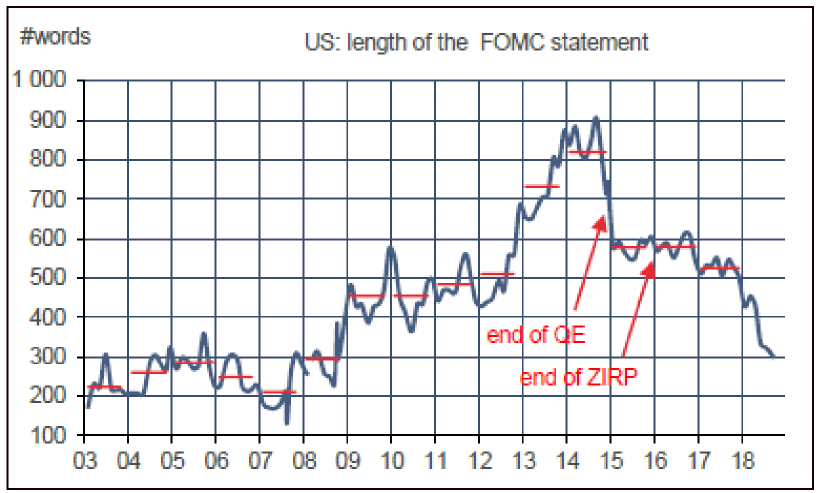
Sources: Thomson Reuters, Fed, Oddo BHF Securities



Source: CBO (NAIRU), BLS, FRB, DB Global Research



Source: Haver Analytics, Barclays Research



LEMANIK

Global growth quickly decelerating, driven by new orders

US De-synchronization is over. Labor market and consumer confidence key supports

Figure 3: J.P. Morgan Global manufacturing PMI

DI, sa; both scales

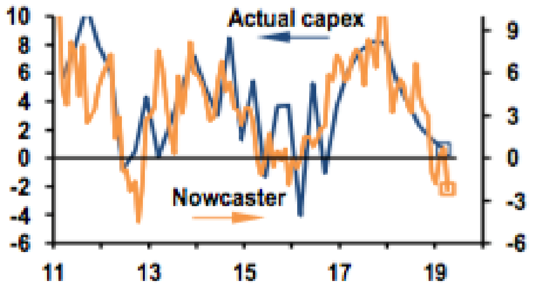
Source: J.P. Morgan, IHS/Markit

Source: Haver Analytics, Morgan Stanley Research

Source: Bloomberg

Figure 1: Global capex, actual and nowcaster

%q/q, saar; 1Q tracking %m/m, saar; Apr tracking



Source: J.P. Morgan

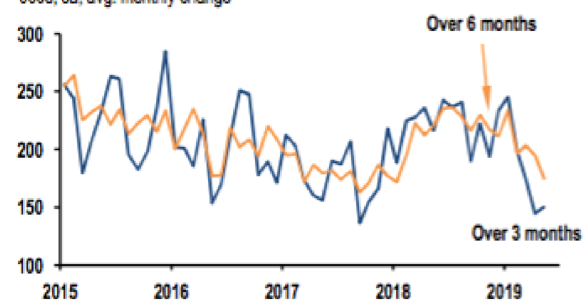
Figure 2: Composite survey indexes

index

Source: Various sources, J.P. Morgan

Figure 1: Nonfarm job growth

000s, sa, avg. monthly change



Source: BLS, J.P. Morgan

Source: Markit, Haver Analytics, IMF, National Sources, Morgan Stanley Research.

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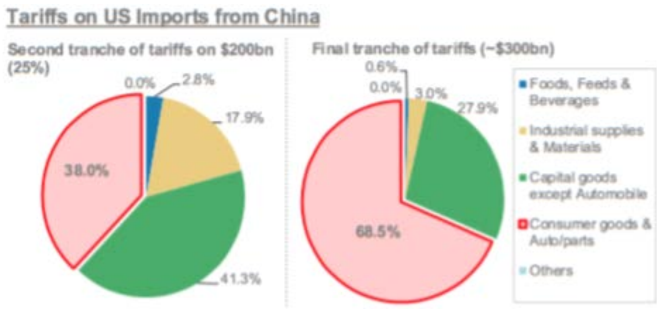
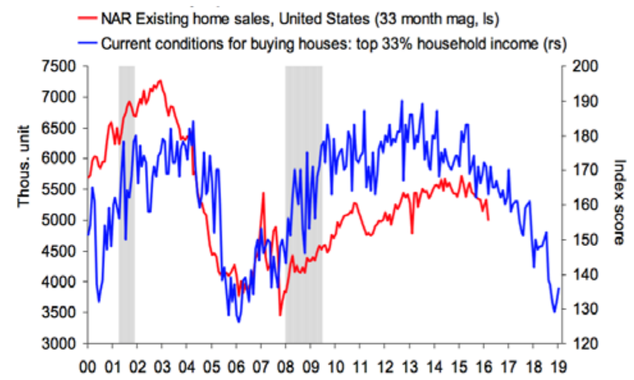
World trade is not the key risk to Us Economy at the moment

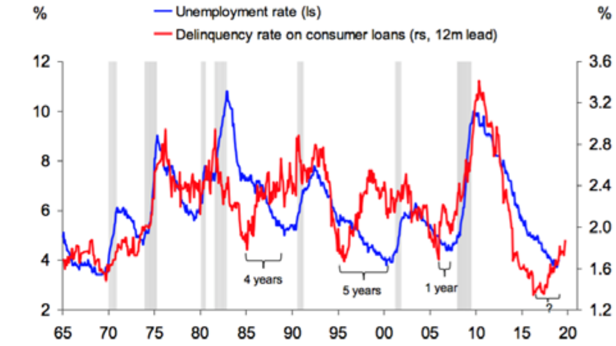
Current conditions for consumption and housing are heading south, delinquencies rising



Source: USTR, Census Bureau, Morgan Stanley Research

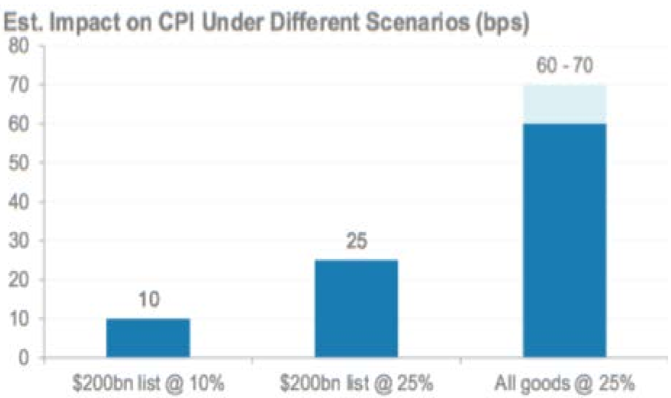


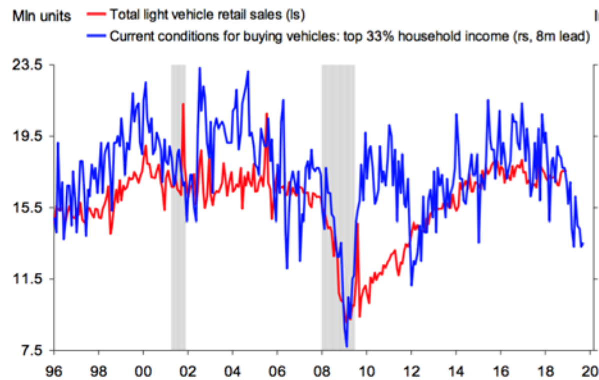
Source: NAR, UMICH, Haver Analytics, DB Global Research



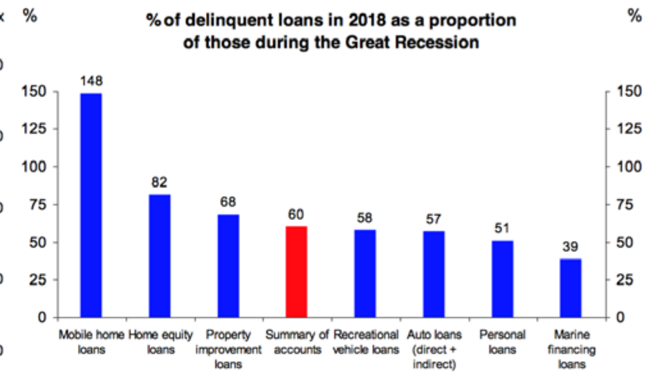
Note: Composite consumer loans consists of eight loan types: personal, automobile direct & indirect, mobile homes, recreational vehicles, marine financing loans, property improvement and home equity and second mortgage loans.

Source: BLS, ABA, Haver Analytics, DB Global Research





Source: University of Michigan, Autodata, Haver Analytics, DB Global Research



Source: ABA, Haver Analytics, DB Global Research

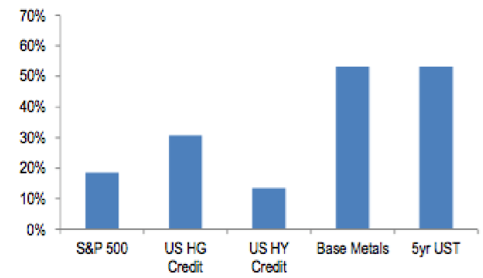
LEMANIK

Slowdown is shaking confidence, sparking Recession fears

Recession risks rising very quickly, GDP downgrades will continue to put pressure on rates

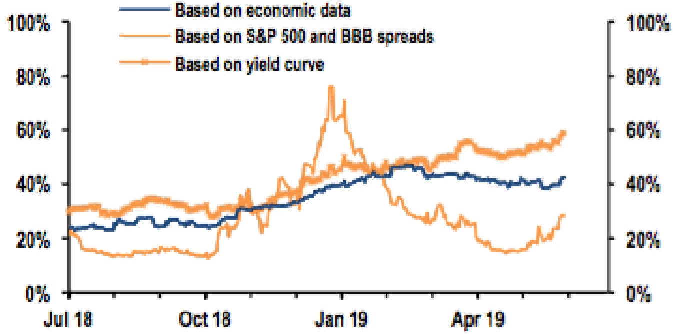
Chart A60: Probability of a recession as currently priced across asset classes

In %, as of close of business on May 30, 2019.



Source: J.P. Morgan

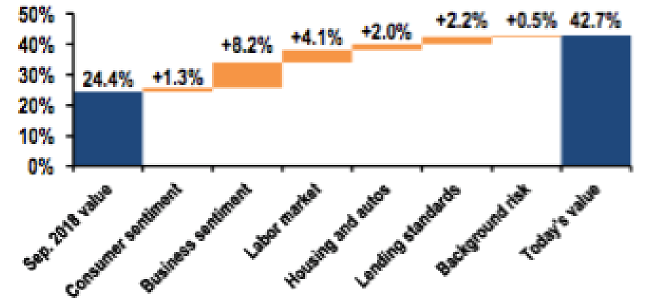
Figure 1: Probability of recession beginning within one year



Source: Various government and non-government sources, J.P. Morgan

Figure 3: Contributions to change in recession risk since September

Probability of recession within one year based on economic data

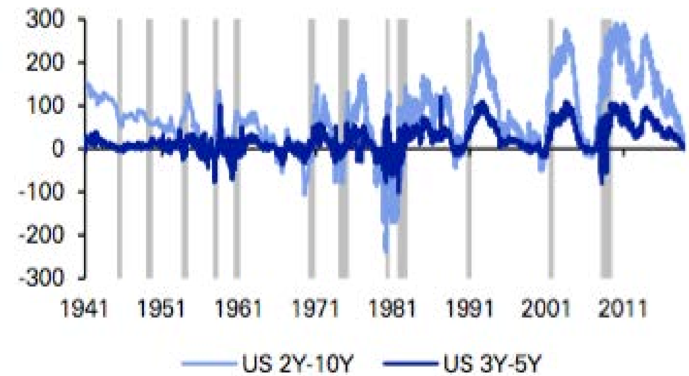


Source: Various government and non-government sources, J.P. Morgan

Source: Bloomberg, Morgan Stanley Research

US 2s10s (bp)

Source: Bloomberg, Morgan Stanley Research



Source: Deutsche Bank, GFD, Bloomberg Finance LP, Haver

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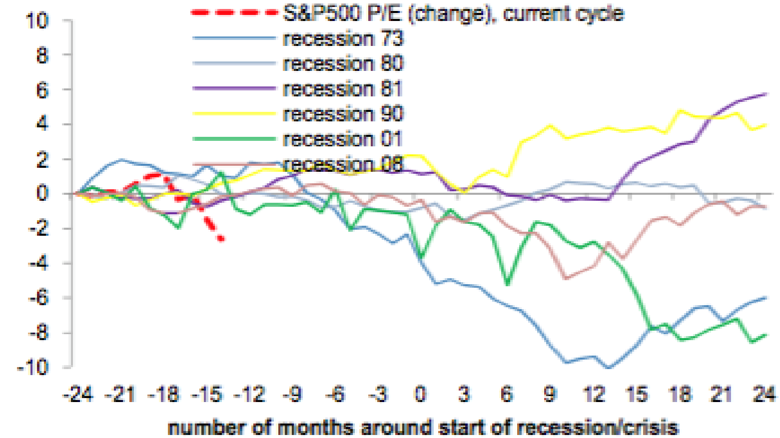
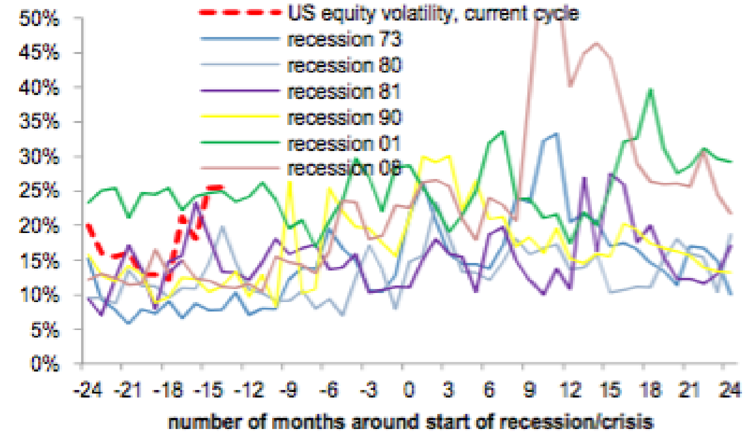
Recession risks looked over-priced in the s/t at the end of 2018

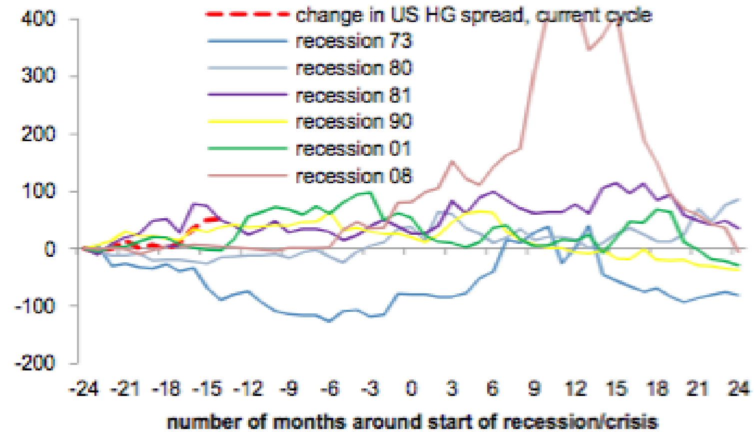
However credit spreads behaved more in line with the past



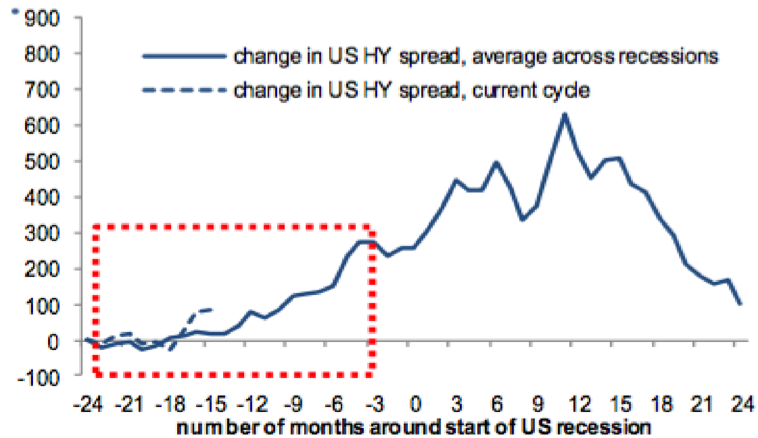
Source: J.P. Morgan



Source: J.P. Morgan



Source: J.P. Morgan

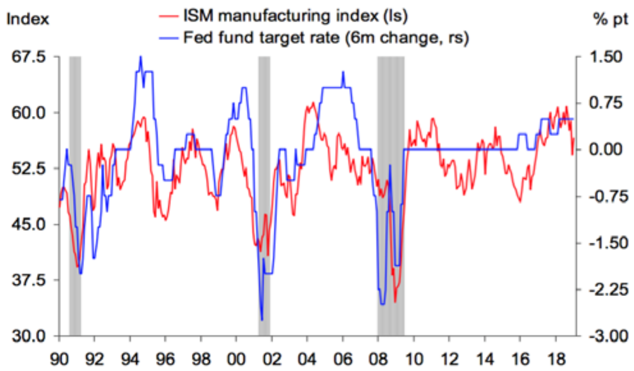


Source: J.P. Morgan

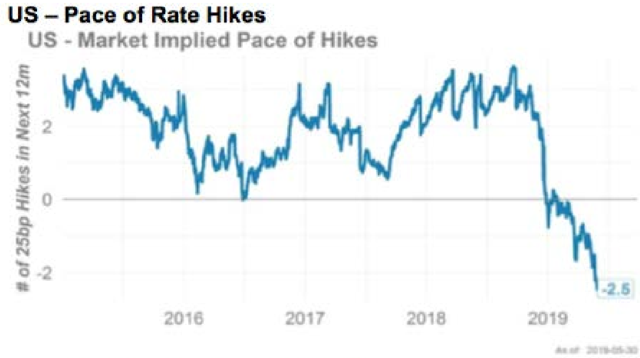
LEMANIK

Monetary policy now restrictive in market view

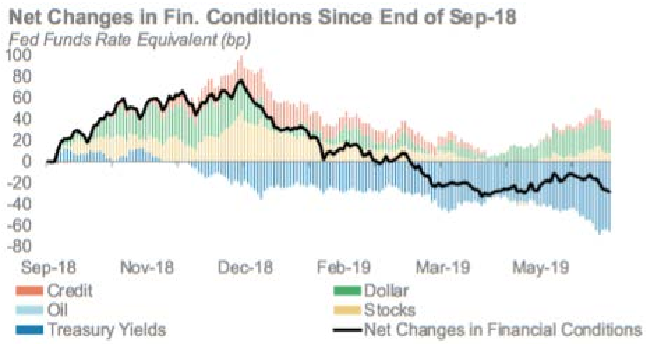
Market pricing FED cuts already in 2019. EM CBs will follow. ECB delaying normalization



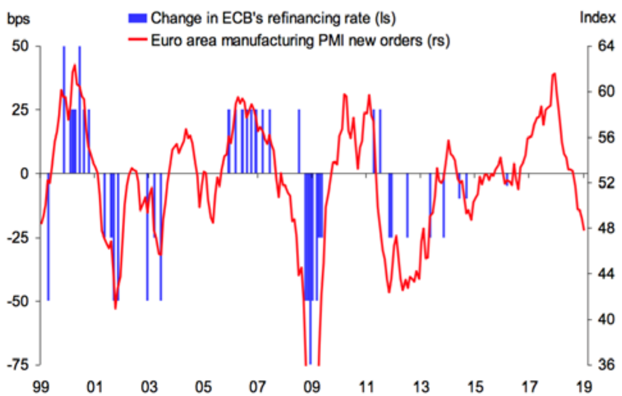
Source: ISM, FRB, Haver Analytics, DB Global Research



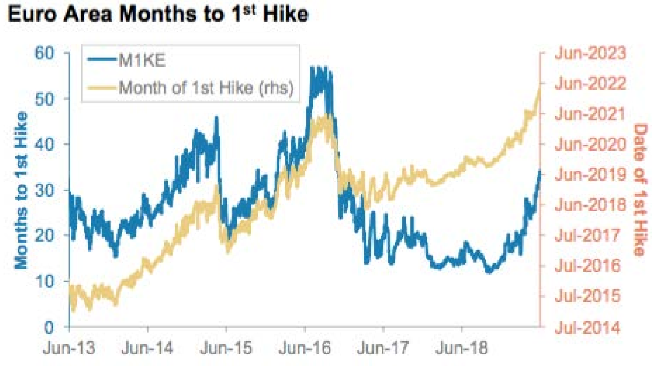
Source: Morgan Stanley Research, Bloomberg.



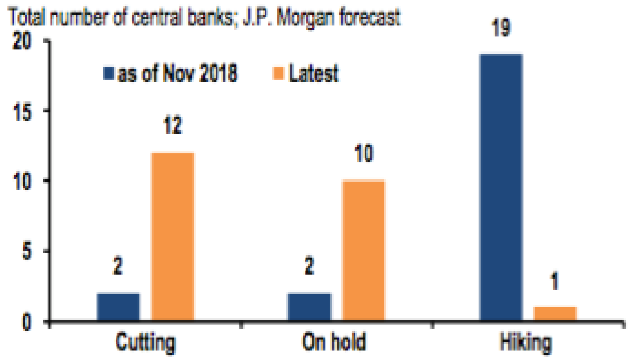
Source: Morgan Stanley Research



Source: ECB, IHSM, Haver Analytics, DB Global Research



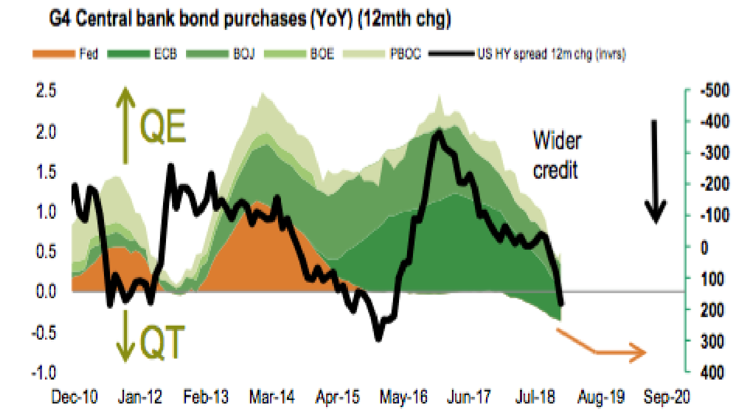
Source: Morgan Stanley Research, Bloomberg



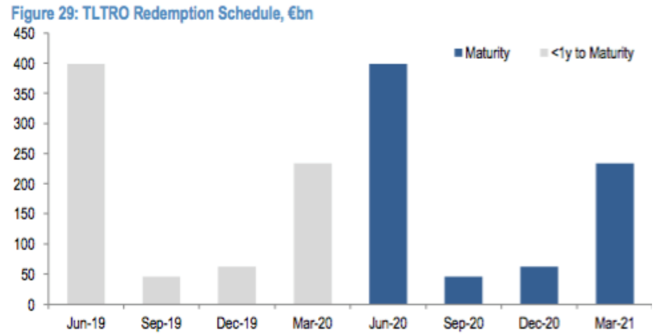
Source: J.P. Morgan. Total sample of 23 EM central banks.

Monetary and fiscal stimulus back on the agenda

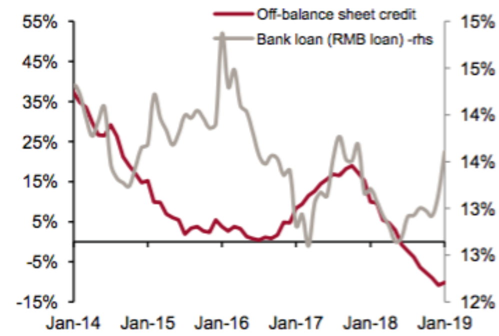
QT probably ending in 2019. US, Europe, China to the rescue



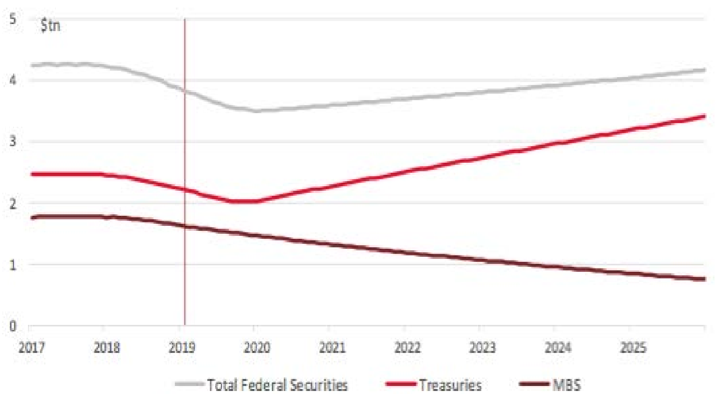
Source: Central bank data, BNP Paribas



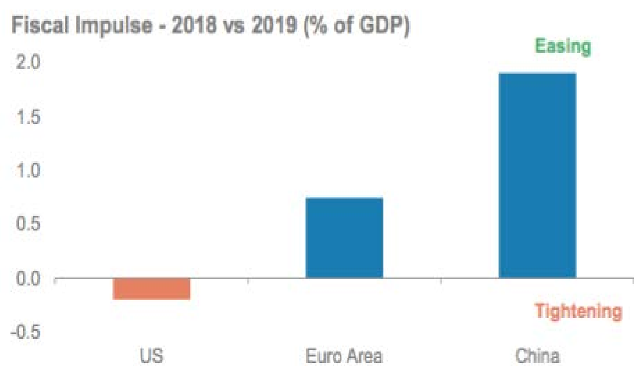
Source: J.P. Morgan.



Source: Credit Suisse, CEIC



Source: SG Cross Asset Research/Economics, Federal Reserve. SOMA portfolio history and outlook from Feb 2019 onward.



Source: National data sources, Morgan Stanley Research forecasts

China's US$250 billion fiscal stimulus under way

Stimulus measure	Amount
Infrastructure spending	$120bln
Tax cuts	$180bln
Social insurance reduction	$40bln
Total Stimulus	***$340bln***
(% of GDP)	***(2.5%)***
Cutback	**Amount**
Expenditure reduction	$90bln
Total Reduction	***$90bln***
(% of GDP)	***(0.7%)***
Net Stimulus	**$250bln**
(% of GDP)	**(1.8)**

Source: MoF, Morgan Stanley Research

6

Macro trends - Conclusions

- **The longest expansion on record since WW2:** the US economy is in extended expansion and unemployment rate is at 1969 lows. The inversion of US 3m-10y (-10 bps) is a warning sign in view of a potential inversion of the 2y-10Y(now +24), which has anticipated each of the 9 recessions since 1957 with a time-lag of 13 to 19 months.

- **Global growth is decelerating rapidly**: US desynchronization over and China PMI flirts with contraction territory. World trade deceleration is a significant headwind but should not be the major risk to US and Global economy, which is the **maturity of the US credit cycle**

- **FED normalization paused:** monetary policy approached “neutrality” and Forward guidance reduced. Powell language is becoming more dovish and market is pricing an **increasing probability of a FED cut in H219** (now 75% for July meeting and 92% for September meeting). BS reduction will slow down in H219 and **the FED will become net buyer of Treasuries again in 2020.**

- **Monetary policy easing is now regarded as a global trend:** ECB is expected to delay and extend its Deposit rate adjustment and has just provided more generous term on its new liquidity measures (TLTRO3). China moved from deleveraging to re-leveraging and it’s prepared to increase its fiscal stimulus in case of escalating trade tensions. 2019 was expected to be a record year in terms of number of EM central banks rising rates, but most CBs are now expected to cut rates. **G4 central bank balance sheet contraction will end in 2019**.

- **The current slowdown is sparking Recession fears:** US real rates are now coming down and econometric models are pointing to a growing probability of Recession in 2020. **Recession risks** are mounting for **H220** but were generally overpriced (in the short term) at the end of last year

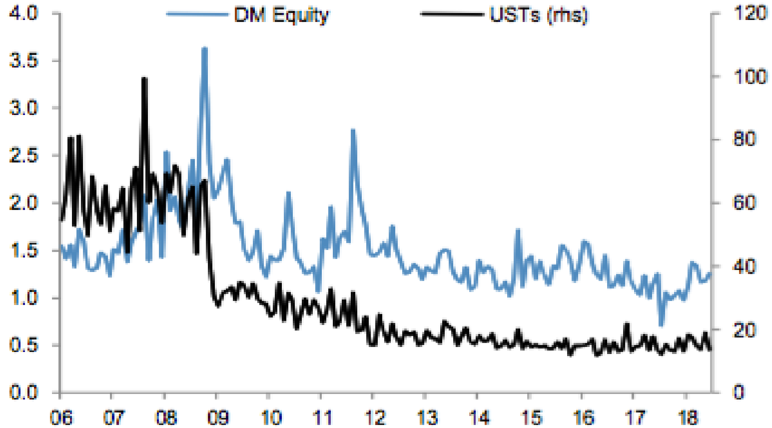
Daddy Bear: the Liquidity Crisis

Liquidity is shrinking in each and every asset class

Turnover measures are falling in Rates, Equities and across the credit spectrum

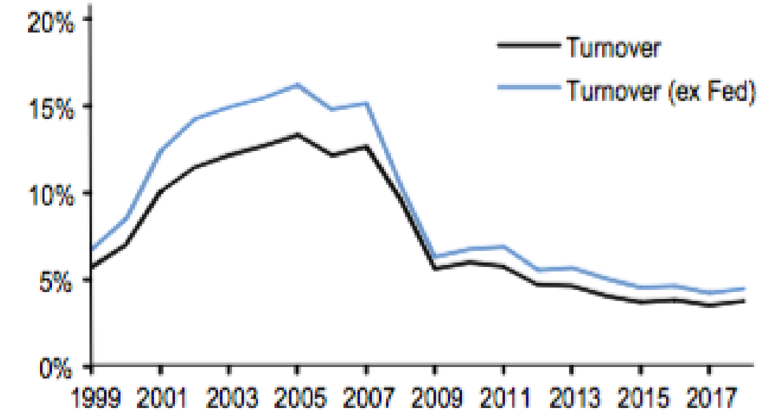
Figure 15: Turnover in DM equities and cash USTs

Monthly trading volume annualized divided by market cap. DM shown in left y-axis. Cash USTs shown in right y-axis.



Source: World Federation of Exchanges, J.P. Morgan.

Daily U.S. Treasury market turnover*, including and excluding



* Average daily trading volumes divided by amount outstanding

Source: U.S. Treasury, Federal Reserve Bank of NY, J.P. Morgan

Figure 7: U.S. HG turnover has decreased 42% since 2006

Source: J.P. Morgan.

Figure 8: U.S. HY turnover has decreased 24% since 2006

Source: J.P. Morgan.

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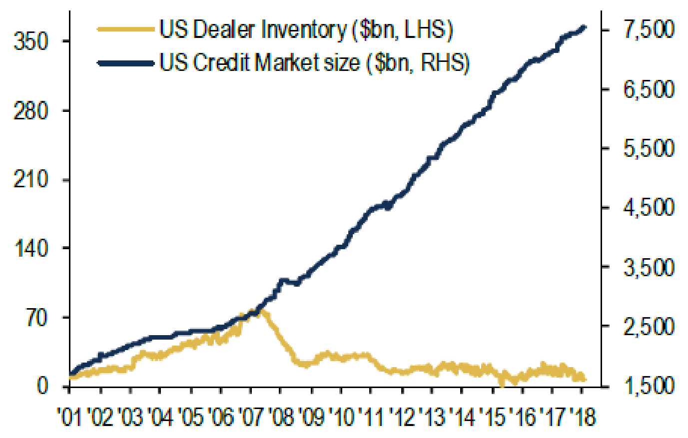
Credit Liquidity is becoming more concentrated

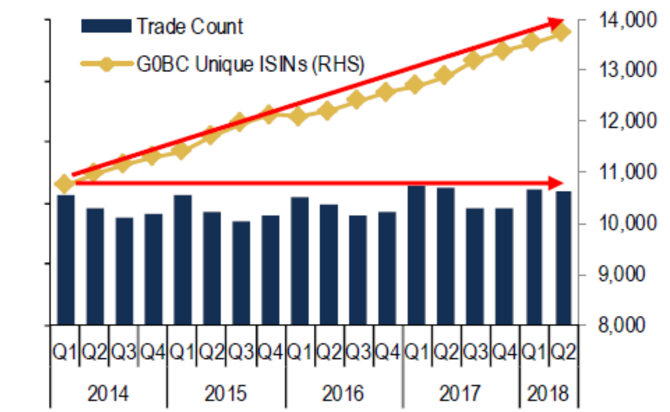
The big gap between market size and dealers b/s is hampering the ability to trade



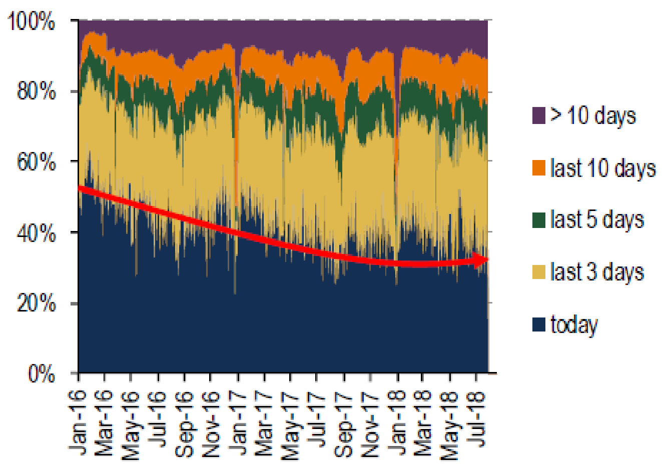
Source: BofA Merrill Lynch Global Research; Bloomberg, The US market size is the sum of the $ IG (C0A0) and HY (H0A0) cash indices face value

Chart 15: Same # of trades, but much bigger universe

# of trades (captured by TRAX) vs total # of global IG ISINs

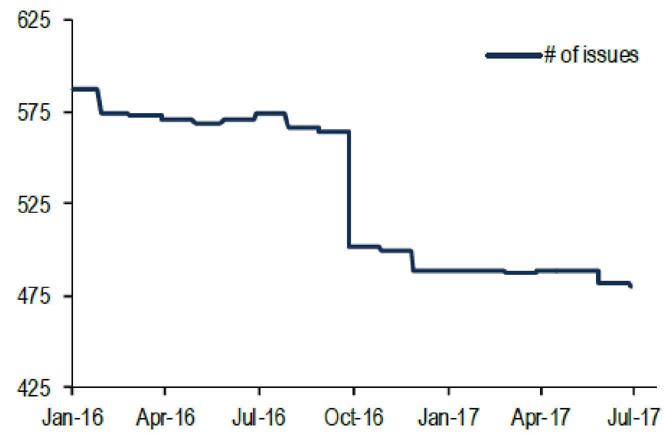


Source: BofA Merrill Lynch Global Research; according to Trax, a MarketAxess subsidiary



Source: BofA Merrill Lynch Global Research; according to Trax, a MarketAxess subsidiary

Chart 35: Market liquidity now concentrated into a smaller universe

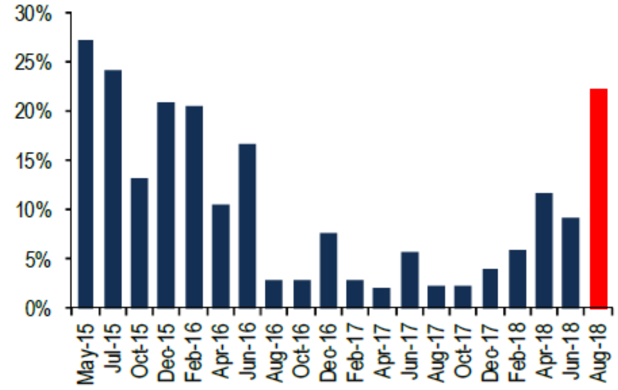


Source: BofA Merrill Lynch Global Research, HE00 Index

Awareness of liquidity risks is spreading around

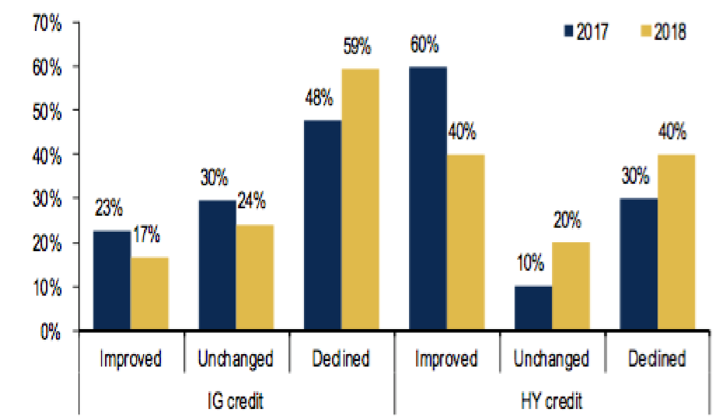
Beware of the "Willy el Coyote" moment

Chart 3: Question = What are you most concerned about in credit for the next 12 months? Answer = "Market liquidity evaporates"



Source: BofA Merrill Lynch Global Research. Percentage of investors.

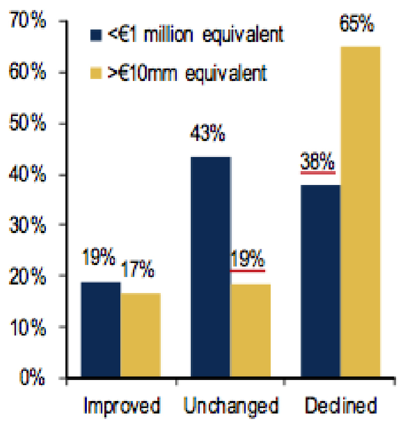
Chart 17: What is your perception of credit market liquidity over the past 12 months?



Source: BofA Merrill Lynch Global Research. Percentage of investors

Chart 20: Market liquidity conditions over the past 12 months, per size of transaction

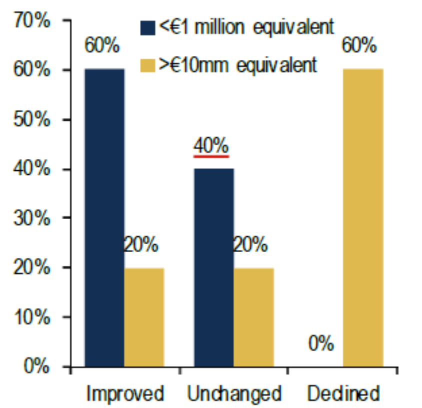
IG investors



Source: BofA Merrill Lynch Global Research. Percentage of investors t

Chart 21: Market liquidity conditions over the past 12 months, per size of transaction

HY investors



Source: BofA Merrill Lynch Global Research. Percentage of investors

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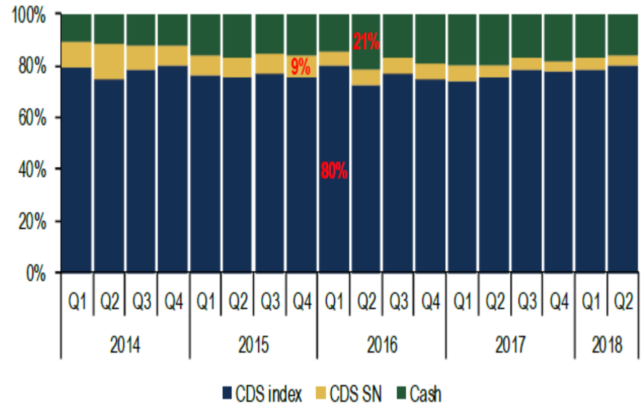
Synthetics are back

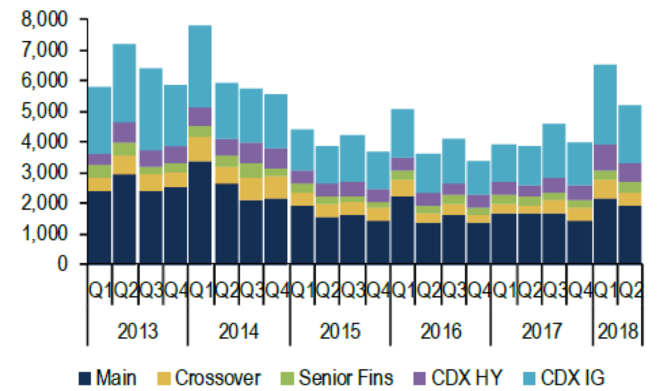
CDS volumes are rising compared to cash on lower bid-offer, especially indices

Trading volumes per product as a % of the total volumes



Source: DTCC, BofA Merrill Lynch Global Research, DTCC, Trax

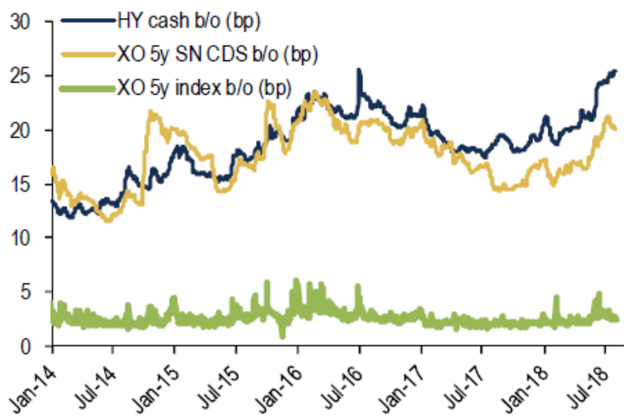
Trading volume notionals in $billions



Source: BofA Merrill Lynch Global Research; DTCC

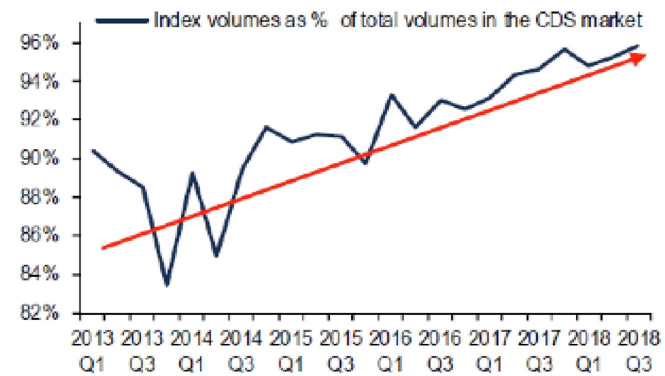
Chart 12: The different layers of credit market liquidity

Bid/offer cost for HY cash bonds, CDS index (Crossover) and single-name CDS (bp)



Source: BofA Merrill Lynch Global Research; Bloomberg

% of risk (notional) traded via CDS indices vs. the entire CDS market (index and single-name CDS market volumes combined)

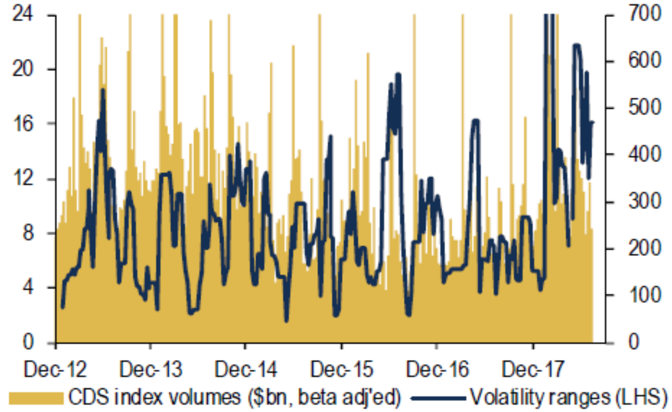


Source: BofA Merrill Lynch Global Research; DTCC

Excluding roll-week impact and end of year drop in liquidity

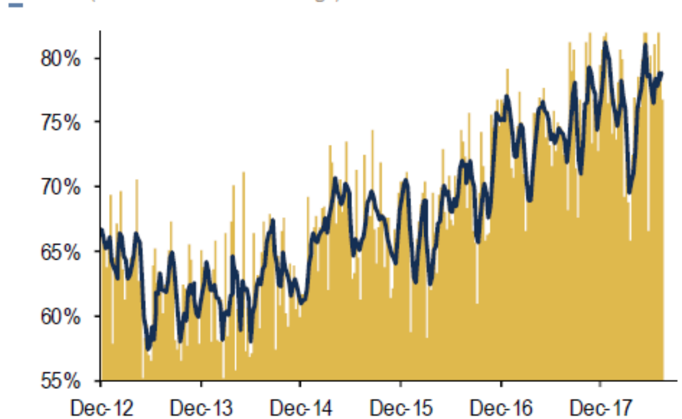
CDS liquidity is countercyclical

CDS index volumes and relative performance correlate positively with volatility



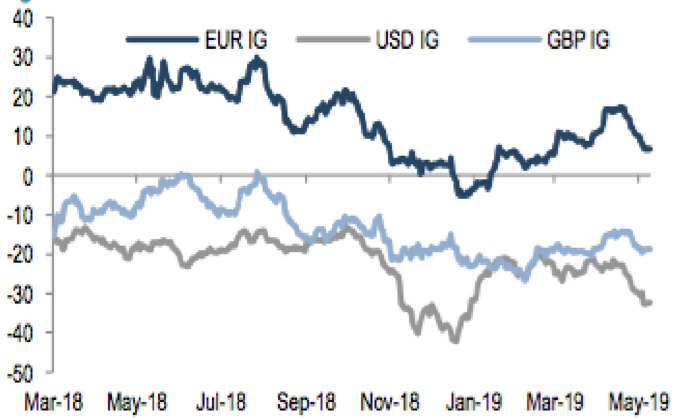
Source: BofA Merrill Lynch Global Research; DTCC
CDS index volumes refer to iTraxx Main, XO and Senior Fins (all series) CDS indices, on a weekly basis. We aggregate based on the respective index spread level vs that of iTraxx Main; i.e. beta adjusted.

% of volumes concentrated in the top 50 names out of ~270 SN European entities CDS contracts (blue line is the 4 week average)



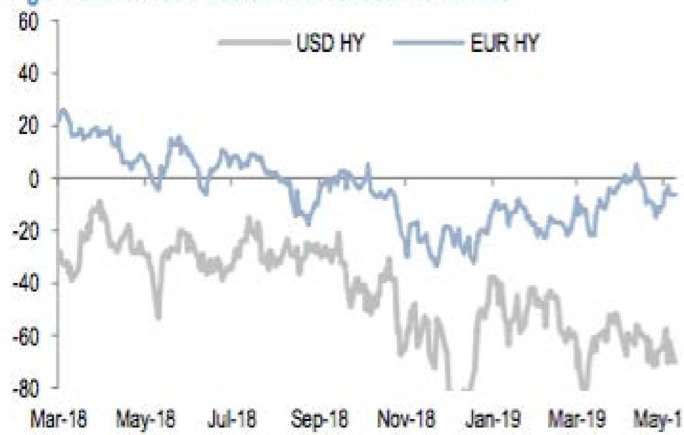
Source: BofA Merrill Lynch Global Research; DTCC

Figure 5: Bond-CDS Basis in IG markets



Source: J.P. Morgan

Figure 6: Bond-CDS Basis in EUR & USD HY market



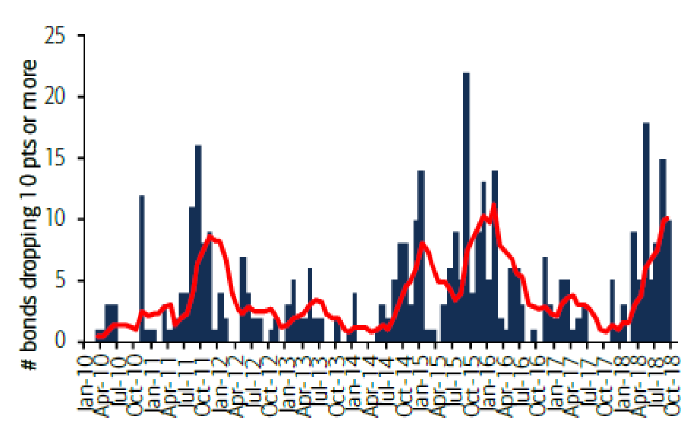
Source: J.P. Morgan

Idiosyncratic risks are rising in all the tradable asset classes

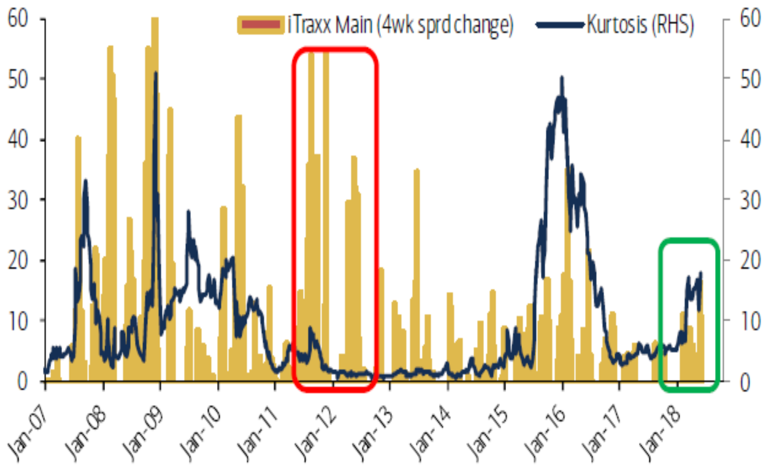
3Sigma moves are becoming more frequent and Dispersion is back

Source: Credit Suisse, *proportion of market trading below 80 cash price

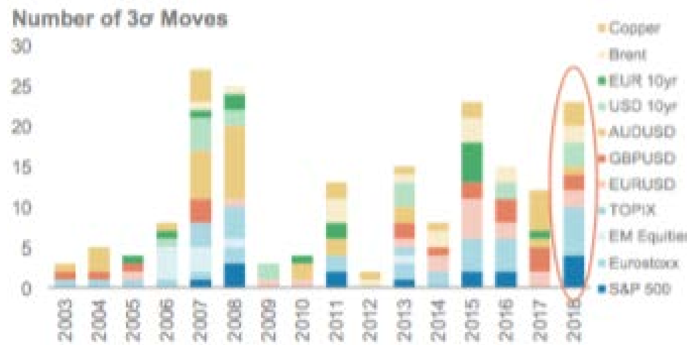
Number of high yield bonds dropping more than 10pts



Source: BofA Merrill Lynch Global Research



Source: BofA Merrill Lynch Global Research



Source: Morgan Stanley Research; Note: σ defined as one-day move relative to 3m implied vol on the previous day.

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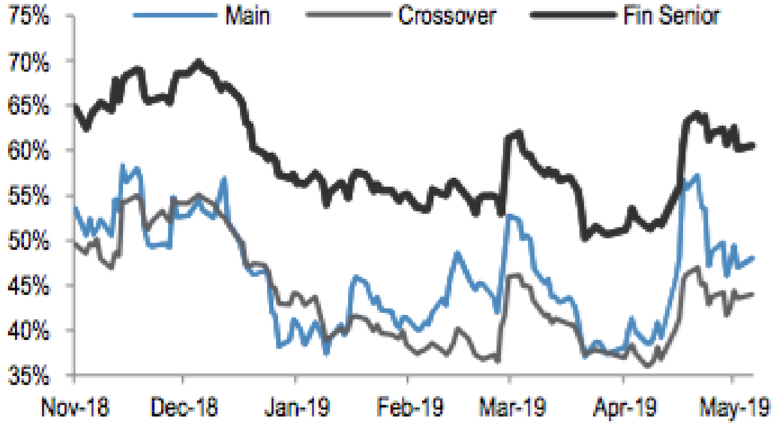
Implied spread volatility and curve steepening back in May

Market pricing increasing levels of dispersion, i.e. idiosyncratic risks.

Figure 11: 1m ATM implied volatility in Main, SenFin and XO



Source: J.P. Morgan.

Figure 8: XO 5y and 3s5s

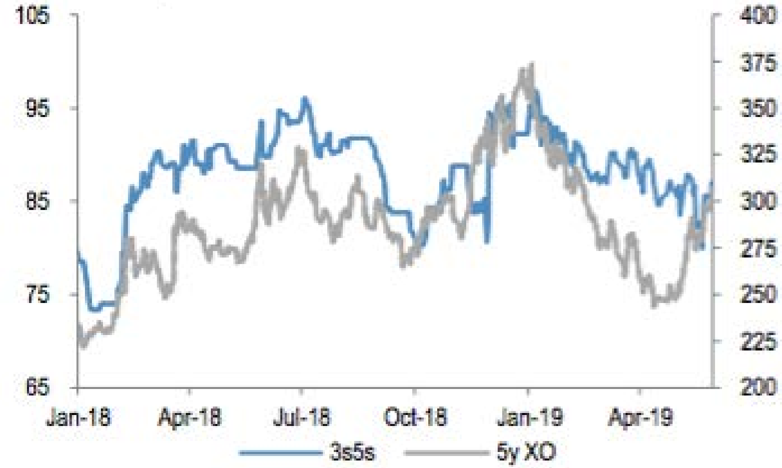
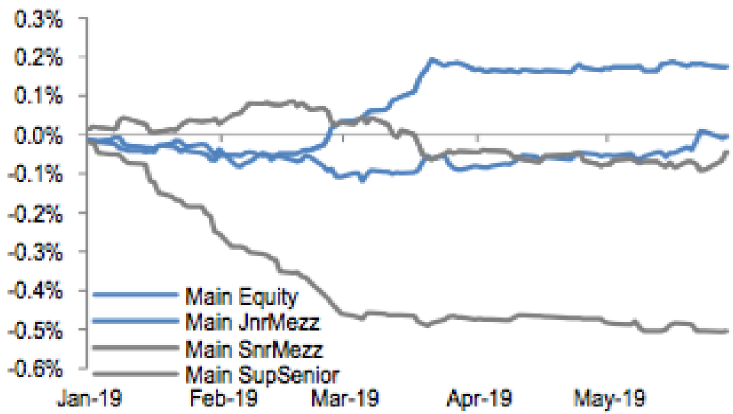
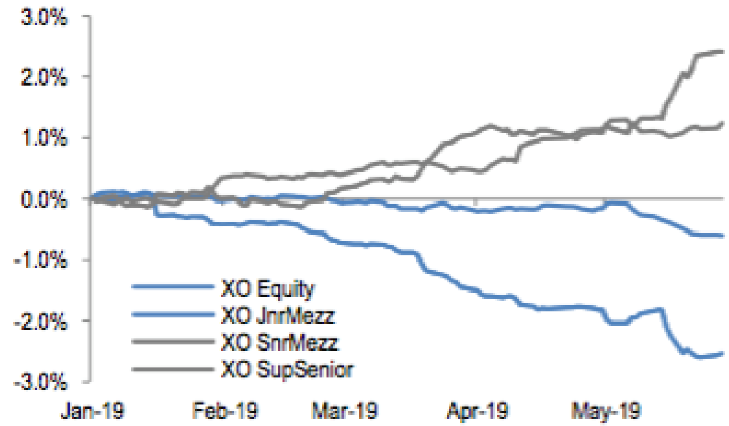


Figure 9: Main Tranches Performance versus Index



Source: J.P. Morgan

Figure 10: Crossover Tranches Performance versus Index



Source: J.P. Morgan.

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Credit challenges - Conclusions

- **Liquidity** is shrinking in each asset class (-10%-40% depending on the cases).

- Credit markets show a dangerous disconnect between the **huge dimensional shift** registered since the GFC and **market negotiation capacity**, where the buy-side is universally long Credit and Street inventories are more and more insignificant. Liquidity is **concentrated** in a sub-set of the market.

- **Awareness** of liquidity risks is rising among the investors, worried about the end of the “easy money”. Beware of the **“Wily El Coyote” moment**

- On the back of liquidity risks and market weakness, **Synthetics are back**. Volumes on Credit indexes, in particular, have been rising rapidly in periods of stress, allowing much lower bid-offer spreads

- **CDS Liquidity is countercyclical**: index volumes and relative performance tend to correlate positively with volatility, as testified by the recent evolution of IG and HY basis.

- 2018 was a record year in terms of **surprises (3 Sigma moves)** in all the main asset classes, while since the second half 2017 we have seen a **wave of negative idiosyncratic events** in the Credit markets. Credit spread widening happened largely with a **fall in correlation**, which means there’s something organic to Credit in the front-seat. **These are signs of a regime change**.

- **Volatility** has risen on average in Credit. Extreme volatility in latest part of 2018 has triggered more pricing of idiosyncratic risk in IG and a temporary correlation spike in HY. **Early signs of a transition from idiosyncratic to systematic ?**

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