Credit Market Strategist

Sticker shock

Credit Analysis

24 February 2020

Credit Strategy
United States

BofA Data Analytics

- **Sticker shock.** With signs of more significant spread of Coronavirus outside China, longer maturity IG corporate yields have reached new record lows, which is obviously negative for credit spreads. After today's move IG credit spreads are at the wides of the year. It seems to us that the economics have not changed and recession risks are low. Equities appear to be pricing to the baseline scenario whereas Treasuries price more to fears. Given the yield-sensitivity of IG credit, that makes spreads priced somewhere in between. We take the other side of these recession fears by going tactically overweight IG credit at today's much weaker levels that are not yet reflected in the index. Buy liquid, higher beta non-commodities, non-hairy, names that have led the sell-off.
- **Bang for the buck.** Although the relationship changes over time, we think that presently a stronger dollar supports US IG credit spreads, while a weaker dollar would be bearish. This is driven by the collapse in global yields, which has forced foreign investors to take much more risk. Clearly, a rising dollar attracts currency unhedged buying of US corporate bonds, whereas should the dollar decline that would be a much more difficult trade and there might even be forced unwinds. While credit spreads are impacted by the dollar in other ways –for example a stronger dollar weakens US corporate profits – in the present environment these are dwarfed by the impact on corporate bond demand.
- **We delever**. Remarkably the median US IG company has added little gross debt for the past 2.5 years since 2Q17. That is highly unusual as being late cycle this is precisely when companies are supposed to lever up. The reason is that many companies already levered up in 2014-17 and have little additional debt capacity.
- **Life as a large Fallen Angel.** For most IG companies capital structure is a choice. IG ratings are valuable for large issuers that rely on repeated access to the primary market in size. Outperformance relative to the S&P and return to IG are tough objectives for large FAs.
- **Final fund flows update for January 2020.** New record of $48.1bn inflows.
- **TIC update for December 2019.** Foreign investors sold $23.0bn.
- **Final 4Q earnings update.** Earnings growth is tracking 1.3% YoY in 4Q (+2.6% ex. Boeing), and sales growth 4.9% YoY (same ex. Boeing).
- **Preliminary 4Q HG fundamentals.** The median leverage increased to 2.70x gross and 2.22x net in 4Q19. Net debt declined on a YoY basis in 4Q for the first time since 2010, while gross debt was little changed (adjusted for ASC 842).
- **Flow: Flows taking a breather**. $6.33bn US IG fund/ETF inflow.
- **Supply: Frontloading**. $37.2bn last week, $30-40bn this week (Feb 24-28).

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Recent credit strategy research

Publication	Name
Situation Room	Bang for the buck
Situation Room	We delever
Situation Room	Life as a large Fallen Angel
Monthly HG Market Review	Jan '20: Crushed by rates
Credit Market Strategist	Jan '20 US Credit Investor Survey: No recession so buy HY
Credit Market Strategist	Summer 2019 snapshot of the US HG market

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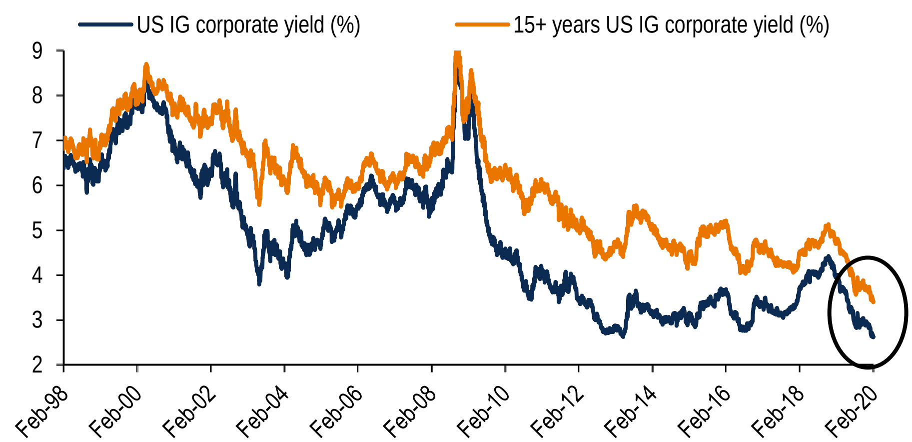
Macro

Sticker shock

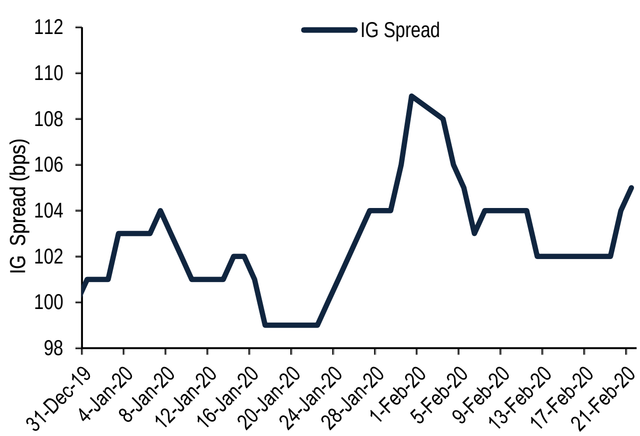
With signs of more significant spread of Coronavirus outside China longer maturity IG corporate yields have reached new record lows of 2.57% and 3.35% for the overall index and 30 year maturities, respectively (as of Friday, Figure 1). Today, as of this writing, Treasury yields are another 10-12bps lower across the curve, with liquid non-hairy IG names 5-8bps wider suggesting new record lows for corporate yields at today's close. These levels are obviously negative for credit spreads, as with a bit more stability issuance would surge while yield-sensitive buyers are on strike. After today's move IG credit spreads at probably at the wides of the year at the index level (≥109bps, Figure 2) as liquid benchmarks were quoted about 5bps wider than previous peak weakness from January 31st (Figure 3).

Figure 1: Record low IG corporate yields



Source: ICE Data Indices, LLC

Figure 2: Index spreads are not yet at wides of the year ...



Source: ICE Data Indices, LLC

Figure 3: ... but liquid bond spreads are generally at the wides

		Spread (bps) on different recent dates			
Ticker	Benchmark	1/17/20	1/31/20	2/19/20	2/24/20
OXY	10s	137	158	141	153
	30s	180	218	201	211
JPM	10s	79	90	90	99
	30s	85	99	93	104
CVS	10s	107	122	119	128
	30s	158	179	175	185
ABBV	10s	106	119	113	122
	30s	152	171	161	169
GM	10s	182	206	200	225
	30s	271	299	286	316
Average	10s	122	139	132	145
	30s	169	193	183	197

Source: BofA Global Research

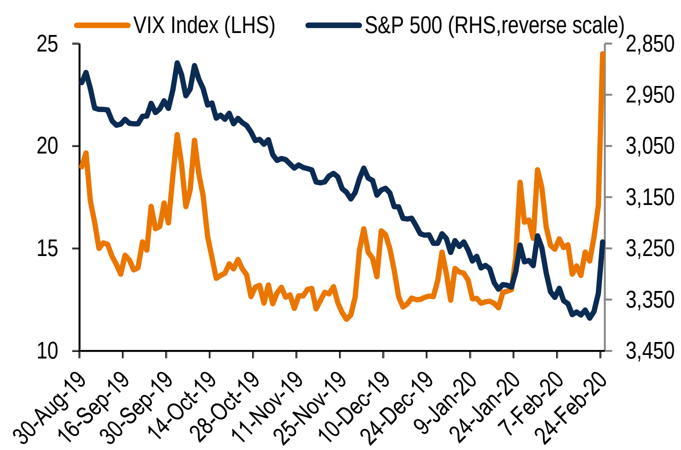
Impact of the Coronavirus

While it is impossible for us to have an informed opinion on where the Coronavirus is going to fall on the spectrum between full containment and pandemic, it seems to us that the economics have not changed. Our economists estimated impacts on the US economy in scenarios ranging from a neutral relatively benign base case to a 2020 GDP hit of 0.2-0.4% should the virus spread and prove to be more persistent (Coronavirus: bad or worse 31 January 2020). While they do not address the more severe pandemic scenario explicitly, it seems to us that any economic impact is more associated with efforts to contain the virus – such as lower mobility of people (lockdowns, less travel, etc.) – than the actual number of Coronavirus cases or deaths. During a pandemic for a highly contagious decease with a relatively low mortality rate, presumably there is little point in containment and things return more or less to normal – just like with the seasonal flu.

Tactically overweight

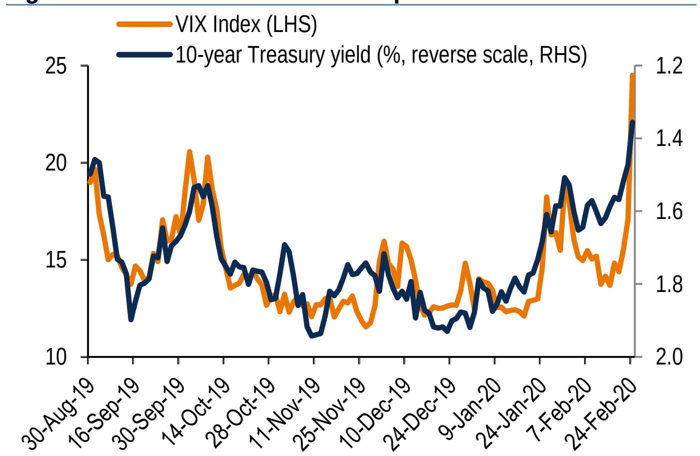
While we can imagine the progression of the Coronavirus is worth some small haircut to equity valuations – and note that as of this writing the S&P 500 is off 4.7% from the all-time high last Wednesday – the move lower in Treasury yields seems to us the outlier. It appears that equities are pricing to the baseline scenario (Figure 4) whereas Treasuries price more to fears (Figure 5). Given the yield-sensitivity of IG credit, that makes spreads priced somewhere in between. We are happy to – once again – take the other side of these recession fears by going tactically overweight IG credit as a trade – at today's much weaker levels that, again, are not yet reflected in the index. To be clear there is no particular catalyst, and optimal timing is always tricky, beyond the fact that the risk-reward relation for long positioning has improved markedly. We buy liquid, higher beta non-commodities, non-hairy, names that have led the sell-off.

Figure 4: Equities appear priced to the baseline scenario …



Source: Bloomberg

Figure 5: … while it seems Treasuries are priced more to fears



Source: Bloomberg

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[Situation Room: Bang for the buck 20 February 2020]

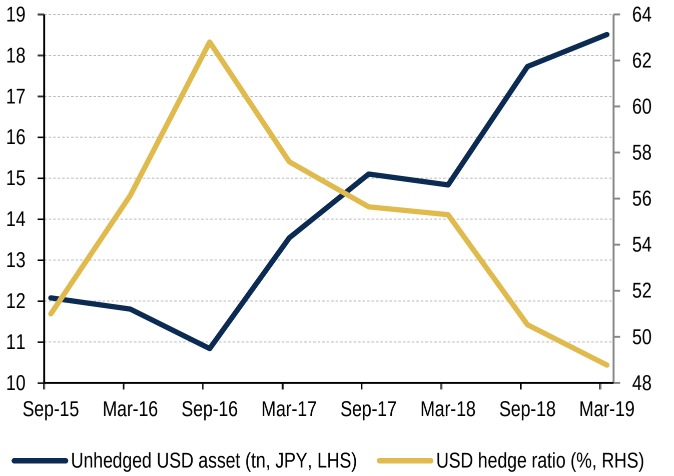
Bang for the buck

Although the relationship changes over time, we think that presently a stronger dollar supports US IG credit spreads, while a weaker dollar would be bearish. This is driven by the collapse in global yields, which has forced foreign investors to take much more risk – including currency risk. Clearly a rising dollar attracts currency unhedged buying of US corporate bonds, whereas should the dollar decline that would be a much more difficult trade and there might even be forced unwinds. While credit spreads are impacted by the dollar in other ways –for example a stronger dollar makes US companies less competitive internationally and weakens US corporate profits – in the present environment these are dwarfed by the impact on corporate bond demand.

The dollar and foreign demand

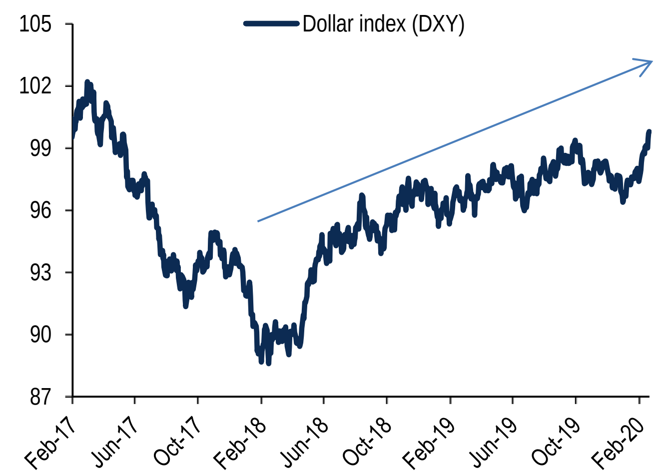
There are two main ways fluctuating currencies impact foreign buying of US corporate bonds. First, as mentioned above, there is sizable buying taking place in our market on a dollar unhedged basis. For example the hedge ratio for the Japanese lifers is now below 50% and they hold more than $160bn of unhedged USD assets (see Figure 6, as of October 2019, borrowed from: Life insurers' 2H FY19 fund management plans and their effect on markets 31 October 2019. Note there are additional options based hedges – see Chart 6 in: JPY in 2020: carry on to euphoria 10 January 2020). While this presumably is fine as long as the dollar is going up – as has been the case the past two years (Figure 7) – we think a declining dollar would make unhedged buying much more problematic, thus slowing foreign purchases and ultimately could lead to unwinds.

Figure 6: USD hedging ratio among major life insurers



Life insurance companies (Dai-ichi, Nissay, Sumitomo, Fukoku, Asahi, Taijyu, Meiji-, Yasuda,Taiyo and Daido), BofA Global Research

Figure 7: Rising dollar the past two years

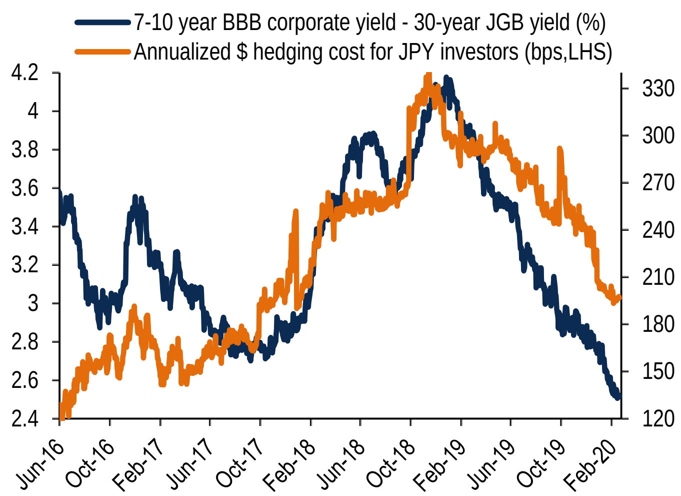


Source: Bloomberg, BofA Global Research

Second, and working in the opposite direction, some foreign investors effectively trade the range for the dollar – they hedge more when at the strong end of the range, less when the USD is weak (for example the Japanese lifers – see first link above). Given that dollar hedging costs are high relative to yield differentials (Figure 8) this effectively means buying less when the dollar is strong, more when it is weak. We think this second way the dollar impacts demand is currently much weaker than the first one discussed above.

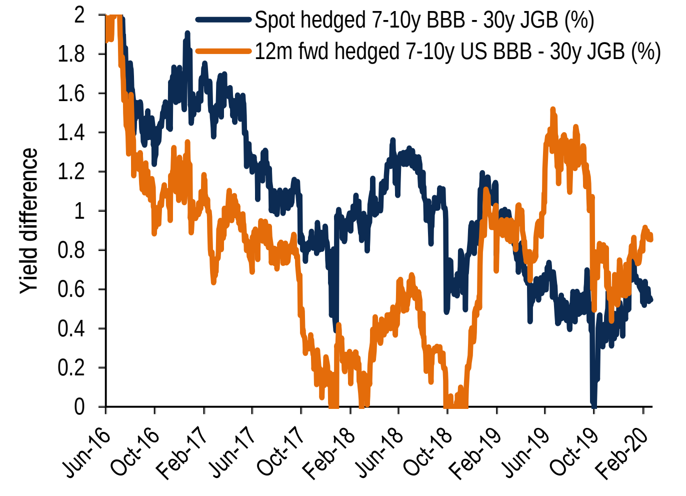
While we think that presently a stronger dollar supports credit spreads while a weaker dollar would be bearish, this relationship could change over time. For example in 2018 the dollar rose while credit spreads widened. This is because one of the underlying drivers of dollar strength was an active Fed rate hiking cycle, which tightens financial conditions and leads to significant current and expected increases in dollar hedging costs for foreign investors. For example Figure 9 shows that in 2018 yield differentials barely covered expected dollar hedging costs one year ahead – which was driven by anticipated Fed rate hikes – and hence there was no foreign net buying of US corporate bonds in 2018 (Figure 10).

Figure 8: Yield compression vs. declining dollar hedging costs



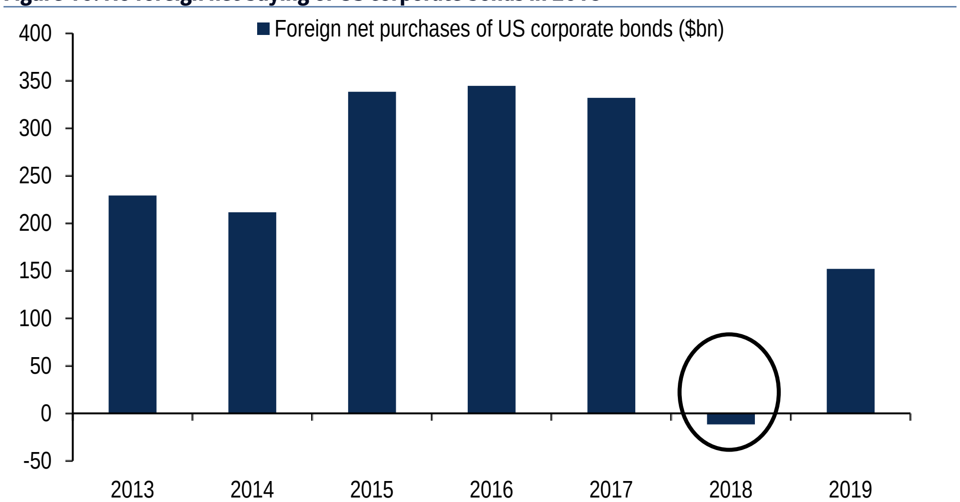
Note: Annualized dollar hedging cost assumes rolling 3-month forward fx rates. Number of rate hikes computed as the difference between the 1st and 12th Fed funds futures prices.
Source: Bloomberg, BofA Global Research, ICE Data Indices, LLC

Figure 9: Spot and forward hedged Yield differentials



Note: Annualized dollar hedging cost assumes rolling 3-month forward fx rates. Spot uses the current hedging cost while forward uses estimated hedging costs 12 months ahead.
Source: Bloomberg, BofA Global Research, ICE Data Indices, LLC

Figure 10: No foreign net buying of US corporate bonds in 2018



Note: 2019 is annualized from 1Q-3Q.
Source: Federal Reserve

Previously published here
Situation Room: We delever 19 February 2020

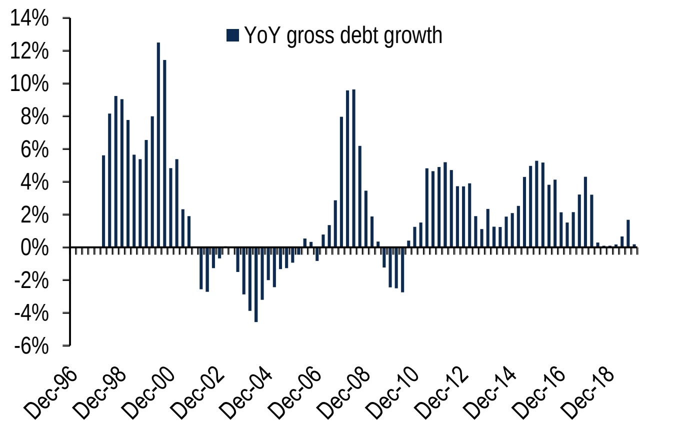
We delever

Our preliminary analysis of 4Q19 US IG corporate (non-financial, utility) fundamentals (excluding capitalized leases) shows a continuation of the remarkable development that the median company has added little gross debt since 1Q18 on a YoY basis – so really for the past 2.5 years since 2Q17 (Figure 11). That is highly unusual as being late cycle this is precisely when companies are supposed to lever up to counter margin pressures. Looking at the details we find that 25% of companies in fact reduced debt levels on a voluntary basis by an impressive 7.8% or more on 2019 – which is more to what we see on a more forced basis during and in the aftermath of recessions (Figure 12). At the other side of the distribution, 25% of companies added 11.9% or more debt in 2019, which is very little compared with the 20-40% range typically observed late in the cycle (Figure 12).

Different this time

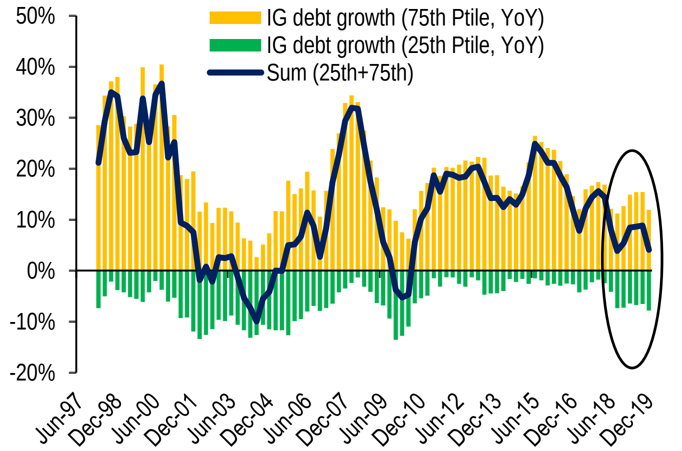
As we have argued it is indeed different this time. Back in 2014-2017, it seemed late cycle and interest rates collapsed, prompting US IG companies to respond like they are supposed to by leveraging up (Figure 46). That left many companies with little capacity to add more debt (and remain IG) while numerous others are still actively deleveraging following large scale M&A activity. Hence, the difference this late cycle environment is that a large share of IG issuers – mainly in BBB land – have stable or improving fundamentals, while a smaller than usual subset – mostly A and AA rated industrials – lever up as usual. That remains the big picture story even as one BBB rated company (Kraft Heinz) gave up its IG rating.

Figure 11: Non-financial, non-utility median change in gross debt (YoY)



Note: based on US high grade non-financial non-utility issuers. 4Q-19 data is a preliminary estimate. Debt values exclude impact of 2020 ASC 842 accounting rule change (Capitalized leases).
Source: BofA Global Research

Figure 12: Non-financial, non-utility median change in gross debt (YoY)



Note: based on US high grade non-financial non-utility issuers. 4Q-19 data is a preliminary estimate. Debt values exclude impact of 2020 ASC 842 accounting rule change (Capitalized leases).
Source: BofA Global Research

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[Situation Room: Life as a large Fallen Angel 18 February 2020]

Life as a large Fallen Angel

As discussed last week Kraft Heinz (KHC) has become a Fallen Angel (FA) and will be the seventh largest FA as share of the HY market (1.8%) when entering the index at the turn of the month (one secured bond remains IG). For most IG companies capital structure is a choice, and after having lost 66% over the past three years vs. a 52% gain in the S&P 500 company management and shareholders apparently finally decided it was not worthwhile to cut the near-6% dividend yield or sell cash-flow producing assets in order to deleverage and continue to fight for IG ratings. For large issuers, IG ratings tend to be very valuable as they often rely on repeated access to the primary market in size, which is mostly possible only in IG. While it is true that high yield credit spreads are relatively tight to investment grade presently, deal sizes are much smaller and access less reliable than in IG. Of course smaller issuers in contrast can be more nimble and operate on both sides of the line.

While in the long run many companies struggle, large FAs tend to face particularly challenging times in the equity market. This makes sense as almost by definition, because IG market access is so important for large capital structures, circumstances must be particularly unfavorable before companies decide to forgo IG ratings. This is why history has not been particularly kind to large FAs. We review the circumstances and fate of the top-12 FAs historically as percentage of the size of the HY market (including KHC, Figure 13). Outperformance relative to the S&P and return to IG are tough objectives for large FAs.

Figure 13: All Fallen Angels historically at least 1.5% of HY

Date	Bond ticker	Issuer name	Sector	Reasons for downgrade	Market value ($mn)	Face value ($mn)	Notional / HY market size	End game for shareholders
May-05	GM	General Motors	Automobiles	Sector structural issues. Declining sales, profit margin and market share amid fundamental cost base restructuring in the sector; large legacy costs.	36,827	41,552	6.5%	Bankrupt by June 2009
Aug ~ Dec-05	F	Ford Motor Co	Automobiles	Sector structural issues. Declining sales, profit margin and market share amid fundamental cost base restructuring in the sector; large legacy costs.	36,346	40,796	6.3%	Returned cumulative 15% since August 1, 2005 vs. 270% for the S&P 500. Made it back to IG
May-02	WCOM	Worldcom Inc	Telecom	Fraud. SEC investigation into accounting issues and loans to former Chairman, significant and persistent decline in earnings.	13,097	23,719	5.9%	Bankrupt by July 2002
May-02	QUS	Qwest Corp	Telecom	Fraud. SEC investigation into accounting issues, significant and persistent decline in earnings.	11,129	14,386	3.6%	Acquired by CenturyLink April 2011. Returned cumulative 64% since May 1, 2002 through April 1, 2011 vs. 46% for the S&P 500
May-09 ~ Jan-10	AIG	American International Group	Finance	Operational challenges. Diminished support from parent co, weakening operating results and credit fundamentals, looming debt maturities compared to liquidity resources, execution risks around liquidity actions, uncertainty around ownership structure, unsustainable business model.	14,299	19,975	2.4%	Bailed out. Only certain subsidiaries and sub debt downgraded to HY. Returned cumulative 139% since May 1, 2009 vs. +381% for the S&P 500
May-08	S	Sprint Corp	Telecom	Operational challenges. Declining earnings, cash flows and market share, inability to delever amid economic weakness.	14,669	16,823	2.3%	Acquired by SoftBank July 2013. Returned cumulative -11% May 1, 2008 through July 7, 2013 vs. +30% for the S&P 500
Feb-20	KHC	Kraft Heinz Co.	Consumer	Sector structural issues. Declining earnings, cash flows and market share, inability to delever.	24,245	21,790	1.8%	n/a
Jun-02	TYC	Tyco International Group	Industrial Products	Fraud. Negative developments around management and accounting issues, execution risk around spinoff of subsidiary CIT Group.	6,696	8,390	1.8%	Made it back to IG but for example CIT was spun off and later went bankrupt
Feb-98	COL	Colmbia/HCA Healthcare	Health Care	Fraud. SEC investigation into accounting issues, weakening revenue, asset quality and cash flows.	3,601	3,781	1.7%	Taken private in 2006. Never made it back to IG
Apr-09	CIT	CIT Group Inc	Banks/Brokers	Financial crisis. Operating losses, rapid deterioration in asset quality trends, uncertainty around regulatory capital shortfalls.	7,769	12,709	1.7%	Bankrupt by November 2009
Mar-01	JCP	JC Penney Co Inc	Retail	Operational challenges. Poor operating performance, tough competitive environment at a time the U.S. economy is slowing.	4,290	5,355	1.5%	Made it back to IG in 2006, back in HY since 2009. Returned cumulative -94% since March 1, 2001 vs. +296% for the S&P 500
Nov-02	EP	El Paso LLC	Energy	Fraud. Federal charges of gas-price manipulation in California, cash shortfall even after asset sales.	4,952	7,115	1.5%	Acquired by KMI May 2012. Returned cumulative +301% Nov 1, 2002 through May 24, 2012 vs. +78% for the S&P 500

Source: BofA Global Research

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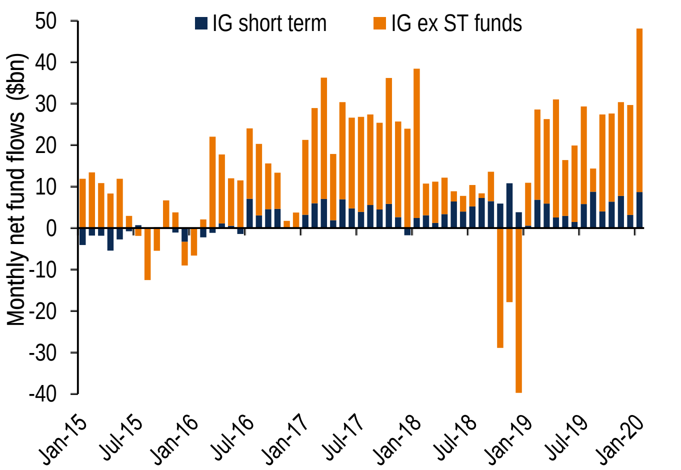
Situation Room: Life as a large Fallen Angel 18 February 2020

Final fund flows update for January 2020

Our vendor released the final US IG bond fund and ETF flow data for January 2020, showing a new record of net monthly inflows of $48.1bn, 66% higher than the $29.0bn sum of daily inflows in January, up significantly from $29.7bn in December 2019 and the previous monthly record of $38.4bn in January 2018 (Figure 14). Looking at the details of the January report, inflows increased to $8.7bn from $3.2bn in December for short-term IG and to $39.4bn from $26.5bn in December for IG ex. short-term (Figure 14). Finally, the pace of inflows to daily reporting US IG bond funds and ETFs has averaged $1.64bn per day in February 2020 so far – even higher than the $1.38bn daily average in January and pointing to continued strong demand in our market (Figure 15).

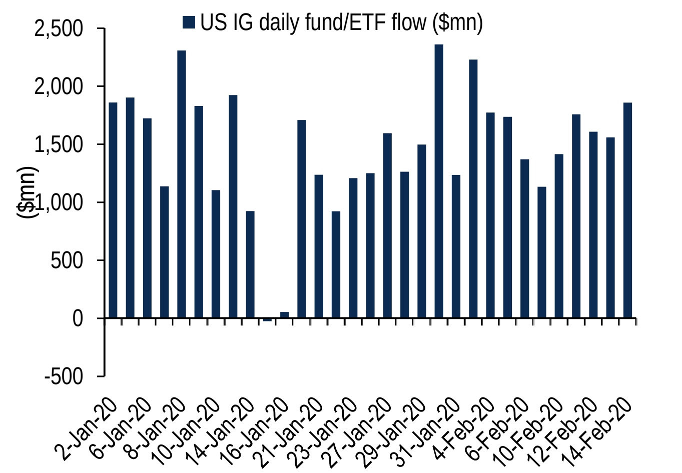
Note that flows data for the full universe of bond funds and ETFs is released monthly with about a two week lag. A subset of funds and ETFs – accounting for about half of the total AUM – report flows more frequently, such as daily or weekly. Hence the final monthly flows differ substantially from their daily and weekly counterparts.

Figure 14: Monthly US IG bond fund & ETF flows



Note: We exclude two volatile funds from our aggregate data.
Source: EPFR Global, BofA Global Research.

Figure 15: Daily US IG bond fund & ETF flows



Note: We exclude two volatile funds from our aggregate data.
Source: EPFR Global, BofA Global Research.

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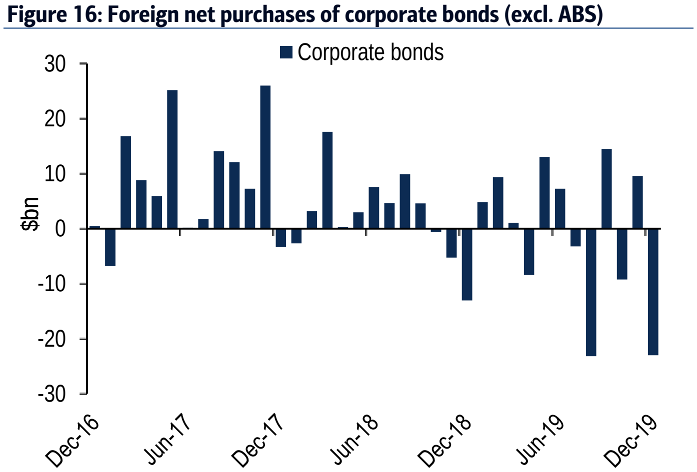
TIC update for December 2019

According to TIC (Treasury International Capital) data released today, foreign investors net sold $23.0bn of US corporate bonds (excluding ABS) in December, after net buying $9.6bn in November (Figure 16). Note that the TIC data tends to significantly underestimate the actual amount of foreign buying (see: Credit Market Strategist: One year round-trip in spreads 15 July 2016). In December foreign investors also net sold $3.9bn of Agency MBS and $2.8bn of Agency bonds, while net buying $41.1bn of Treasuries, $22.2bn of stocks, and $1.4bn of non-Agency MBS (Figure 17).

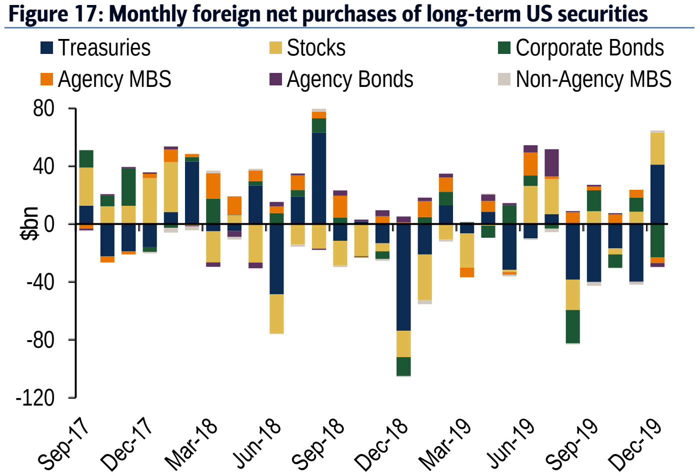
By region, where data includes ABS, European, Caribbean, Canadian and Asian investors net sold $11.9bn, $5.1bn, $0.7bn and $0.3bn of US corporate bonds in December, respectively (Figure 18). Within Asia, China and Japan net sold $0.40bn and $0.08bn, respectively, while the rest of Asia net bought $0.17bn (Figure 19). Notice that this data on the geographical breakdown of foreign purchases is fairly useless as it tracks the money manager – i.e. often not the root source of demand.

Figure 16: Foreign net purchases of corporate bonds (excl. ABS)



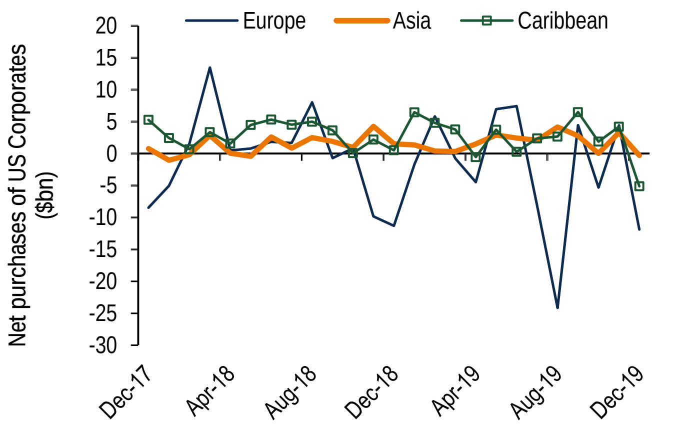
Source: TIC system, BofA Global Research

Figure 17: Monthly foreign net purchases of long-term US securities



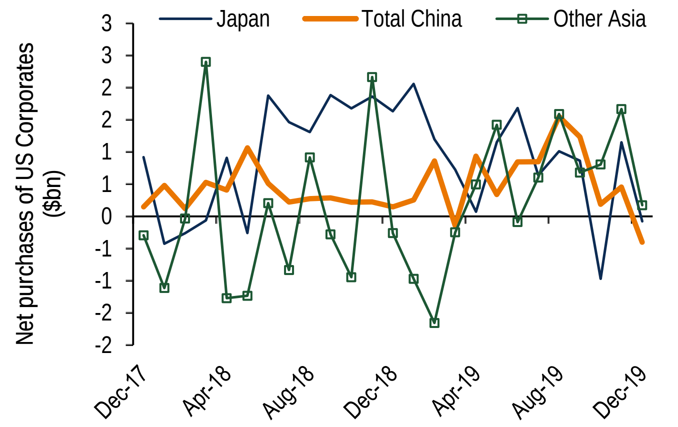
Source: TIC system, BofA Global Research

Figure 18: Geographic breakdown of foreign net purchases of Corporate bonds (incl. ABS) ...



Source: TIC system, BofA Global Research

Figure 19: ... breakdown within Asia (incl. ABS)



Source: TIC system, BofA Global Research

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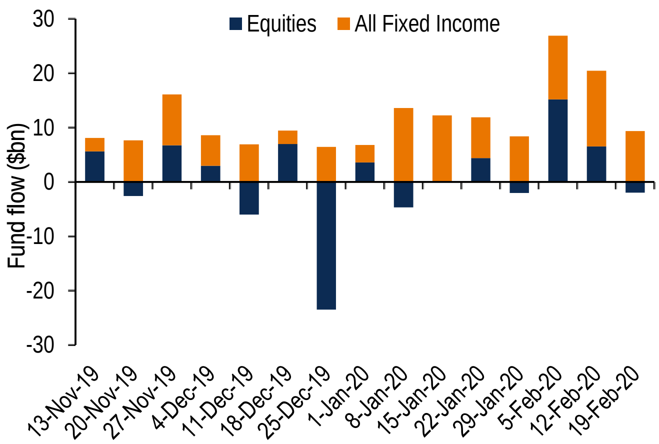
Situation Room: Bang for the buck 20 February 2020

Flows taking a breather

Flows to US funds and ETFs moderated this past week ending on February 19 following two weeks of heavy inflows. Fund and ETF investors bought $9.35bn of bonds, down from $13.91bn in the prior week and $11.70bn during the week of February 5th. Relative to the prior week flows were weaker for high grade, high yield, loans and munis, while improving for government bonds. Flows turned negative for stocks with a $1.97bn outflow following a $6.53bn inflow a week earlier (Figure 20).

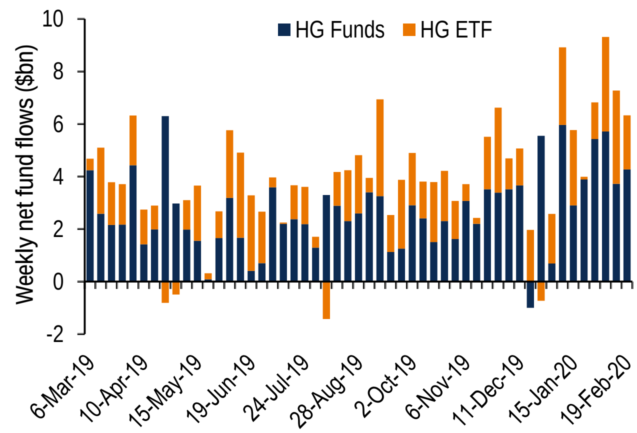
High grade inflows moderated to $6.33bn from $7.27bn. Inflows to short-term high grade were unchanged at $2.69bn, while inflows ex. short-term declined to $3.64bn from $4.59bn. Inflows actually increased for high grade funds to $4.27bn from $3.72bn, while ETF inflows declined to $2.06bn from $3.55bn (Figure 21). High yield flows turned negative with a $0.16bn outflow following a $2.24bn inflow, outflows form leveraged loans accelerated to $0.23bn from $0.12bn and inflows to munis declined to $1.34bn from $1.87bn. On the other hand inflows to government bonds increased to $0.93bn from $0.70bn. Inflows to global EM bonds were little changed at $2.08bn this past week and $2.06bn in the prior week. Finally the inflow to money markets was $8.35bn, up from a $4.01bn inflow a week earlier.

Figure 20: Flows for the broad US asset classes: stocks and bonds



Note: data are for US-domiciled funds only.
Source: EPFR Global.

Figure 21: High grade fund and ETF flows, $bn



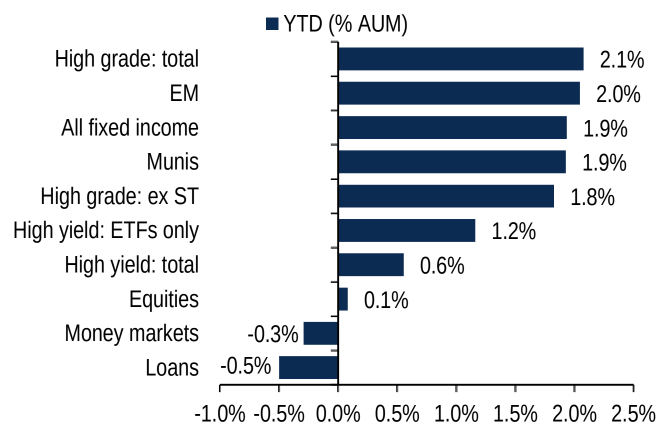
Note: data are for US-domiciled funds only.
Source: EPFR Global.

Figure 22: Fund flows summary

Asset class	Last week (% of AUM for weekly reporting funds/ETFs)	YTD (% of AUM for all funds/ETFs)	YTD ($bn)
High grade: total	0.35%	2.1%	71.0
High grade: ex short-term	0.18%	1.8%	48.3
High yield: total	-0.06%	0.6%	1.9
High yield: ETFs only	-0.93%	1.2%	0.7
Loans	-0.32%	-0.5%	-0.6
EM	0.37%	2.0%	14.6
Munis	0.25%	1.9%	17.9
All fixed income	0.30%	1.9%	107.9
Money markets	0.25%	-0.3%	-11.2
Equities	-0.03%	0.1%	11.9

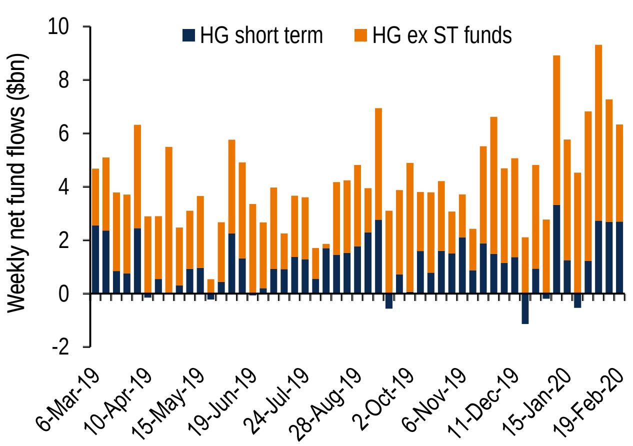
Note: Last week flow as % of AUM is based on AUM for weekly reporting funds / ETFs only. YTD flow as % of AUM is based on AUM for the full fund/ ETF universe as of December 31 2018. Global EM funds, US-domiciled funds only for other fund types.
Source: EPFR Global, BofA Global Research

Figure 23: Year to date fund flows, % of AUM



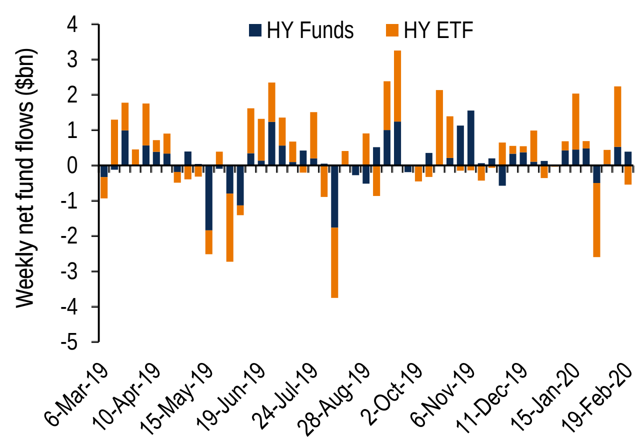
Note: Global EM funds, US-domiciled funds only for other fund types.
Source: EPFR Global, BofA Global Research

Figure 24: Weekly high grade fund flows, $bn



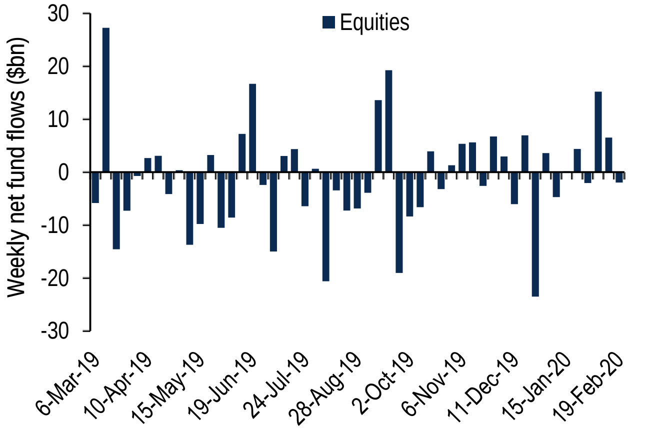
Note: the flows data is for US-domiciled funds and ETFs. The flows include high grade bond funds, high grade corporate bond bunds, and total return bond funds. We exclude two volatile funds from our aggregate data. Short-term refers to duration of 0 to 4 years.
Source: EPFR Global, BofA Global Research

Figure 25: Weekly high yield fund flows, $bn



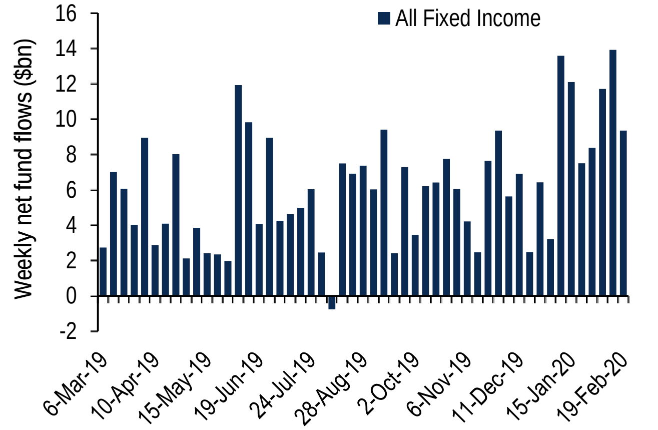
Note: the flows data is for US-domiciled funds and ETFs.
Source: EPFR Global.

Figure 26: Weekly equity fund flows, $bn



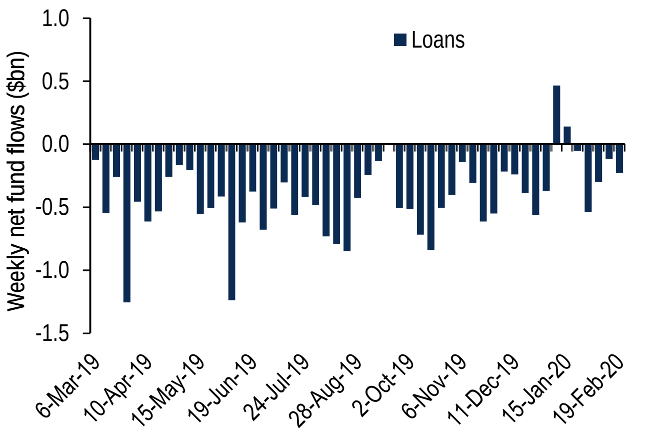
Note: the flows data is for US-domiciled funds and ETFs.
Source: EPFR Global.

Figure 27: Weekly fixed income fund flows, $bn



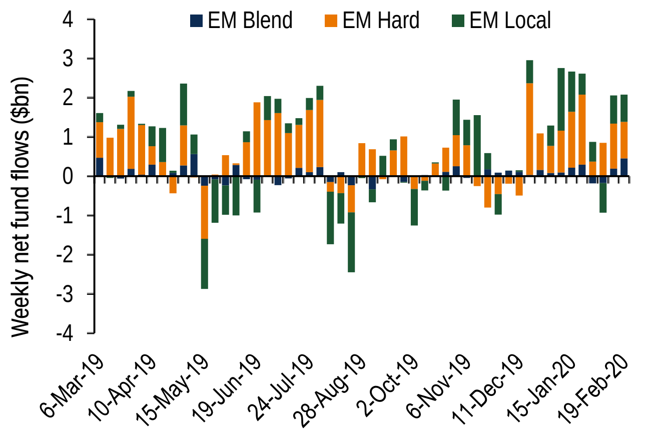
Note: the flows data is for US-domiciled funds and ETFs. The flows include the following asset classes: high grade (corporate and government), high yield, mortgage backed, floating rate, total return, municipals, inflation protected.
Source: EPFR Global.

Figure 28: Weekly loan fund flows, $bn



Note: the flows data is for US-domiciled funds and ETFs.
Source: EPFR Global.

Figure 29: Weekly EM fund flows, $bn



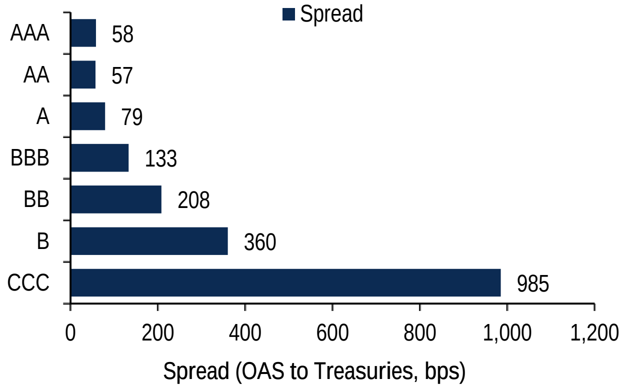
Note: the flows data is for US-domiciled funds and ETFs.
Source: EPFR Global

Appendix: defining high grade

We define our high grade flows metric as a combination of “bond,” “corporate bond” and “total return” fixed income funds and ETFs domiciled in the US (and investing in any currency, although the majority is invested in USD). The “bond” category refers to the broad high grade market, which includes Treasuries, mortgages and agencies in addition to corporate bonds. This category accounts for the majority of AUM and flows. On the other hand the dedicated corporate bond funds and ETFs are much smaller in terms of assets under management. We also include the “total return” bond category in our tracking of high grade flows. Finally note that “short-term” maturity refers to duration of 0 to 4 years.

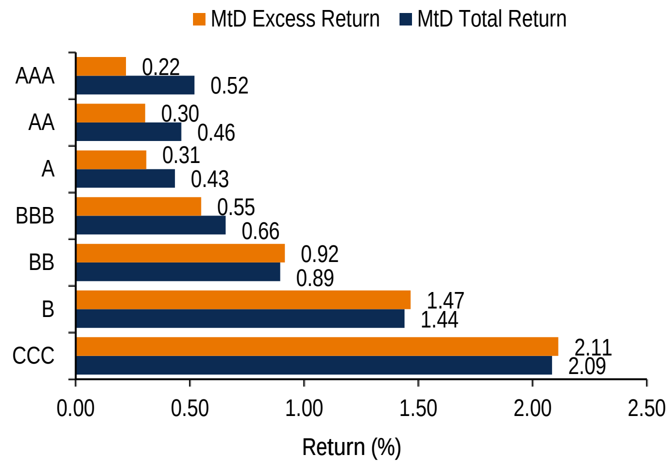
Corporate credit spreads and returns

Figure 30: Corporate spreads by rating



Source: ICE Data Indices, LLC, BofA Global Research

Figure 31: Month to date credit returns by rating



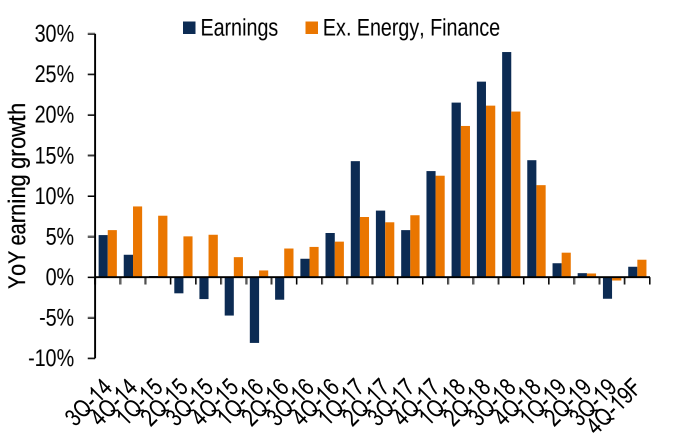
Source: ICE Data Indices, LLC, BofA Global Research

High Grade

Final 4Q earnings update

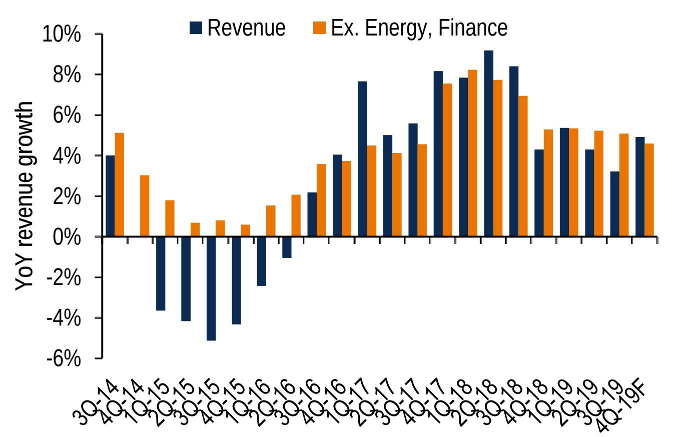
By now 90% of US public IG issuers (based on their bond index market value) have reported 4Q-19 results that account for 91% of the total expected earnings. Based on the actual results for most issuers, and the latest consensus estimates for the relatively few companies that have not yet reported, earnings growth is currently tracking 1.3% YoY in 4Q (+2.6% ex. Boeing), and sales growth – 4.9% YoY (same ex. Boeing). Excluding the more volatile Energy and Finance sectors we are currently tracking 2.2% YoY earnings growth and 4.6% YoY sales growth in 4Q (Figure 32, Figure 33). Much of the earnings growth during the quarter was driven by the strong results delivered by the large Technology companies. Excluding the Tech sector earnings growth is tracking -0.6% (+1.1% ex. Boeing).

Figure 32: Earnings growth for US investment grade issuers



Note: 4Q-19 based on the actual results when available and consensus estimates otherwise
Source: BofA Global Research, FactSet.

Figure 33: Revenue growth for US investment grade issuers

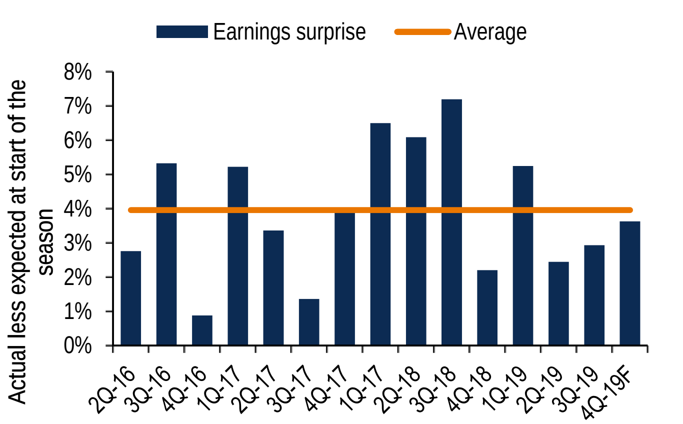


Note: 4Q-19 based on the actual results when available and consensus estimates otherwise
Source: BofA Global Research, FactSet.

Positive surprise

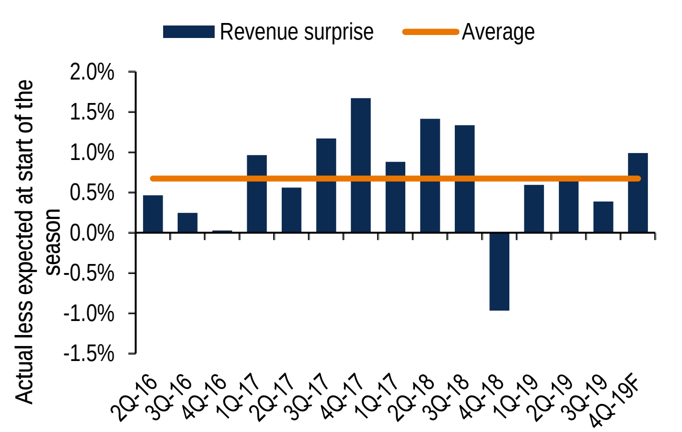
Relative to the expectations at the start of the season (on January 10) the actual earnings so far came in 3.6% better (4.4% ex. Boeing), while sales surprised to the upside by 1.0% (1.1% ex. Boeing). That was close to the average 4.0% earnings surprise and above the average 0.7% sales surprise since 2Q-16 (Figure 34, Figure 35).

Figure 34: Earnings surprises have averaged 4.0% since 2Q-16



Source: BofA Global Research

Figure 35: Sales surprises have averaged 0.7% since 2Q-16

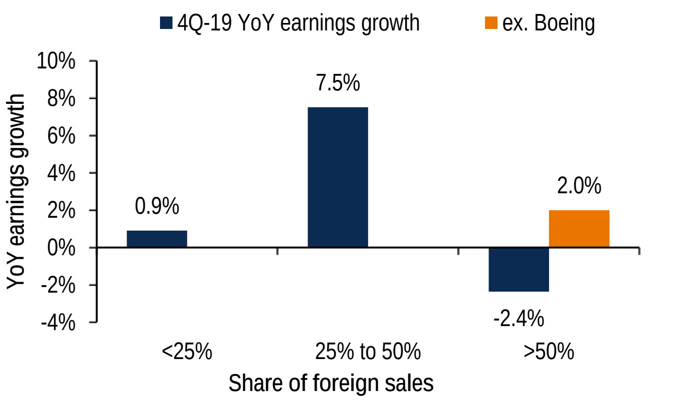


Source: BofA Global Research

Domestic over foreign

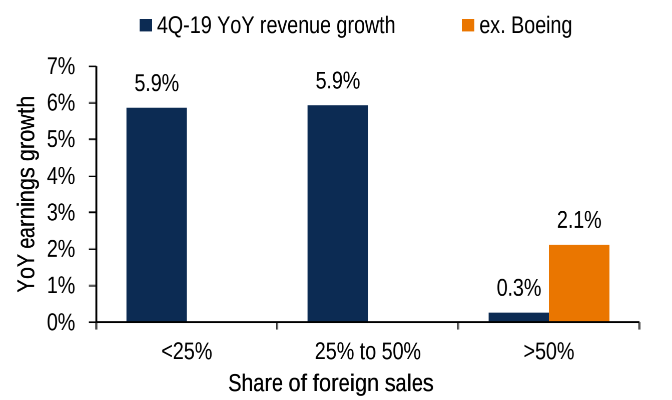
While US IG issuers with the medium foreign exposure (25% to 50% foreign sales) are tracking the highest earnings growth in 4Q (Figure 36), revenue growth lagged notably for the more global issuers (deriving over 50% of sales from outside the US (Figure 37). On the other hand the more global issuers delivered a larger positive earnings surprise in 4Q relative to the most domestic ones (Figure 38, Figure 39).

Figure 36: 4Q-19 bottom-up consensus earnings growth by foreign sales



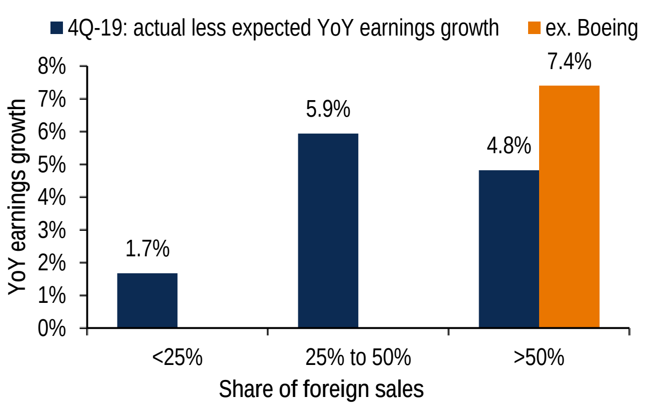
Note: 4Q-19 based on the actual results when available and consensus estimates otherwise. Excluding Finance, Energy, Utilities.
Source: BofA Global Research, FactSet.

Figure 37: 4Q-19 bottom-up consensus sales growth by foreign sales



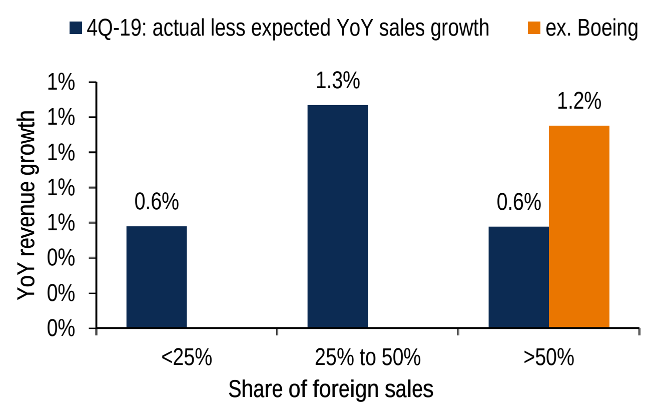
Note: 4Q-19 based on the actual results when available and consensus estimates otherwise. Excluding Finance, Energy, Utilities.
Source: BofA Global Research, FactSet.

Figure 38: Earnings surprise by foreign sales



Note: based on companies that have reported 4Q-19 results. Excluding Finance, Energy, Utilities.
Source: BofA Global Research, FactSet.

Figure 39: Sales surprise by foreign sales



Note: based on companies that have reported 4Q-19 results. Excluding Finance, Energy, Utilities.
Source: BofA Global Research, FactSet.

Results by sector

Sectors tracking the weakest 4Q earnings growth are Autos (-58.5%), Aerospace/Defense (-43.9%, +8.0% excluding Boeing), Energy (-35.1%), and Basic Materials (-19.1%). On the flip side we are tracking the strongest YoY earnings growth for Insurance (+60.0%), Utilities (+28.9%) and Consumer Products (+10.1%, Figure 40).

Figure 40: Results tracking for 4Q-2019, US high grade issuers

Sector	Earnings growth (YoY)	Sales growth (YoY)	Share of bond index value	Percentage of the sector that has reported
Aerospace/Defense	-43.9%	-2.7%	1.4%	100%
Automobiles	-58.5%	-10.5%	1.3%	100%
Banks/Brokers	2.4%	4.7%	11.9%	100%
Basic Materials	-19.1%	-4.2%	1.6%	100%
Consumer Products	10.1%	3.4%	0.6%	100%
Energy	-35.1%	-5.8%	5.4%	81%
Finance	7.9%	84.5%	0.8%	60%

Figure 40: Results tracking for 4Q-2019, US high grade issuers

Sector	Earnings growth (YoY)	Sales growth (YoY)	Share of bond index value	Percentage of the sector that has reported
Food, Bev, & Bottling	1.2%	2.6%	2.3%	85%
Health Care	8.5%	12.7%	7.6%	97%
Industrial Products	3.3%	-5.5%	2.2%	100%
Insurance	60.0%	8.5%	2.3%	97%
Media & Entertainment	5.7%	13.7%	2.9%	93%
REITs	6.9%	2.1%	2.4%	88%
Retail	0.5%	5.2%	3.0%	60%
Technology	7.3%	6.2%	6.5%	89%
Telecom	4.1%	-0.9%	2.8%	85%
Transportation	-7.4%	-0.4%	1.4%	100%
Utilities	28.9%	6.5%	5.8%	74%
Other	4.6%	1.1%	1.8%	94%
Total US HG public co's	1.3%	4.9%	64.0%	90%
Total ex. Financials	-1.4%	3.3%	46.5%	88%
Total ex. Energy	4.2%	6.2%	58.6%	91%
Total ex. Fin. & Energy	2.2%	4.6%	41.1%	89%
Yankee and private co's	n.a.	n.a.	36.0%	n.a.
HQ ex. Financials, Utilities, Commodities	5.0%	5.1%	14.4%	95%
BBB ex. Financials, Utilities, Commodities	-2.1%	4.3%	19.3%	87%
Excluding Boeing	2.6%	4.9%	63.7%	90%

Note: 4Q-19 based on the actual results when available and consensus estimates otherwise

Source: BofA Global Research, FactSet,

Surprises by sector

Earnings surprised to the upside the most for Tech (+9.9%), Retail (+8.2%), Insurance (+6.4%) and Industrial Products (+5.2% surprise). On the other hand earnings came in the worst relative to expectations at the start of the season for Aerospace/Defense (-21.4% surprise, +5.4% ex. Boing), Media & Entertainment (-6.2%), Energy (-2.3% surprise) and Autos (-1.5% surprise, Figure 41).

Figure 41: 4Q-19 earnings / sales surprises by sector

Sector	Expected earnings growth (YoY)	Actual earnings growth (YoY)	Earnings surprise	Expected sales growth (YoY)	Actual sales growth (YoY)	Sales surprise	Percentage of the sector that has reported
Aerospace/Defense	-22.5%	-43.9%	-21.4%	-4.2%	-6.5%	-2.3%	100%
Automobiles	-57.0%	-58.5%	-1.5%	-12.4%	-10.5%	1.9%	100%
Banks/Brokers	-1.3%	2.4%	3.7%	2.5%	5.3%	2.8%	100%
Basic Materials	-19.2%	-19.1%	0.1%	-4.2%	-4.2%	0.0%	100%
Consumer Products	5.0%	10.1%	5.1%	3.2%	3.4%	0.2%	100%
Energy	-31.4%	-33.7%	-2.3%	-7.4%	-6.4%	1.0%	81%
Finance	9.3%	12.9%	3.6%	4.0%	5.4%	1.4%	60%
Food, Bev, & Bottling	-3.0%	0.7%	3.7%	3.3%	2.9%	-0.4%	85%
Health Care	5.7%	8.6%	2.9%	11.1%	12.9%	1.8%	97%
Industrial Products	-2.5%	3.3%	5.8%	-6.0%	-5.5%	0.5%	100%
Insurance	57.0%	63.4%	6.4%	5.8%	10.3%	4.4%	97%
Media & Entertainment	10.8%	4.6%	-6.2%	14.3%	14.1%	-0.2%	93%
REITs	5.7%	7.7%	2.0%	1.4%	1.8%	0.4%	88%
Retail	-5.6%	2.6%	8.2%	6.6%	6.8%	0.2%	60%
Technology	-1.7%	8.2%	9.9%	4.9%	6.7%	1.8%	89%
Telecom	2.6%	2.5%	-0.1%	-0.8%	-0.8%	0.0%	85%
Transportation	-9.8%	-7.4%	2.4%	-0.2%	-0.4%	-0.1%	100%
Utilities	18.6%	22.3%	3.7%	5.6%	-0.1%	-5.7%	74%
Other	1.9%	5.2%	3.3%	2.7%	2.5%	-0.2%	94%
Total US HG public co's	-2.2%	1.4%	3.6%	2.7%	3.7%	1.0%	90%
Total ex. Financials	-4.9%	-1.4%	3.6%	2.5%	3.2%	0.6%	88%
Total ex. Energy	0.1%	4.2%	4.1%	4.0%	5.0%	1.0%	91%
Total ex. Fin. & Energy	-2.2%	2.0%	4.2%	4.1%	4.6%	0.6%	89%
HQ ex. Financials, Utilities, Commodities	-0.4%	5.4%	5.8%	4.6%	5.3%	0.7%	95%
BBB ex. Financials, Utilities, Commodities	-4.8%	-2.8%	2.0%	4.1%	4.9%	0.8%	87%
Excluding Boeing	-1.5%	2.9%	4.4%	3.0%	4.1%	1.1%	91%

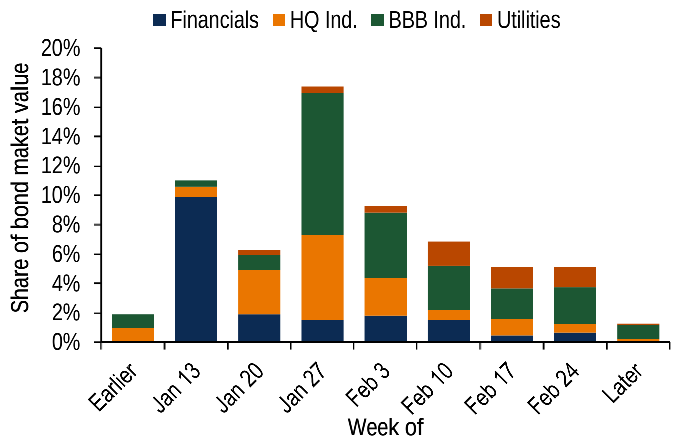
Note: based only companies that have released 4Q-19 results.

Source: BofA Global Research, FactSet.

Timing of the earnings season

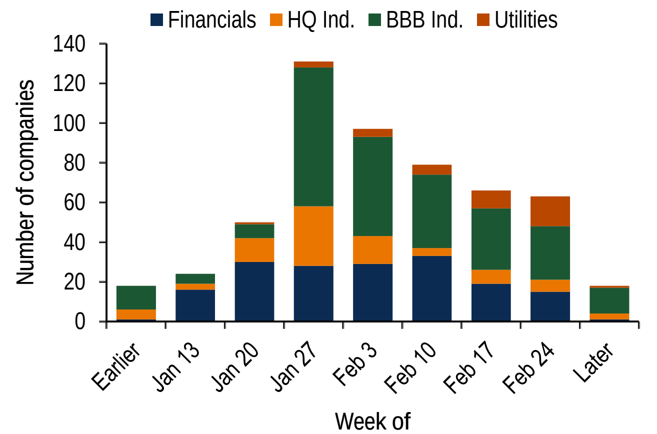
Issuers accounting for 5.1% of the US IG index bond market value reported results this week. The same 5.1% are scheduled to report results next week as well before the pace of reporting slows down materially (Figure 42, Figure 43). Going forward reporting will be concentrated in BBB-rated Industrials and Utilities (Figure 44, Figure 45).

Figure 42: Weekly reporting: by the share of the high grade bond index



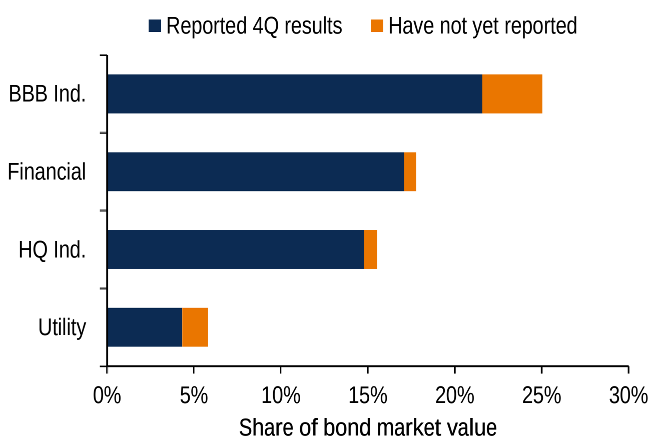
Source: BofA Global Research

Figure 43: Weekly reporting: by the number of credits



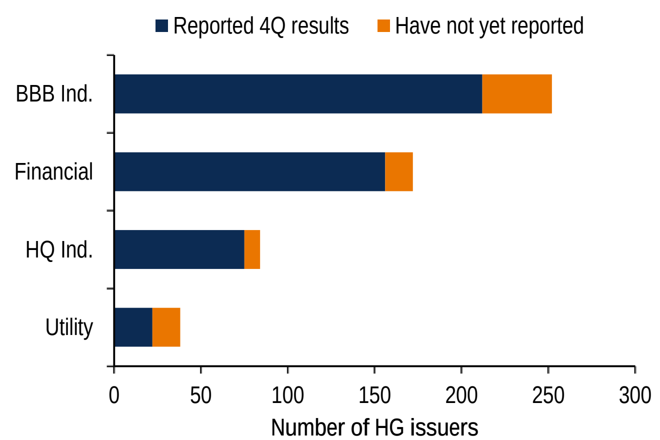
Source: BofA Global Research

Figure 44: 4Q reporting season progress by bond share of market value



Source: BofA Global Research

Figure 45: 4Q reporting season progress by issuer count



Source: BofA Global Research

Based on
[Situation Room: We delever 19 February 2020]

Preliminary 4Q HG fundamentals

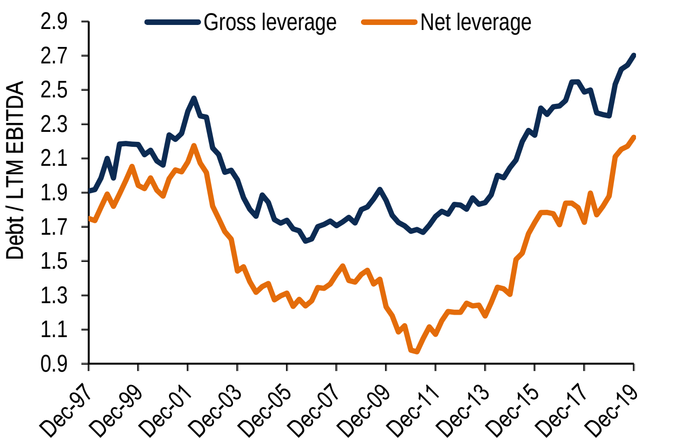
Based on results for 76% of US HG non-financial issuers ex. Utilities in our sample we estimate that the median gross leverage increased to 2.70x from 2.64x in 4Q-2019, while net leverage rose to 2.22x in 4Q from 2.17x in 3Q (Figure 46). Net debt declined on a YoY basis in 4Q for the first time since 2010, while gross debt was little changed (adjusting for the effect of accounting rule change (ASC 842, Figure 11, Figure 12).

Our preliminary estimates show that coverage declined to 10.18x from 10.33x in 3Q (Figure 49). Liquidity metrics were stable (Figure 49). Revenue growth remained little changed at 1.8% YoY while EBITDA growth decelerated again in 4Q to 1.8% YoY (Figure 51, Figure 52). Margins were little changed (Figure 57, Figure 58, Figure 59) while capex spending contracted on a YoY basis for the first time since 4Q-2016 (Figure 60, Figure 61).

Accounting rule change impact

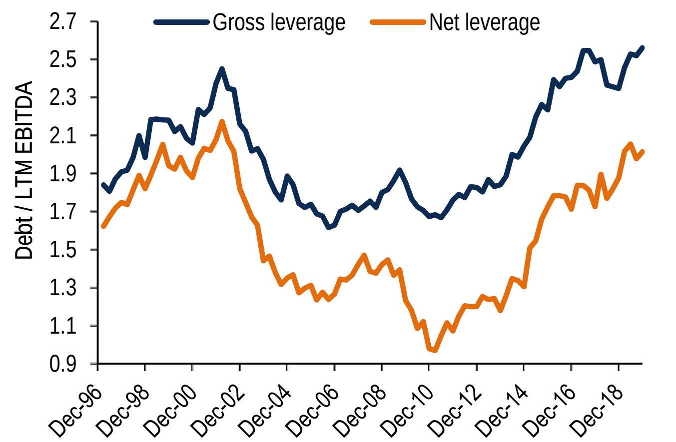
Note that the leverage values above reflect the GAAP accounting rule change specified in FASB Accounting Standards Update 2016-02 Topic 842. The rule requires companies to bring operating leases onto the balance sheet starting in 2019. We also add operating lease expense to EBITDA. Excluding the accounting rule change, and thus making values comparable historically, gross leverage increased to 2.56x in 4Q from 2.52x in 3Q, while net leverage was little changed in 4Q at 2.01x relative to 1.98x in 3Q and down from 2.06x in 2Q (Figure 47).

Figure 46: Median leverage: non-financial non-utility US issuers



Note: based on medians for US high grade non-financial non-utility issuers. 4Q-19 values are preliminary. Net debt is gross debt minus cash and marketable securities.
Source: BofA Global Research

Figure 47: Median leverage adjusted for ASC 842 rule change

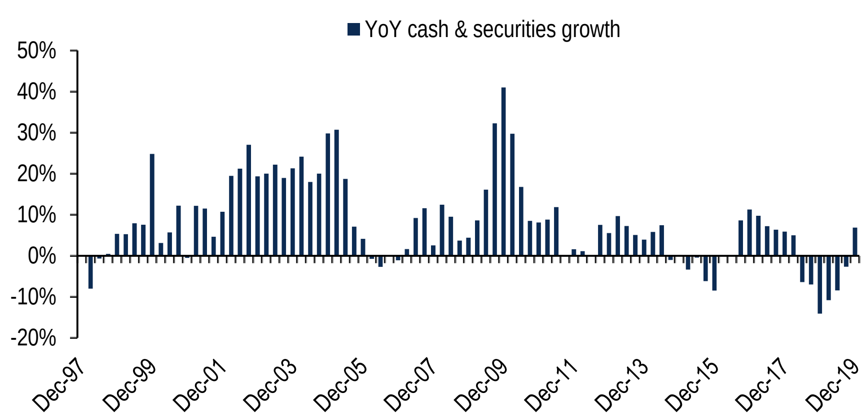


Note: based on medians for US high grade non-financial non-utility issuers. 4Q-19 values are preliminary. Net debt is gross debt minus cash and marketable securities.
Source: BofA Global Research

Cash and securities

Given that gross debt was little changed in 4Q the decline in net debt was a result of companies accumulating cash for the first time since the US tax reform that took effect in 2018. Over the last two years issuers worked to reduce their elevated overseas cash levels. That process should slow over time, and in fact cash levels declined at a slower pace in 3Q before increasing for the first time since 2018 in 4Q of last year (Figure 48). In addition depressed spending on capex (Figure 60) also added to cash levels during the quarter, likely due to uncertainties related to the trade tensions.

Figure 48: Companies accumulated cash for the first time since 2018

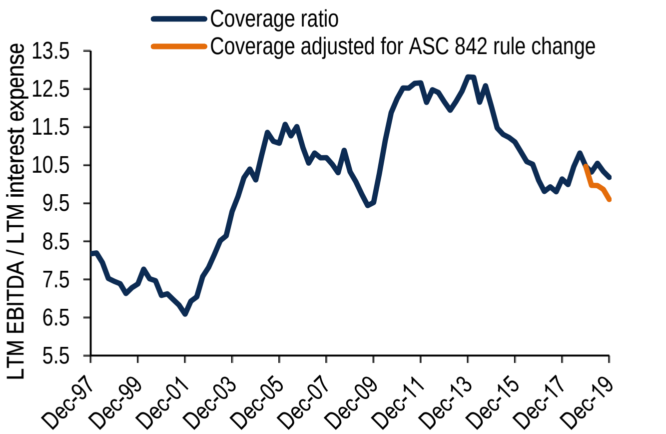


Note: based on US high grade non-financial non-utility issuers. 4Q-19 data is a preliminary estimate.
Source: BofA Global Research

Liquidity metrics

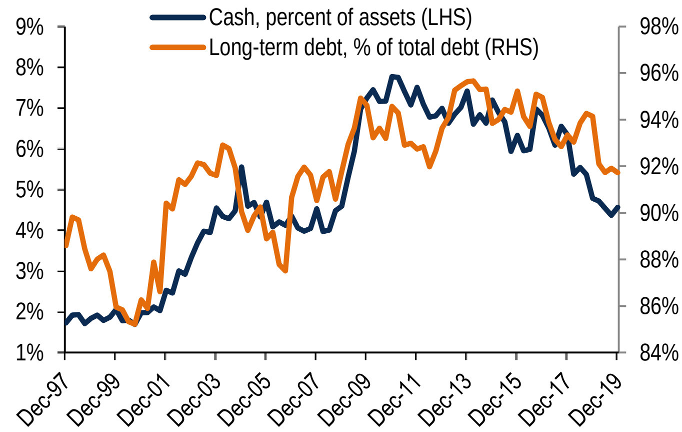
Liquidity metrics were mixed in 4Q. Cash & securities as a share of assets increased to 4.57% from 4.37%, while share of long-term debt was declined a bit to 91.7% in 4Q from 91.9% in 3Q (Figure 50).

Figure 49: Median coverage: non-financial non-utility US issuers



Note: based on US high grade non-financial non-utility issuers. 4Q-19 data is a preliminary estimate.
Source: BofA Global Research

Figure 50: Liquidity metrics: non-financial non-utility US issuers

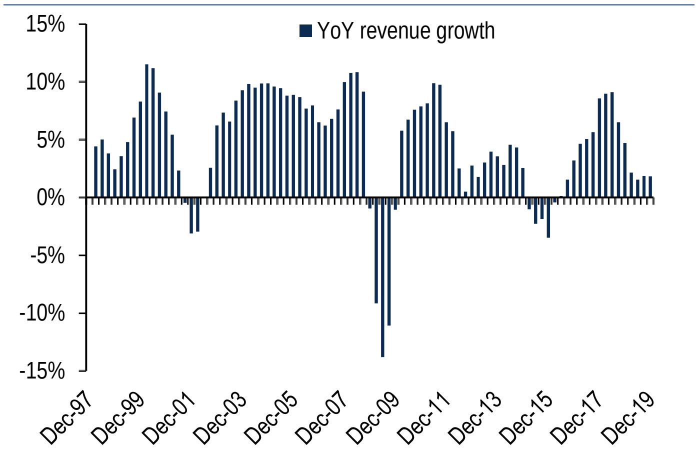


Note: based on US high grade non-financial non-utility issuers. 4Q-19 data is a preliminary estimate.
Source: BofA Global Research

Revenue and EBITDA growth

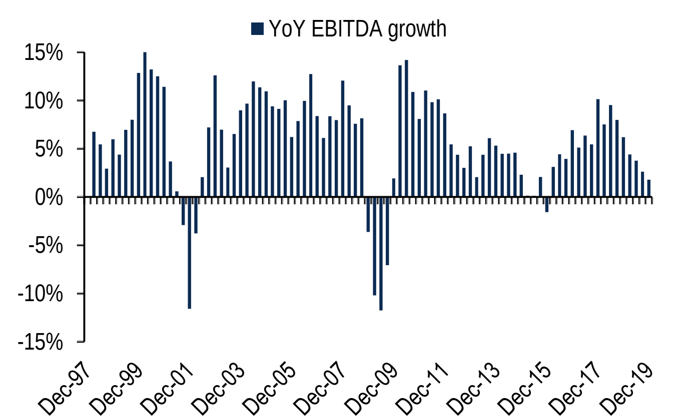
Median YoY revenue growth moderated to 1.8% in 4Q from 1.9% in 3Q. The median YoY EBITDA growth slowed to 1.8% – the lowest since 4Q-2015 – from 2.6% in 3Q (Figure 51, Figure 52).

Figure 51: Median YoY change in revenues: non-financial non-utility US issuers



Note: based on US high grade non-financial non-utility issuers. 4Q-19 data is a preliminary estimate.
Source: BofA Global Research

Figure 52: Median YoY change in EBITDA: non-financial non-utility US issuers

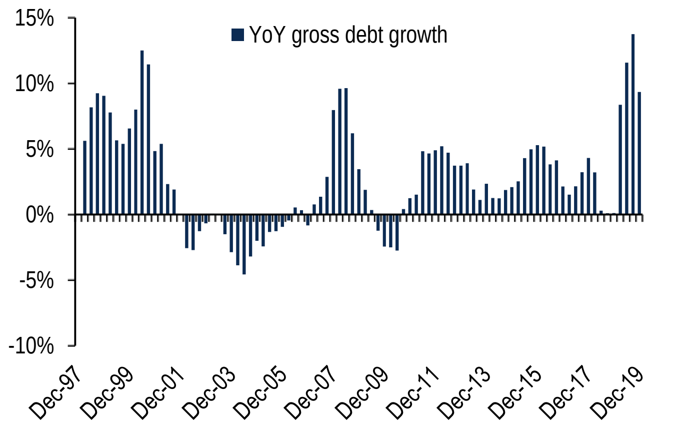


Note: based on US high grade non-financial non-utility issuers. 4Q-19 data is a preliminary estimate.
Source: BofA Global Research

Debt growth

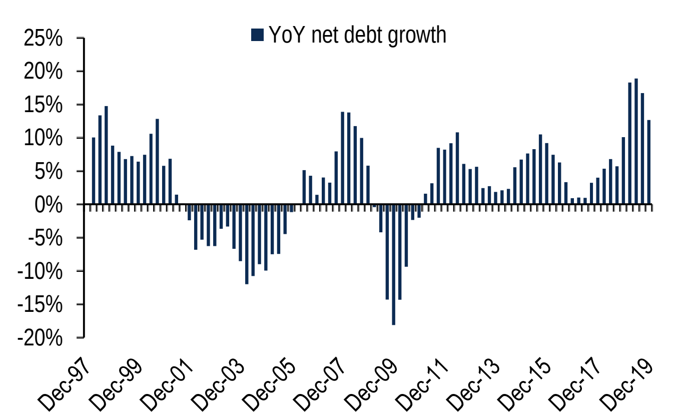
Median YoY gross debt growth declined to 9.3% in 4Q from 13.7% in 3Q (Figure 53). Excluding operating leases (ASC 842) debt was little changed at +0.3% YoY in 4Q, down from +1.7% YoY growth rate in 3Q (Figure 11). YoY net debt growth declined to 12.7% from 16.7% in 3Q (Figure 54). Adjusting for the accounting rule change (ASC 842) net debt contracted by 1.3% in 4Q – the first decline since 4Q-2010 – after growing 5.0% in 3Q (Figure 12).

Figure 53: YoY median change in gross debt: non-financial non-utility US issuers



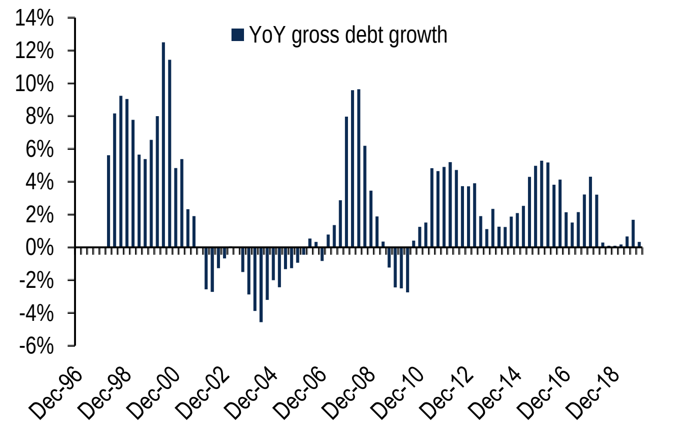
Note: based on US high grade non-financial non-utility issuers. 4Q-19 data is a preliminary estimate.
Source: BofA Global Research

Figure 54: YoY median change in net debt: non-financial non-utility US issuers



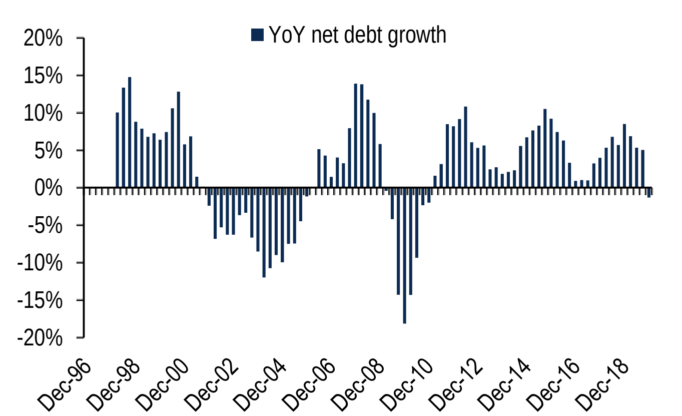
Note: based on US high grade non-financial non-utility issuers. 4Q-19 data is a preliminary estimate.
Source: BofA Global Research

Figure 55: YoY median change in gross debt: non-financial non-utility US issuers, excluding accounting rule change ASC 842



Note: based on US high grade non-financial non-utility issuers. 4Q-19 data is a preliminary estimate.
Source: BofA Global Research

Figure 56: YoY median change in net debt: non-financial non-utility US issuers, excluding accounting rule change ASC 842

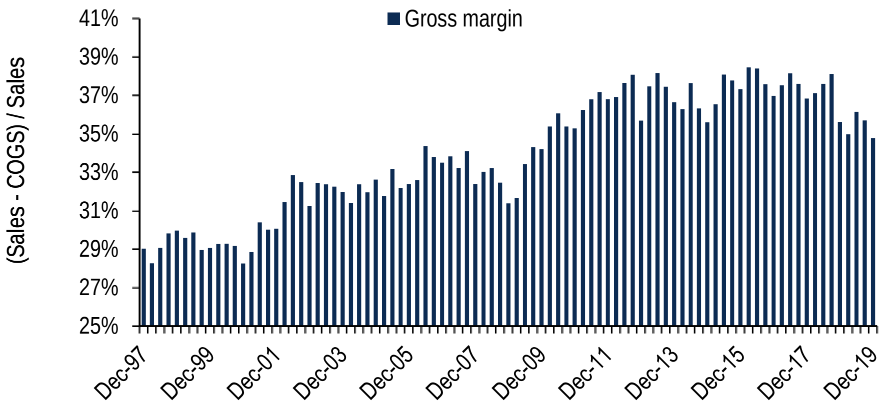


Note: based on US high grade non-financial non-utility issuers. 4Q-19 data is a preliminary estimate.
Source: BofA Global Research

Profitability

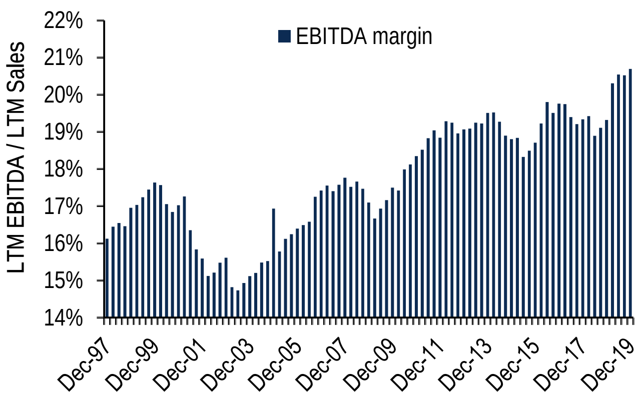
Margins were generally stable in 4Q. The median gross margin compressed a bit to 34.8% in 4Q from 35.7% in 3Q. Excluding the accounting rule change (ASC 842) EBITDA margin increased to 20.0% from 19.6% in 3Q (Figure 59). With accounting rule changes EBITDA margin improved to 20.7% from 20.5% in 3Q (Figure 58).

Figure 57: Median gross margin: non-financial non-utility US issuers



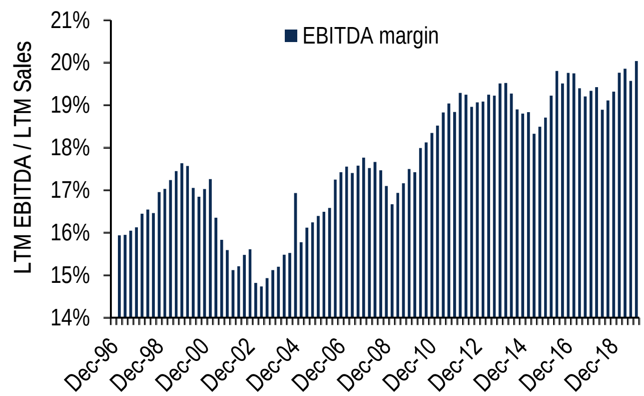
Note: based on US high grade non-financial non-utility issuers. 4Q-19 data is a preliminary estimate.
Source: BofA Global Research

Figure 58: Median EBITDA margin: non-financial non-utility US issuers



Note: based on US high grade non-financial non-utility issuers. 4Q-19 data is a preliminary estimate.
Source: BofA Global Research

Figure 59: Excluding accounting rule change FASB ASU 2016-02 Topic 842

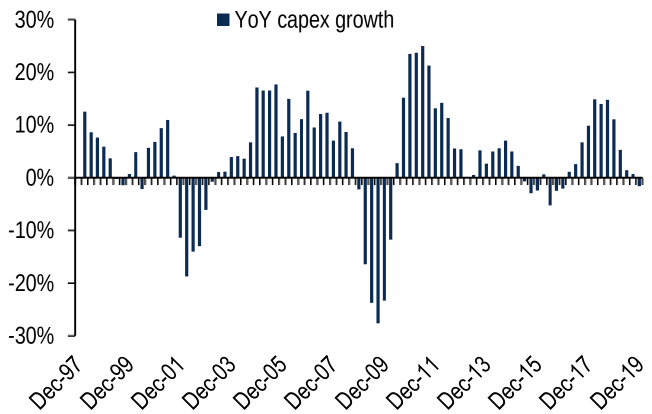


Note: based on US high grade non-financial non-utility issuers. 4Q-19 data is a preliminary estimate.
Source: BofA Global Research

Capital spending

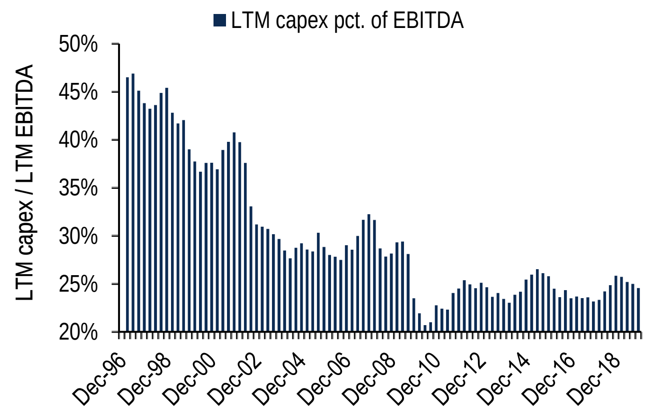
The median YoY capex spending declined by 1.6% in 4Q – the first decline since 4Q-2015 – down from a 0.7% increase in 3Q (Figure 60). LTM capex as a share of EBITDA declined to 22.5% from 23.1% in 3Q (Figure 61).

Figure 60: Median YoY growth in capex: non-financial non-utility US issuers



Note: based on US high grade non-financial non-utility issuers. 4Q-19 data is a preliminary estimate.
Source: BofA Global Research

Figure 61: Median LTM capex as percent of LTM EBITDA: non-financial non-utility US issuers, adjusted for ASC 842 rule change.

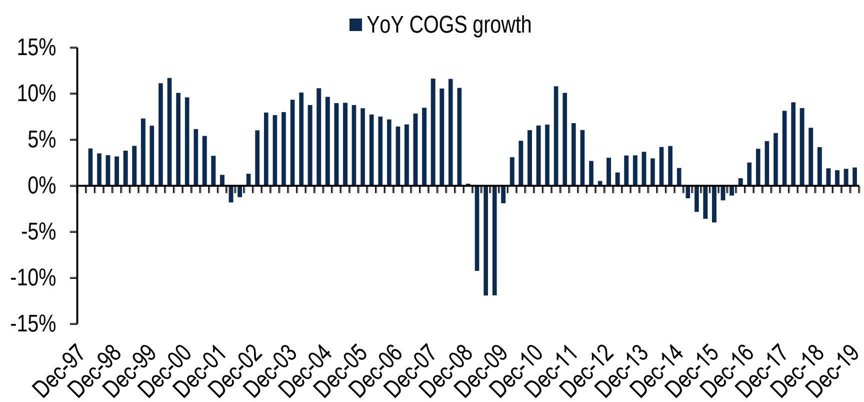


Note: based on US high grade non-financial non-utility issuers. 4Q-19 data is a preliminary estimate.
Source: BofA Global Research

Costs

The median YoY growth rate in cost of goods sold (COGS) increased to 2.0% in 4Q from 1.8% in 3Q (Figure 62).

Figure 62: Median YoY GOGS growth: non-financial non-utility US issuers



Note: based on US high grade non-financial non-utility issuers. 4Q-19 data is a preliminary estimate.
Source: BofA Global Research

Appendix: accounting rule change details

FASB Accounting Standards Update 2016-02 Topic 842 (ASC 842) took effect on December 15 2018. As a result companies following calendar quarters started reporting results under the new rule in 1Q-2019. We detail the impact of including lease obligations on the balance sheet (and adding lease costs to EBITDA) in Figure 63 below.

Figure 63: The impact of ASU 2016-02 Topic 842 on leverage and debt growth

	Reported metrics					Adjusted for rule change				Rule change impact			
Metric	4Q-18	1Q-19	2Q-19	3Q-19	4Q-19	1Q-19	2Q-19	3Q-19	4Q-19	1Q-19	2Q-19	3Q-19	4Q-19
Debt / LTM EBITDA	2.35	2.53	2.62	2.64	2.70	2.46	2.53	2.52	2.56	0.08	0.09	0.12	0.14
Net debt / LTM EBITDA	1.88	2.11	2.15	2.17	2.22	2.02	2.06	1.98	2.01	0.09	0.10	0.19	0.21
YoY gross debt growth	0.1%	8.4%	11.6%	13.7%	9.3%	0.2%	0.7%	1.7%	0.3%	8.2%	10.9%	12.1%	9.0%
YoY net debt growth	10.1%	18.3%	18.9%	16.7%	12.7%	6.9%	5.3%	5.0%	-1.3%	11.4%	13.5%	11.7%	14.0%

Note: based on US high grade non-financial non-utility issuers. 4Q-19 data is a preliminary estimate.
Source: BofA Global Research

Credit analysts and rating agencies traditionally took lease obligations into account (see Retailing: Impact to IG leverage from lease accounting changes 09 January 2019). Hence the results under the new rule should not be a surprise and leverage should now more accurately reflect credit risk. On the other hand companies will not restate historical results, meaning leverage in year 2018 and earlier will not be comparable to leverage going forward. For this reason we plan to calculate leverage both under the updated rule (which is more accurate) and under the old rule (which is comparable historically).

Finally, we make the following assumptions when estimating leverage under the new rule:

- **LTM EBITDA**. Companies did not generally disclose lease costs, as required under the new rule, until this year. We currently add lease expense to EBITDA. For calculating LTM EBITDA we assume 1Q-19 lease costs for all quarters in 2018. This means we assume 4 x [1Q-19 lease expense] as the LTM lease expense in 1Q-19. We assume 3 x [1Q-19 lease expense] + 1 x [2Q-19 lease expense] as the LTM lease expense in 2Q-19. We assume 2 x [1Q-19 lease expense] + 1 x [2Q-19 lease expense] 1 x [3Q-19 lease expense] as the LTM lease expense in 3Q-19. No such adjustment is necessary starting in 4Q-19.

- **Waiting for Qs and Ks.** Typically companies disclose debt levels in their earnings release. However, these often omit the data on leases, meaning we now need to wait for the information in the 10-Q and 10-K filings before we get lease amounts and lease costs. For companies releasing debt but not lease data in earnings, and before quarterly or annual forms is filed and processed by our data provider, we assume the prior quarter values when computing debt and EBITDA for our preliminary data (i.e. assuming 3Q values when 4Q data is missing).

- **EBITDA growth.** For the period 1Q-19 through 4Q-19 we are not including lease expense in EBITDA when computing YoY EBITDA growth.

Methodology

The estimates in this report are for US non-financial issuers in our benchmark USD corporate index C0A0 with balance sheet data available on Bloomberg. We exclude companies with large captive finance subsidiaries (CAT, DE, F, GE, and GM) and high yield issuers with secured bonds in the IG index (DELL, CHTR). We further restrict the scope of the analysis in this report to issuers excluding Utilities, which tend to have higher leverage. For these US non-financial non-utility issuers actual results are currently available for 76% of the total 327 issuers. All of the market fundamentals are median values using GAAP measures, based on actual results when available and estimates otherwise (based on the median QoQ change for the companies with available data). We use a dynamic – as opposed to static – universe of companies in our analysis based on the constituents in ICE BofA HG index (C0A0) at the end of each quarter.

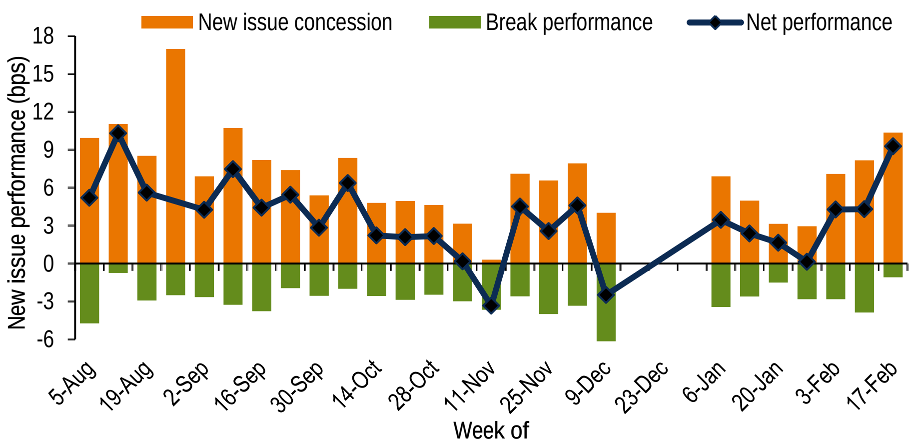
Frontloading

US IG new issuance totaled $37.2bn last week, including $13.6bn of financials, $3.1bn high-quality industrials and $20.6bn BBB industrials (Figure 64). Notably $22.4bn of last week's volume and $4.0bn of additional Reverse Yankees were related to refinancing given record low yields currently (see piece above), including Otis that issued $5.3bn to make a cash distribution to United Technologies (similar to the $9.25bn Carrier deal the week before last). Reverse Yankee issuance totaled $5.2bn last week, including an 8-year green bond tranche from VFC.

Looking ahead, the refinancing trade is set to continue with most US companies out of 4Q19 earnings-related blackouts by now, HR, MAA and PDM having announced fixed income investor calls, and $23bn of Sprint / T-Mobile related new IG issuance (US and Reverse Yankee, $19bn bonds and $4bn term loans) that could come sooner rather than later. While seasonality points to $24bn of average issuance this week and $38bn each for the following two weeks, we expect some frontloading of activities to $30-40bn this week with potential upside from large M&A situations.

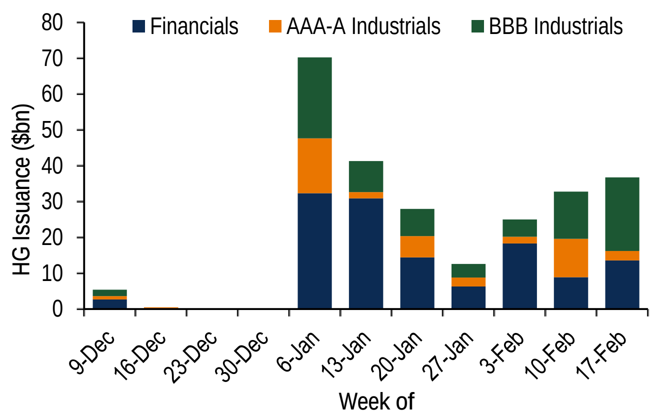
New issue performance worsened as the average new issue concession increased to 10.4bps last week from 8.2bps the prior week, while the average break performance also softened to 1.2bps tighter last week from 3.9bps tighter the week before. As a result, the overall new issue performance, which we measure as new issue concession plus break performance, weakened to 9.2bps last week from 4.3bps the prior week (Figure 69). Last week's new issues traded 0.1bps tighter on average from pricing at the close on Friday.

Figure 64: Weekly IG new issue performance



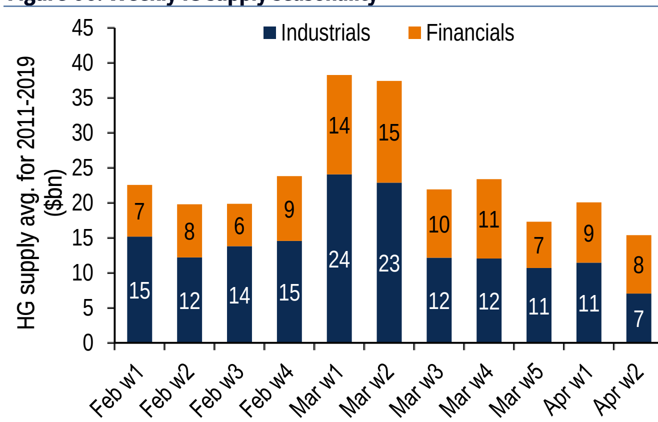
Source: BofA Global Research

Figure 65: Weekly IG supply volumes



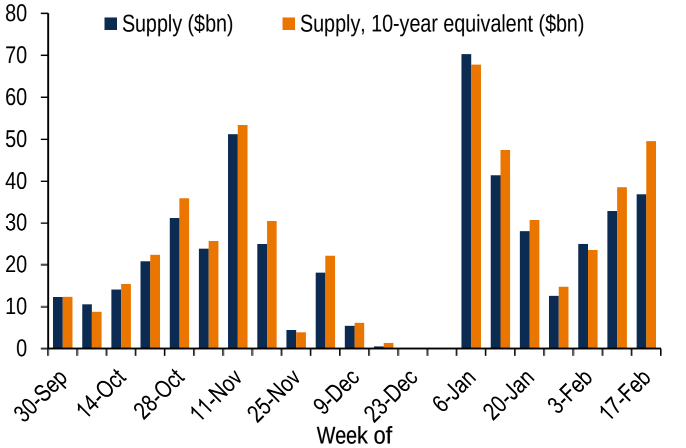
Source: BofA Global Research

Figure 66: Weekly IG supply seasonality



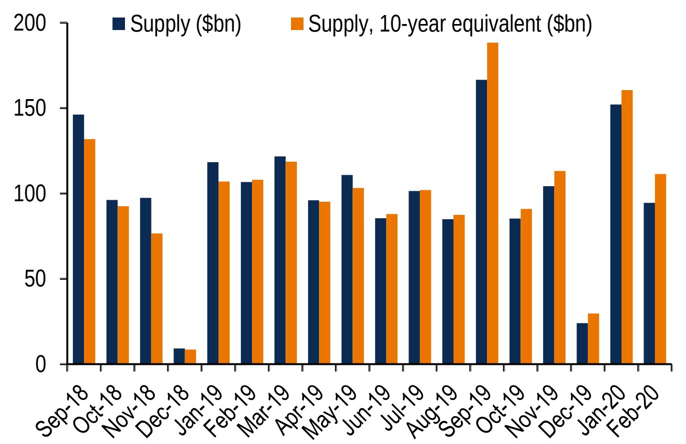
Source: BofA Global Research

Figure 67: Weekly gross and 10-year equivalent supply volumes



Source: BofA Global Research

Figure 68: Monthly gross and 10-year equivalent supply volumes



Source: BofA Global Research

Figure 69: Recent new issue pricing and new issue concessions

Date	Ticker	Name	Tenor	Size ($mm)	Moody's/S&P Rating	Coupon (%)	Px Spread (bps)	New Issue Conc. (bps)	* Break performance	Current spread (bps)
2020-02-18	ACAFP	Credit Agricole Bank/NY	18m	125	Aa3/A+	FRN	3mL+20	n.a.	n.a.	n.a.
2020-02-18	AMGN	Amgen Inc	5	500	Baa1/A-	1.9	55	4	-3	53
2020-02-18	AMGN	Amgen Inc	7	750	Baa1/A-	2.2	75	21	-1	75
2020-02-18	AMGN	Amgen Inc	10	1,250	Baa1/A-	2.45	90	20	0	92
2020-02-18	AMGN	Amgen Inc	20	1,250	Baa1/A-	3.15	117	n.a.	-1	118
2020-02-18	AMGN	Amgen Inc	30	1,250	Baa1/A-	3.375	137	14	1	141
2020-02-18	BAMACN	Brookfield Finance LLC	30	600	Baa1/A-	3.45	150	14	4	155
2020-02-18	BNP	BNP Paribas SA	PERP	1,750	Ba1/BBB-	4.5	n.a.	n.a.	n.a.	n.a.
2020-02-18	DZBK	DZ Bank AG Deutsche Zentral/NY	2	100	Aa1/AA-	FRN	3mL+20	n.a.	n.a.	n.a.
2020-02-18	ENBCN	Enbridge Inc	2	750	Baa2/BBB+	FRN	3mL+50	n.a.	n.a.	n.a.
2020-02-18	EXC	Commonwealth Edison Co	10	350	A1/A	2.2	68	6	0	73
2020-02-18	EXC	Commonwealth Edison Co	30	650	A1/A	3	100	2	-1	101
2020-02-18	FE	FirstEnergy Corp	5	300	Baa3/BBB-	2.05	70	3	-4	66
2020-02-18	FE	FirstEnergy Corp	10	600	Baa3/BBB-	2.65	110	16	-1	110
2020-02-18	FE	FirstEnergy Corp	30	850	Baa3/BBB-	3.4	140	10	-1	144
2020-02-18	GAZPRU	Gazprom PJSC via Gaz Finance PLC	10	2,000	Baa2/BBB-	3.25	n.a.	n.a.	n.a.	n.a.
2020-02-18	KKR	KKR Group Finance Co VII LLC	30	500	NA/A	3.625	165	13	2	171
2020-02-18	MIZUHO	Mizuho Financial Group Inc	4	1,100	A1/A-	FRN	3mL+63	n.a.	n.a.	n.a.
2020-02-18	MIZUHO	Mizuho Financial Group Inc	6	750	A1/A-	2.226	83	5	0	84
2020-02-18	MIZUHO	Mizuho Financial Group Inc	11	500	A1/A-	2.591	103	1	-1	104
2020-02-18	MUFG	Mitsubishi UFJ Financial Group Inc	5	2,600	A1/A-	2.193	80	18	4	78
2020-02-18	MUFG	Mitsubishi UFJ Financial Group Inc	10	1,150	A1/A-	2.559	100	10	-3	99
2020-02-18	NNN	National Retail Properties Inc	10	400	Baa1/BBB+	2.5	98	13	-1	98
2020-02-18	NNN	National Retail Properties Inc	30	300	Baa1/BBB+	3.1	120	12	-1	123
2020-02-18	RSG	Republic Services Inc	10	600	Baa2/BBB+	2.3	78	9	-1	82
2020-02-18	RSG	Republic Services Inc	30	400	Baa2/BBB+	3.05	108	n.a.	-1	109
2020-02-18	SUMIBK	Sumitomo Mitsui Banking Corp/New York	2	200	A1/A	FRN	3mL+32	n.a.	n.a.	n.a.
2020-02-19	BPLN	BP Capital Markets America Inc	30	1,250	A1/A-	3	107	n.a.	-3	104
2020-02-19	FNB	FNB Corp/PA	3	300	Baa2/BBB-	2.2	83	n.a.	-6	82
2020-02-19	GTOWNU	Georgetown University/The	10	50	A3/A-	2.247	68	n.a.	n.a.	67
2020-02-19	GTOWNU	Georgetown University/The	30	320	A3/A-	2.943	93	n.a.	n.a.	92
2020-02-19	HAL	Halliburton Co	10	1,000	Baa1/A-	2.92	135	n.a.	3	139
2020-02-19	JPM	JPMorgan Chase & Co	PERP	1,500	Baa2/BBB-	4	n.a.	n.a.	n.a.	n.a.
2020-02-19	KLAC	KLA Corp	30	750	Baa1/BBB+	3.3	130	17	-1	133
2020-02-19	KMI	Tennessee Gas Pipeline Co LLC	10	1,000	Baa2/BBB	2.9	135	3	-4	133
2020-02-19	OMC	Omnicom Group Inc	10	600	Baa1/BBB+	2.45	92	n.a.	3	95
2020-02-19	UDR	UDR Inc	10	200	Baa1/BBB+	3.2	97	1	-1	93
2020-02-19	UTX	Otis Worldwide Corp	3	500	Baa2/BBB	FRN	3mL+45	n.a.	n.a.	n.a.
2020-02-19	UTX	Otis Worldwide Corp	5	1,300	Baa2/BBB	2.056	65	n.a.	-4	61
2020-02-19	UTX	Otis Worldwide Corp	7	500	Baa2/BBB	2.293	80	n.a.	-2	78
2020-02-19	UTX	Otis Worldwide Corp	10	1,500	Baa2/BBB	2.565	100	n.a.	-2	97
2020-02-19	UTX	Otis Worldwide Corp	20	750	Baa2/BBB	3.112	110	n.a.	-1	109
2020-02-19	UTX	Otis Worldwide Corp	30	750	Baa2/BBB	3.362	135	n.a.	-3	132
2020-02-20	CTXS	Citrix Systems Inc	10	750	Ba1/BBB	3.3	185	n.a.	-6	179
2020-02-20	LEA	Lear Corp	10	350	Baa2/BBB-	3.5	200	13	n.a.	196
2020-02-20	LEA	Lear Corp	29	300	Baa2/BBB-	5.25	285	19	-4	281
2020-02-20	PNC	PNC Bank NA	3NC2	1,000	A2/A	FRN	3mL+32.5	n.a.	n.a.	n.a.

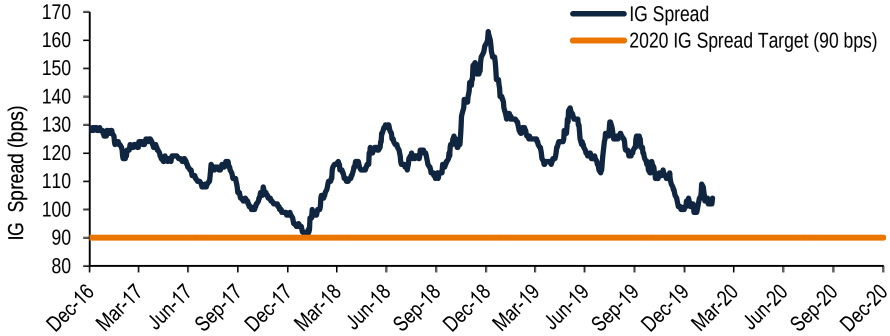
Figure 69: Recent new issue pricing and new issue concessions

Date	Ticker	Name	Tenor	Size ($mm)	Moody's/S&P Rating	Coupon (%)	Px Spread (bps)	New Issue Conc. (bps)	* Break performance	Current spread (bps)
2020-02-20	PNC	PNC Bank NA	3NC2	500	A2/A	1.743	35	5	-1	34
2020-02-21	GWW	WW Grainger Inc	5	500	A3/A+	n.a.	60	n.a.	n.a.	n.a.

Note: We calculate new issue concessions by estimating the difference between new issue bond spread and interpolated G spread from comparable liquid secondary bonds of the same issuer prior to the new issue deal announcement, adjusted for the spread impact of dollar prices deviating from par. Break performance is computed as the difference between new issue pricing and secondary closing spread on the first day of trading.
Source: BofA Global Research

Spread and supply forecasts

Figure 70: Spread targets for 2019



Source: ICE Data Indices, LLC, BofA Global Research

Sector views

Figure 71: BofA High Grade Sector Views Summary

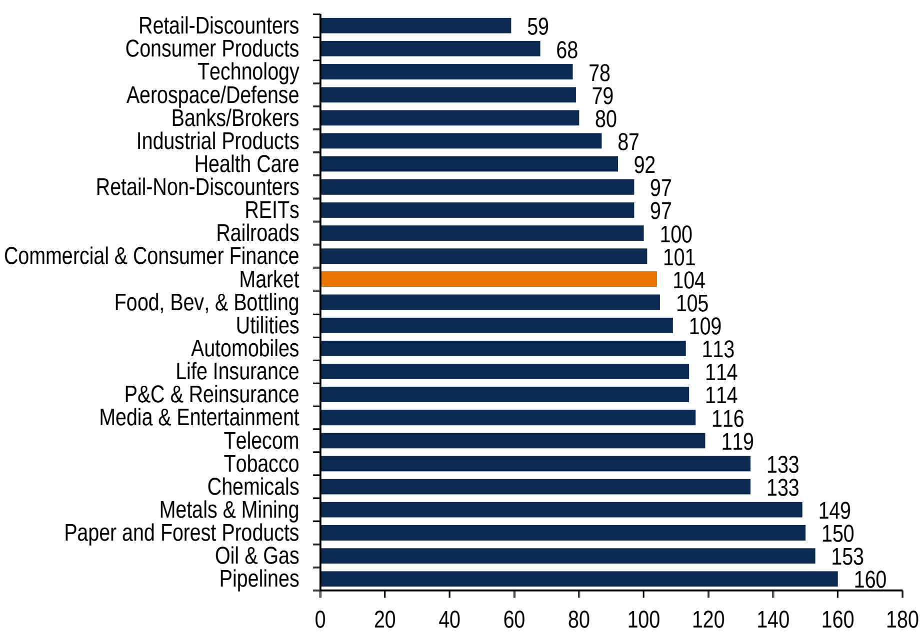
Overweight	View	Market weight	View	Underweight	View
Basic Materials	Over	Food, Bev, & Bottling	Market	Aerospace & Defense	Under
Chemicals	Over	Industrial Products	Market	Automobiles	Under
Metals & Mining	Market	Tobacco	Market	Banks/Brokers	Under
Paper and Forest Products	Over	Utilities	Market	Consumer Products	Under
Energy	Over			Industrial Products	Under
Oil & Gas	Market			Healthcare	Under
Pipelines	Over			Retail	Under
Insurance	Over			Discounters	Under
Life Insurance	Over			Non-Discounters	Market
P&C & Reinsurance	Market			Technology	Under
Media & Entertainment	Over			Transportation	Under
REITS	Over			Railroads	Under
Telecommunications	Over				

Source: BofA Global Research

High Grade Spreads by Sector

Figure 72: High grade spreads by sector (bps)

Sector spreads for BofA HG U.S. Corporate Master C0A0 as of February 20, 2020. Results include subordinated and hybrid securities



Source: BofA Global Research, ICE Data Indices, LLC

High grade sector historical performance

Figure 73: High Grade Sector Performance as of February 20, 2020

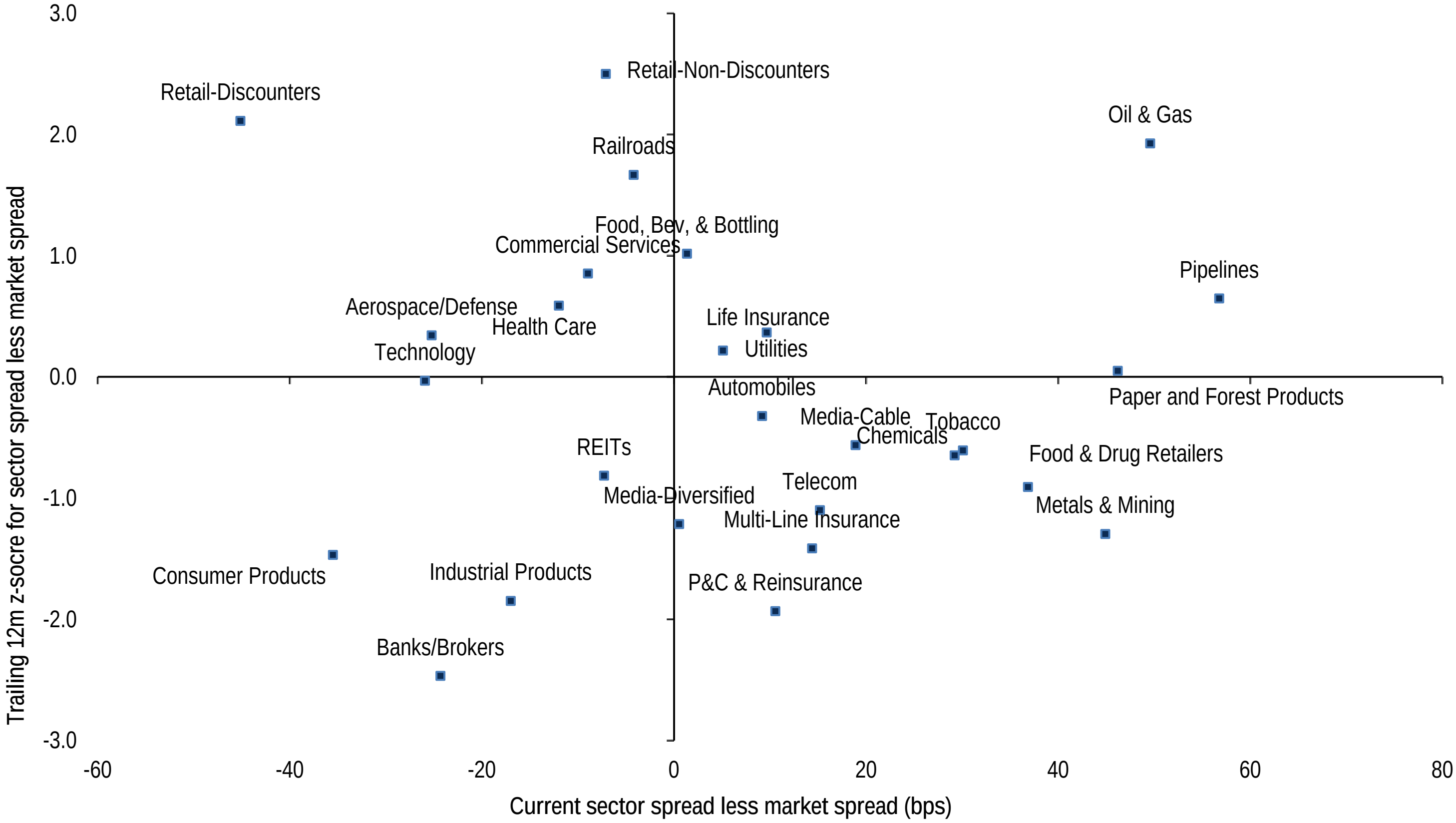
Sector spreads and performance for BofA HG U.S. Corporate Master C0A0. Results include subordinated and hybrid securities

								Excess Return (bps)				Spread Change (bps)				Total Return
Sector	Rating	OAS	Duration	Yield	Price	Face ($bn)	% Mkt Value	MTD	QTD	YTD	YOY	MTD	QTD	YTD	YOY	QTD
Aerospace/Defense	BBB1	79	8.9	2.38	113.3	107.8	1.64	50	-39	-39	337	-5	2	2	-22	324
Automobiles	BBB1	113	4.2	2.58	104.9	181.2	2.55	13	2	2	361	-1	3	3	-35	159
Banks/Brokers	A3	80	5.3	2.27	108.5	1,505.6	21.88	29	2	2	373	-4	0	0	-36	202
Basic Materials	BBB2	140	8.1	2.97	113.2	306.4	4.65	86	33	33	547	-9	-2	-2	-33	359
Building Materials	BBB2	130	8.6	2.88	111.6	20.6	0.31	50	110	110	887	-5	-10	-10	-62	449
Chemicals	BBB2	133	7.9	2.89	111.1	135.5	2.02	74	37	37	533	-7	-2	-2	-30	354
Homebuilders	BBB1	63	4.5	2.02	107.8	3.2	0.05	33	28	28	358	-8	-9	-9	-49	200
Metals & Mining	BBB1	149	8.4	3.08	115.7	104.0	1.62	95	3	3	529	-11	2	2	-36	346
Paper and Forest Products	BBB2	150	7.8	3.04	114.8	43.1	0.67	121	56	56	495	-12	-5	-5	-22	373
Commercial Services	A3	95	10.5	2.57	114.5	73.9	1.13	39	38	38	390	-4	-2	-2	-28	459
Consumer Products	A2	68	7.1	2.20	109.9	65.5	0.96	33	11	11	330	-4	-1	-1	-34	296
Energy	BBB1	156	8.2	3.14	111.5	773.1	11.58	97	-56	-56	335	-9	14	14	-12	275
Oil & Gas	A3	153	8.0	3.10	111.2	494.8	7.39	86	-60	-60	346	-8	17	17	-10	262
Pipelines	BBB2	160	8.5	3.21	112.2	278.3	4.19	118	-50	-50	313	-11	6	6	-16	297
Finance	BBB1	99	6.0	2.48	109.3	153.0	2.24	38	22	22	451	-3	1	1	-38	258
Commercial & Consumer Finance	BBB2	101	4.0	2.43	105.6	74.3	1.05	17	16	16	401	-1	3	3	-43	165
Finance-Other Services	A2	97	7.8	2.52	112.8	78.6	1.19	56	29	29	498	-5	-2	-2	-35	338
Food, Bev, & Bottling	BBB1	105	8.9	2.65	111.8	269.6	4.04	-39	-90	-90	491	2	8	8	-27	272
Health Care	A3	92	9.1	2.53	112.8	620.0	9.37	48	-40	-40	403	-4	4	4	-23	334
Industrial Products	A3	87	7.4	2.41	110.4	186.0	2.75	41	30	30	455	-5	-2	-2	-40	329
Insurance	A3	113	8.9	2.78	115.6	264.4	4.10	64	25	25	524	-6	-1	-1	-32	387
Insurance-Other	BBB1	97	8.1	2.54	113.6	22.9	0.35	53	6	6	496	-6	-1	-1	-37	336
Life Insurance	A2	114	8.6	2.79	113.7	152.4	2.32	64	14	14	433	-6	1	1	-25	356
Multi-Line Insurance	BBB1	118	8.9	2.80	117.7	23.6	0.37	92	43	43	982	-7	-2	-2	-68	410
P&C & Reinsurance	A3	114	10.0	2.82	119.9	65.6	1.06	57	49	49	566	-6	-4	-4	-32	464
Leisure	BBB3	122	4.8	2.64	107.9	28.7	0.42	57	17	17	508	-10	2	2	-48	205
Media & Entertainment	BBB1	116	9.6	2.78	116.1	210.4	3.28	41	-51	-51	565	-4	5	5	-36	346
Media-Cable	BBB1	123	10.2	2.87	117.3	133.4	2.10	42	-66	-66	607	-4	6	6	-31	360
Media-Diversified	BBB1	104	8.6	2.63	114.1	75.3	1.15	39	-29	-29	508	-4	3	3	-45	324
Media-Publishing	BBB1	74	5.6	2.17	109.4	1.7	0.02	32	119	119	454	-4	19	19	-33	268
Real Estate Dev & Mgt	A2	108	5.9	2.56	111.7	6.1	0.09	38	35	35	398	-6	-5	-5	-46	269
REITs	BBB1	97	6.4	2.44	108.2	171.7	2.49	32	27	27	435	-3	-2	-2	-39	281
Retail	A3	87	9.2	2.48	113.1	210.7	3.19	40	-51	-51	347	-4	5	5	-22	322
Food & Drug Retailers	BBB2	141	8.2	2.99	110.4	25.7	0.38	68	30	30	443	-7	-2	-2	-28	344
Retail-Discounters	A1	59	9.2	2.19	115.4	79.5	1.23	41	-67	-67	263	-3	7	7	-15	313
Retail-Non-Discounters	BBB1	97	9.5	2.59	112.1	105.4	1.58	31	-58	-58	391	-3	6	6	-24	323
Technology	A2	78	7.8	2.33	110.7	499.3	7.40	29	-36	-36	339	-4	3	3	-21	278
Telecom	BBB1	119	9.6	2.81	116.9	275.5	4.33	36	-73	-73	744	-4	6	6	-43	328
Tobacco	BBB1	133	8.0	2.89	109.0	73.8	1.08	33	-42	-42	609	-6	1	1	-26	286
Transportation	BBB1	114	10.2	2.79	112.9	159.7	2.42	32	-50	-50	346	-3	4	4	-21	365
Railroads	A3	100	12.0	2.70	116.6	86.3	1.35	30	-76	-76	346	-2	6	6	-17	420
Transportation-Other	BBB1	133	7.9	2.89	108.5	73.4	1.07	34	-17	-17	347	-4	4	4	-24	298
Utilities	A3	109	10.1	2.74	115.2	544.1	8.41	39	-6	-6	402	-4	0	0	-29	412
Market	A3	104	7.8	2.60	111.6	6,686.4	100.00	43	-20	-20	418	-5	3	3	-28	294

Source: ICE Data Indices, LLC, BofA Global Research

Sector performance and relative value

Figure 74: Trailing 12 month spread Z-score vs. current sector spread differential to the market



Source: ICE Data Indices, LLC, BofA Global Research

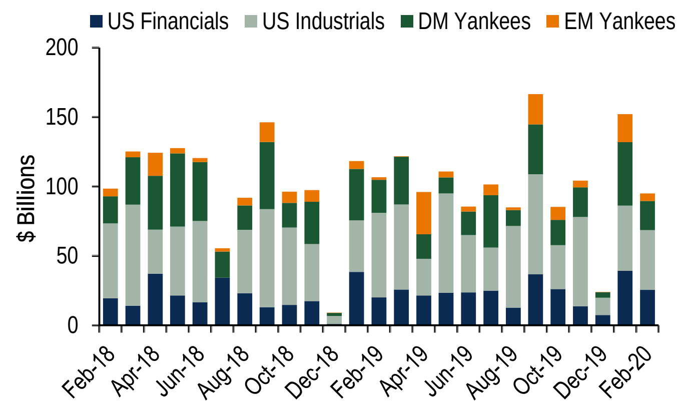
Supply statistics

Figure 75: High grade supply summary, $bn

Sector	WTD	MTD	QTD	YTD
US Financials	4.7	25.5	64.7	64.7
US Industrials	20.9	43.0	90.0	90.0
European Financials	2.0	3.8	22.2	22.2
European Industrials	0.0	5.0	7.8	7.8
EM Yankees	2.0	5.5	25.6	25.6
Non-Euro Non-EM Yankees	7.7	12.2	36.8	36.8
Total	37.2	95.0	247.0	247.0

Source: BofA Global Research

Figure 76: HG monthly issuance, $bn



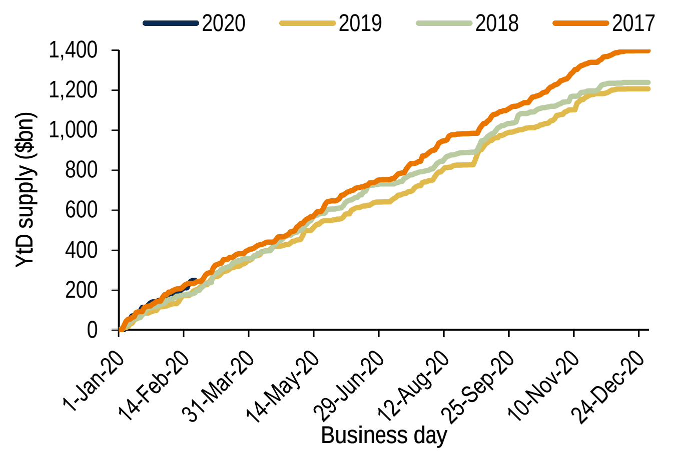
Source: BofA Global Research

Figure 77: Cumulative High grade supply YTD, $bn

Sector	YTD 2017	YTD 2018	YTD 2019	YTD 2020
Financials	118.5	108.6	86.0	124.6
AAA-A Industrials	62.5	31.3	33.4	41.3
BBB Industrials	53.9	45.2	79.0	81.1
Total	234.8	185.1	198.4	247.0
%-change		-21%	7%	25%
US	168.1	125.9	141.2	154.6
Europe	38.1	26.4	37.9	29.9
EM	5.2	12.6	7.5	25.6
Other DM	23.4	20.2	11.7	36.8

Source: BofA Global Research

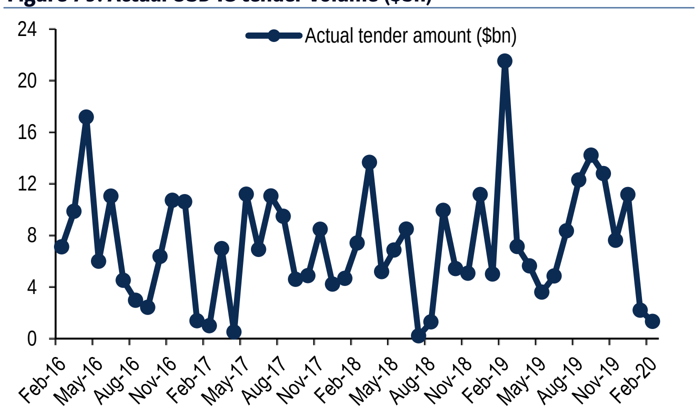
Figure 78: Cumulative High grade supply, $bn



Source: BofA Global Research

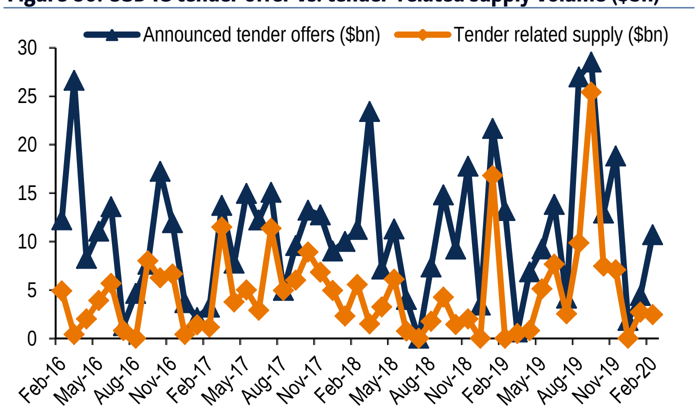
Announced vs actual tenders & related supply

Figure 79: Actual USD IG tender volume ($bn)



Note: Limited to issuers with public tender offer announcements for USD bonds with at least one HG rating from Moody's, S&P and Fitch.
Source: BofA Global Research, Bloomberg, company reports

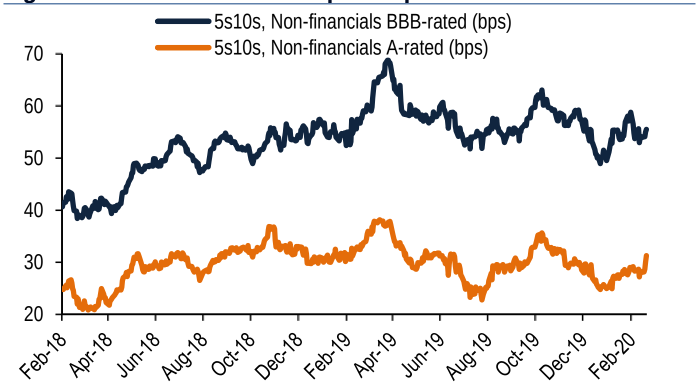
Figure 80: USD IG tender offer vs. tender-related supply volume ($bn)



Note: Tender related supply refers to USD bonds with at least one HG rating from Moody's, S&P and Fitch that contains specific reference to tender activities in the use of proceeds language.
Source: BofA Global Research, Bloomberg, company reports

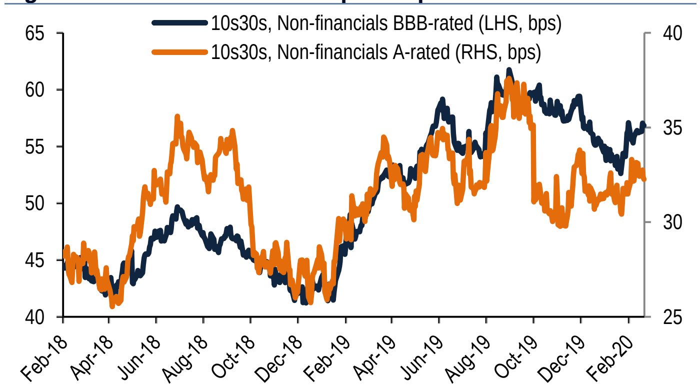
Corporate spread curves

Figure 81: 5s10s non-financial corporate spread curves



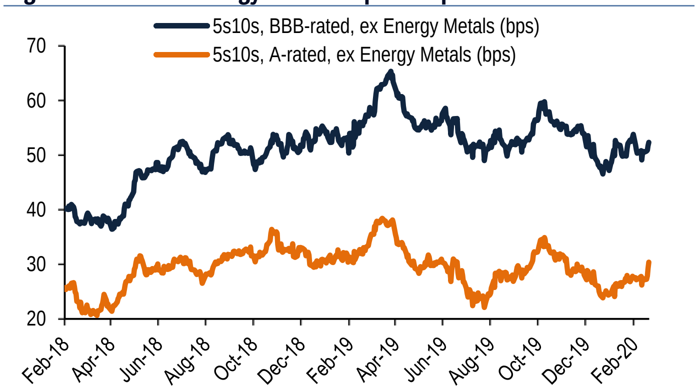
Note: the curve is computed for individual issuers first, and then aggregated to create the average.
Source: BofA Global Research

Figure 82: 10s30s non-financial corporate spread curves



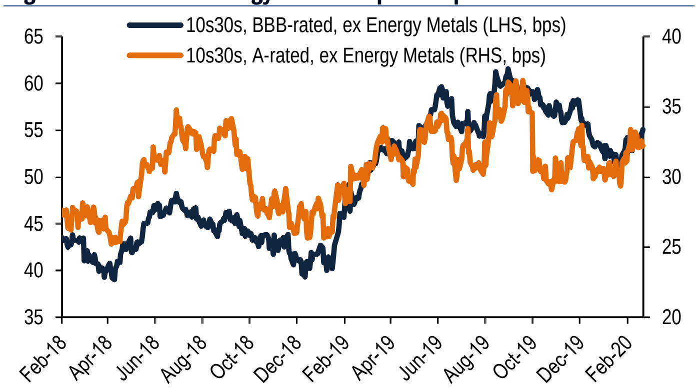
Note: the curve is computed for individual issuers first, and then aggregated to create the average.
Source: BofA Global Research

Figure 83: 5s10s ex Energy Metals corporate spread curves



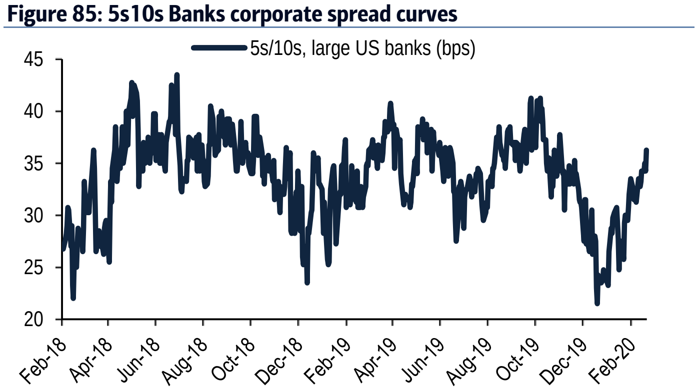
Note: the spread curve calculation is restricted to issuers that have bonds outstanding for both the short and the long tenors. For spread levels we use only on-the-run bonds (one for each tenor), outstanding for at most three years. The aggregate market spread curve is a simple average of individual issuer curves.
Source: BofA Global Research, ICE Data Indices, LLC

Figure 84: 10s30s ex Energy Metals corporate spread curves



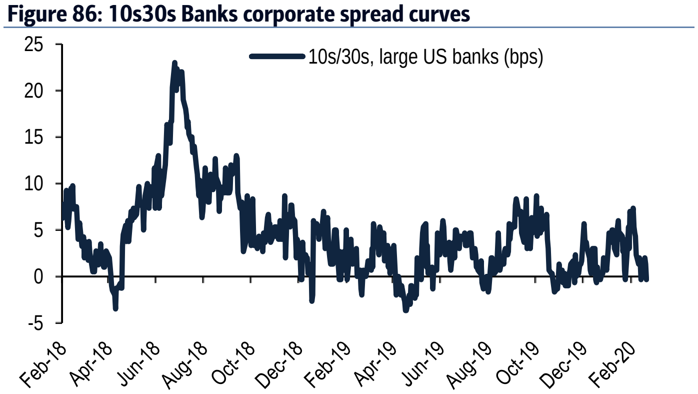
Note: the spread curve calculation is restricted to issuers that have bonds outstanding for both the short and the long tenors. For spread levels we use only on-the-run bonds (one for each tenor), outstanding for at most three years. The aggregate market spread curve is a simple average of individual issuer curves.
Source: BofA Global Research, ICE Data Indices, LLC

Figure 85: 5s10s Banks corporate spread curves



Note: the spread curve calculation is restricted to BAC, JPM, C and WFC that have senior bonds outstanding for both the short and the long tenors. For spread levels we use only on-the-run bonds (one for each tenor), outstanding for at most three years. The aggregate market spread curve is a simple average of individual issuer curves.
Source: BofA Global Research, ICE Data Indices, LLC

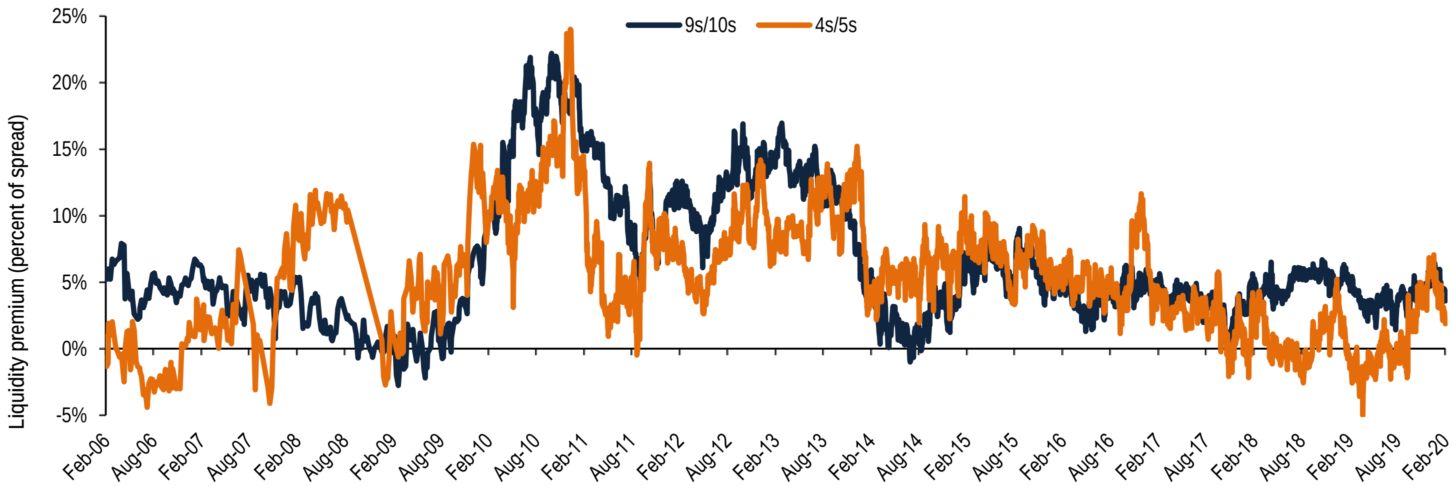
Figure 86: 10s30s Banks corporate spread curves



Note: the spread curve calculation is restricted to BAC, JPM, C and WFC that have senior bonds outstanding for both the short and the long tenors. For spread levels we use only on-the-run bonds (one for each tenor), outstanding for at most three years. The aggregate market spread curve is a simple average of individual issuer curves.
Source: BofA Global Research, ICE Data Indices, LLC

Liquidity premium in high grade spreads

Figure 87: Liquidity premium in high grade spreads

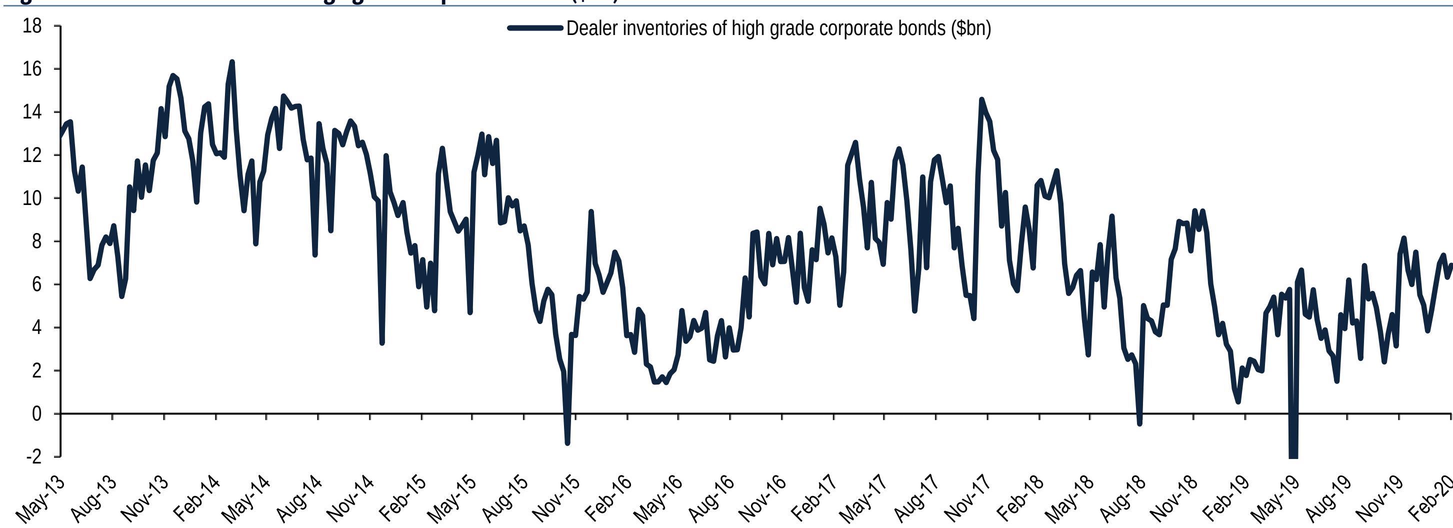


Note: our liquidity premium is the spread difference between old bonds that have rolled down to the 9, 8, 7, 6 and 4-year tenors and on-the-run 10-year and 5-year (for the 4-year tenor) bonds, adjusted for the credit curve.

Source: BofA Global Research, ICE Data Indices, LLC

Dealer inventories

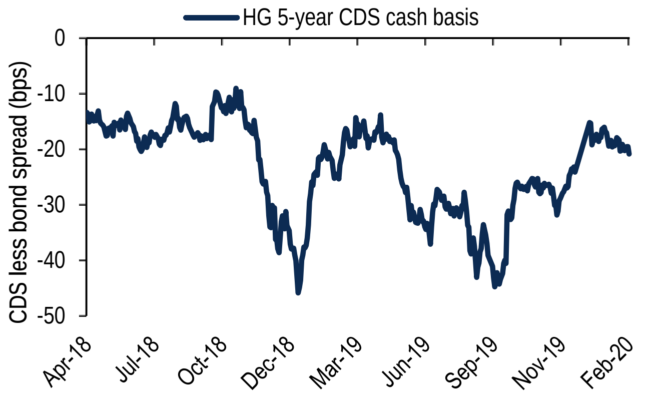
Figure 88: Dealer inventories of high grade corporate bonds ($bn)



Source: BofA Global Research, Federal Reserve Bank

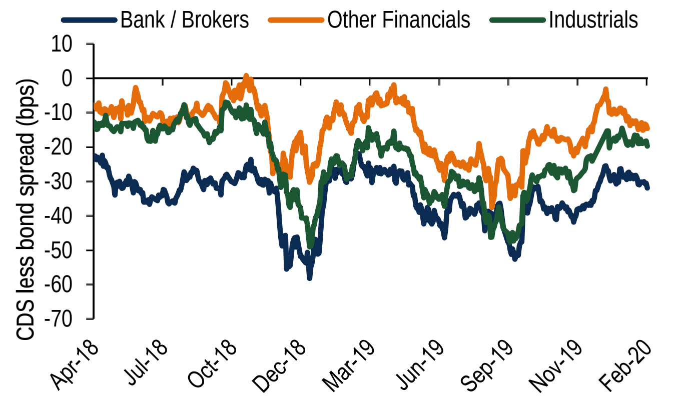
CDS cash basis

Figure 89: 5-year CDS cash basis



Note: CDS-Cash and based on spreads of the following 30 issuers: AIG, AMGN, AXP, BAC, BRK, C, CAT, CMCSA, COF, CVS, DE, DIS, F, GE, GS, HD, HPQ, IBM, JPM, MET, MO, MS, PFE, PRU, SPG, T, VZ, WFC, WMT, VIA
Source: BofA Global Research

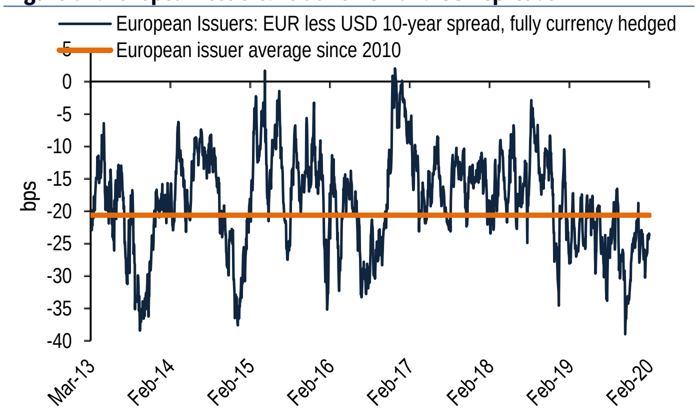
Figure 90: 5-year CDS cash basis by broad sector



Note: CDS-Cash and based on spreads of the following 30 issuers: AIG, AMGN, AXP, BAC, BRK, C, CAT, CMCSA, COF, CVS, DE, DIS, F, GE, GS, HD, HPQ, IBM, JPM, MET, MO, MS, PFE, PRU, SPG, T, VZ, WFC, WMT, VIA
Source: BofA Global Research

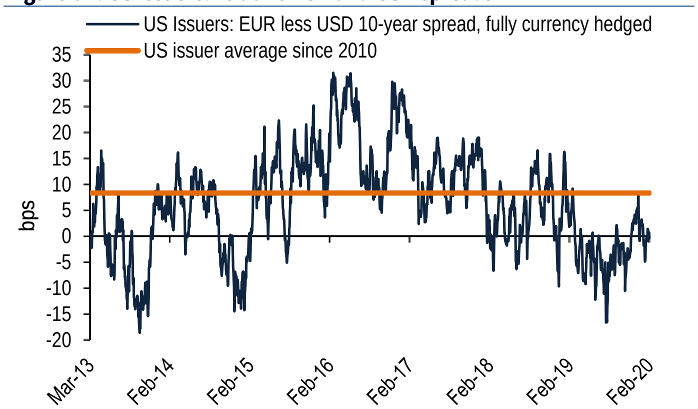
USD EUR relative value

Figure 91: European issuers: relative EUR and USD spreads



Note: the chart plots issuer-matched spreads on a fully currency hedged basis. We use maturity-matched cross currency basis swaps to fully currency hedge principal and interest rate payments, and forward FX rates to fully hedge the stream of spread payments. We also adjust for the difference in quoting conventions with a 3 to 6M Euribor swap.
Source: BofA Global Research, Bloomberg, ICE Data Indices, LLC

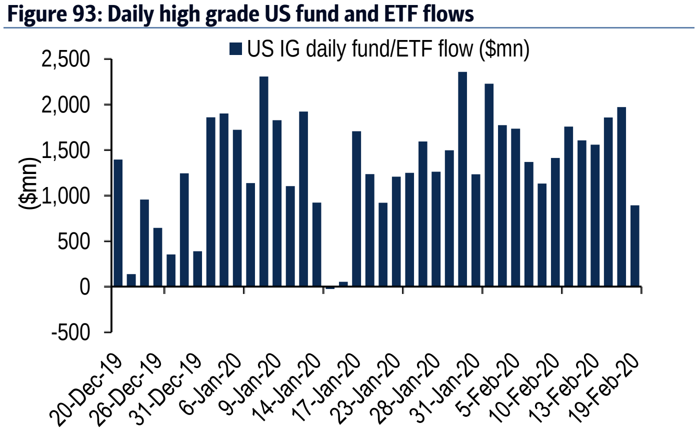
Figure 92: US issuers: relative EUR and USD spreads



Note: the chart plots issuer-matched spreads on a fully currency hedged basis. We use maturity-matched cross currency basis swaps to fully currency hedge principal and interest rate payments, and forward FX rates to fully hedge the stream of spread payments. We also adjust for the difference in quoting conventions with a 3 to 6M Euribor swap.
Source: BofA Global Research, Bloomberg, ICE Data Indices, LLC

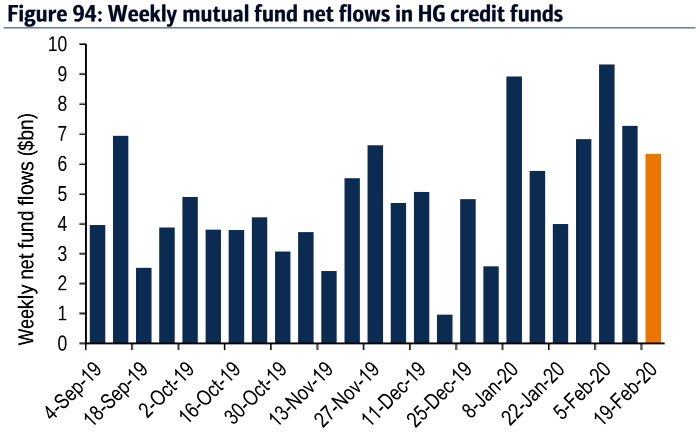
Mutual fund flows

Figure 93: Daily high grade US fund and ETF flows



EPFR Global, BofA Global Research

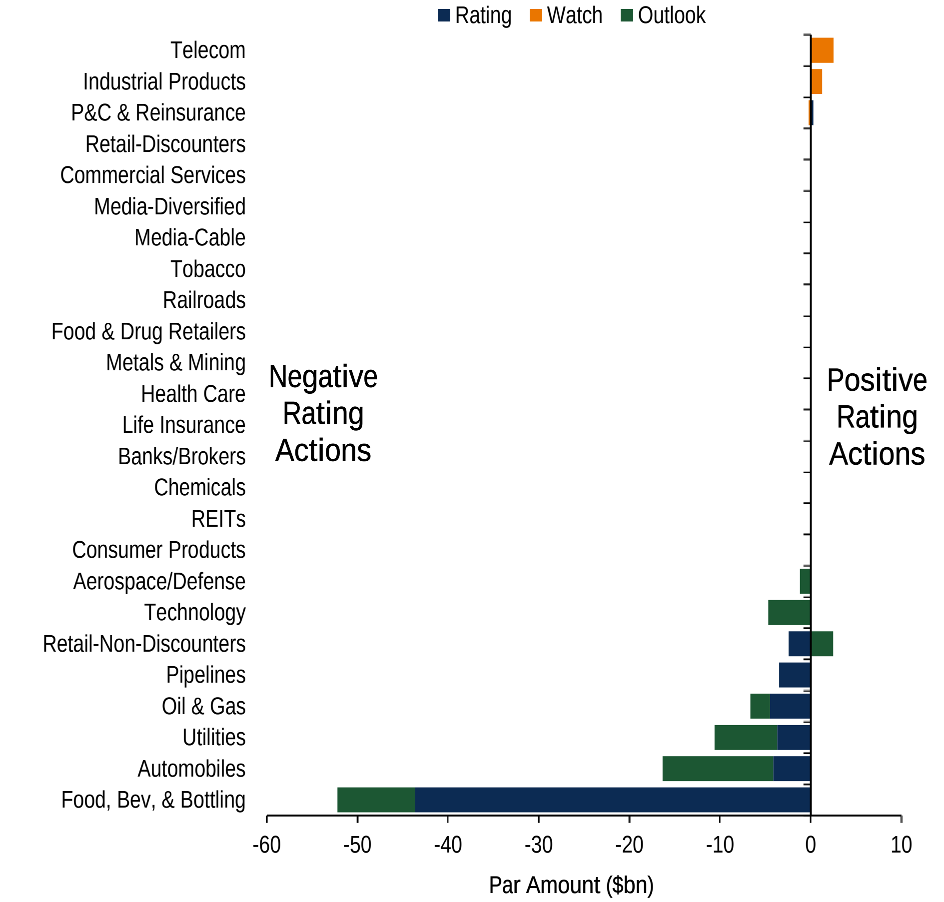
Figure 94: Weekly mutual fund net flows in HG credit funds



Source: BofA Global Research, EPFR.

Rating actions summary

Figure 95: Weekly rating actions by sector, notional value in HG Master index

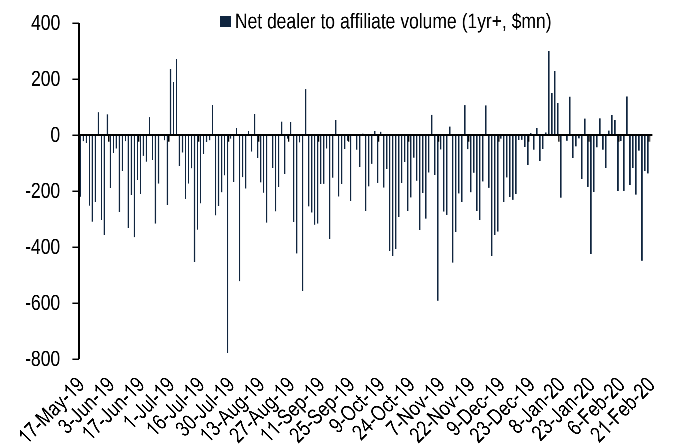


Source: BofA Global Research, ICE Data Indices, LLC

Daily foreign demand tracker

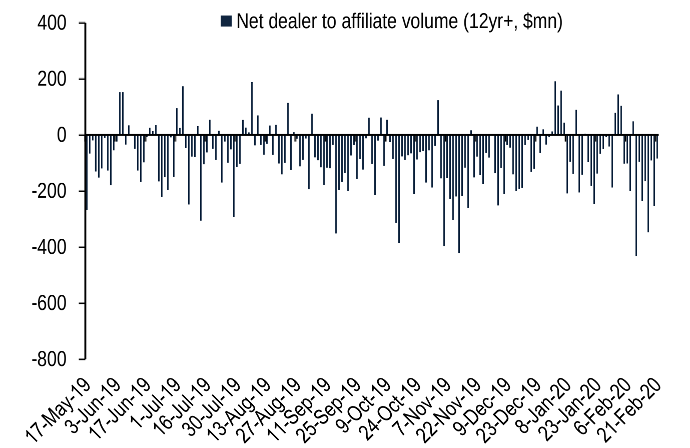
We believe net dealer-to-affiliate volumes from Trace are correlated with foreign buying of US HG corporate bonds – i.e., negative numbers mean foreign investor buying (US dealers taking down inventory in favor of foreign affiliates). For supporting material see our "primer" on tracking foreign inflows (See: Credit Market Strategist: One year round-trip in spreads 15 July 2016). Figure 96 shows the overall daily dealer-to-affiliate volumes while Figure 97, Figure 98 and Figure 99 show subsets of this data. In particular Figure 97 shows net dealer-to-affiliate volumes for longer maturity (12+ years) bonds, Figure 98 displays volumes reported to Trace before 8am NY time (biased toward Asian buying) and Figure 99 shows the subset of net trades reported between 8am and noon (biased toward European buying). Figure 96 and Figure 97 include data from today, whereas Figure 98 and Figure 99 run through the previous business day.

Figure 96: Net dealer buying from affiliate (1yr+)



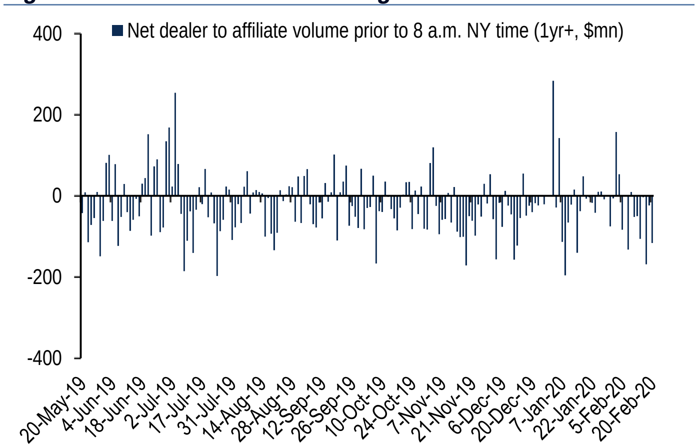
Note: Net dealer-to-affiliate volumes are correlated with foreign buying/selling. Negative numbers indicate foreign buying.
Source: Bloomberg, TRACE

Figure 97: Net dealer buying from affiliate (12yr+)



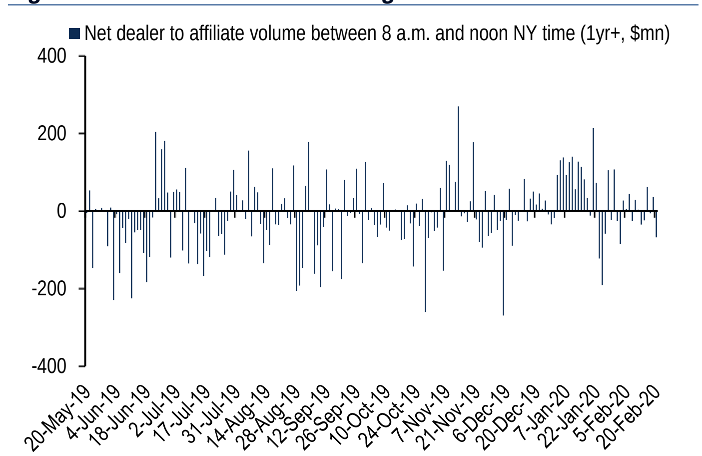
Note: Net dealer-to-affiliate volumes are correlated with foreign buying/selling. Negative numbers indicate foreign buying.
Source: Bloomberg, TRACE

Figure 98: Net dealer-to-affiliate trading volumes before 8 a.m. NY time



Note: Morning share of daily trading volume is correlated with secondary market activity of foreign investors due to different time zones.
Source: BofA Global Research, TRACE

Figure 99: Net dealer-to-affiliate trading volumes 8 a.m. - noon NY time



Note: Morning share of daily trading volume is correlated with secondary market activity of foreign investors due to different time zones.
Source: BofA Global Research, TRACE

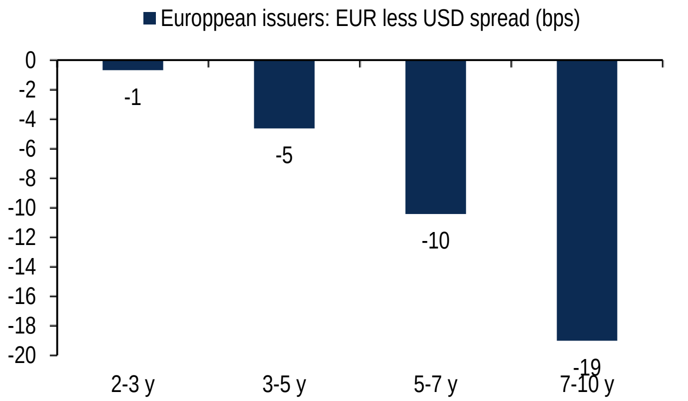
EUR / USD cross currency relative value

Below we illustrate relative value between IG USD and EUR-denominated corporate bond on an issuer and maturity based basis.

Fully currency hedged spreads

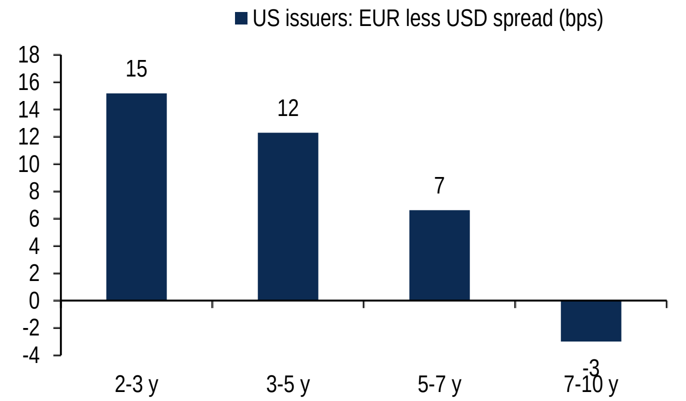
We convert current EUR Libor bond spreads to USD on a fully currency hedged basis. The conversion is based on maturity matched cross currency basis swaps to fully currency hedge principal and interest rate payments, and forward FX rates to fully hedge the stream of spread payments. We also adjust for the difference in quoting conventions with a 3 to 6M Euribor swap. Finally, we calculate simple average spread differences between the EUR and USD spreads, broken out by maturity and region (Figure 100, Figure 101) as well as by sector (Figure 102).

Figure 100: Fully FX-hedged EUR less USD IG bond spread relative value: European issuers



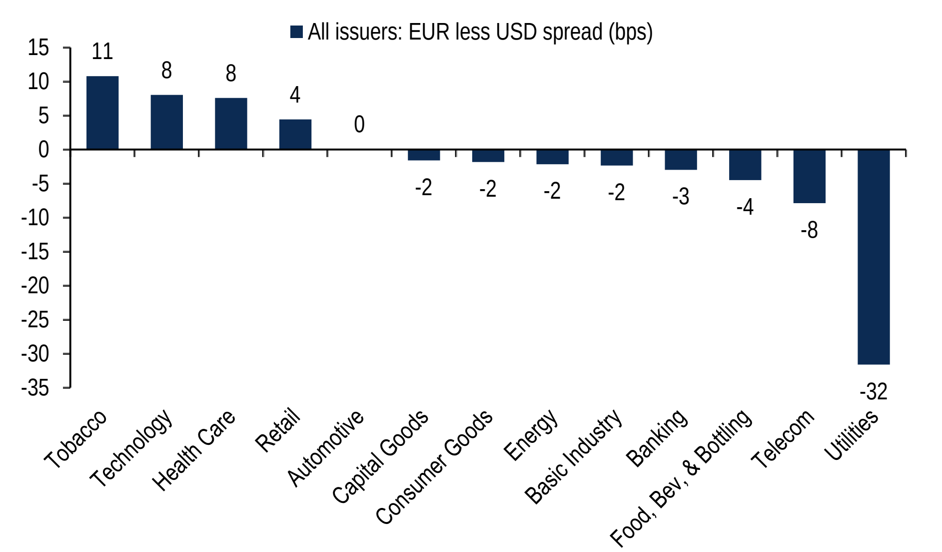
Note: the chart plots issuer-matched spreads on a fully currency hedged basis. We use maturity matched cross currency basis swaps to fully currency hedge principal and interest rate payments, and forward FX rates to fully hedge the stream of spread payments. We also adjust for the difference in quoting conventions with a 3 to 6M Euribor swap.
Source: BofA Global Research, Bloomberg, ICE Data Indices, LLC

Figure 101: Fully FX-hedged EUR less USD IG bond spread relative value: US issuers



Note: the chart plots issuer-matched spreads on a fully currency hedged basis. We use maturity matched cross currency basis swaps to fully currency hedge principal and interest rate payments, and forward FX rates to fully hedge the stream of spread payments. We also adjust for the difference in quoting conventions with a 3 to 6M Euribor swap.
Source: BofA Global Research, Bloomberg, ICE Data Indices, LLC

Figure 102: Fully FX-hedged EUR less USD IG bond spreads, by sector

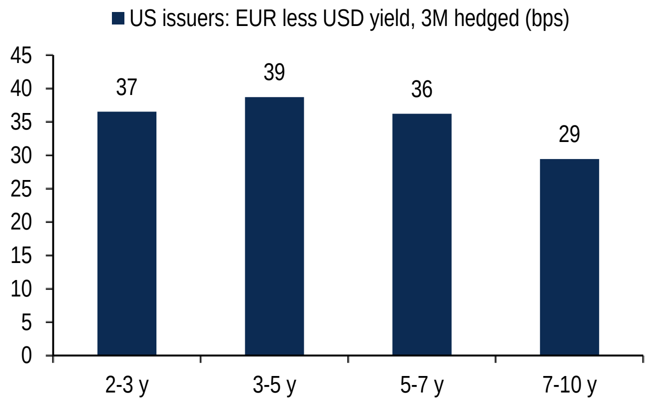


Note: the chart plots issuer-matched spreads on a fully currency hedged basis. We use maturity matched cross currency basis swaps to fully currency hedge principal and interest rate payments, and forward FX rates to fully hedge the stream of spread payments. We also adjust for the difference in quoting conventions with a 3 to 6M Euribor swap.
Source: BofA Global Research, Bloomberg, ICE Data Indices, LLC

Yields hedged with 3-month FX forwards

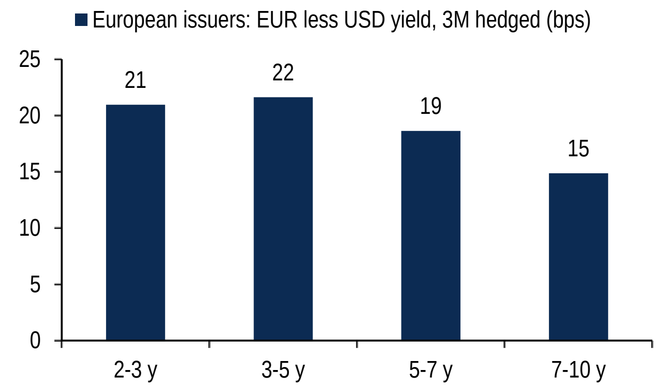
Below we compare yields on USD bonds with currency-hedged yields on EUR-denominated bonds, hedged with 3-month FX forwards. The values are simple averages across the corresponding bond pairs.

Figure 103: EUR less USD IG bond yields, hedged with 3M FX forwards: European issuers



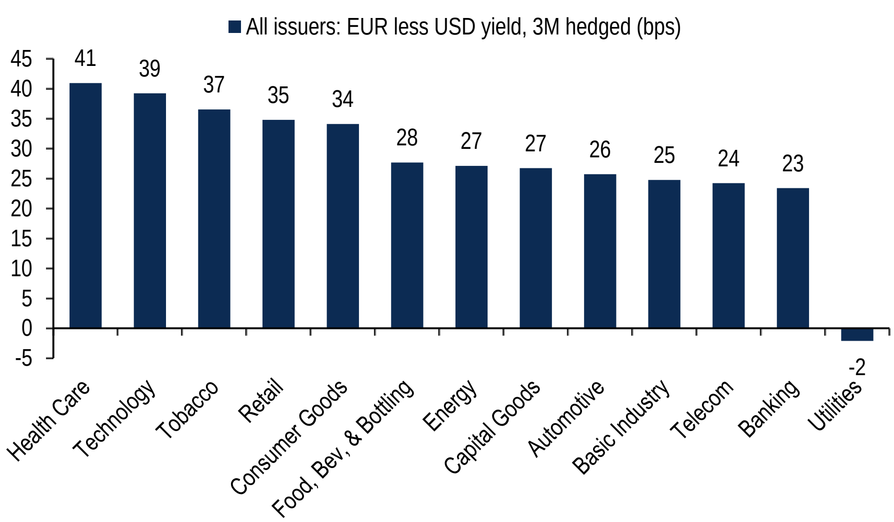
Source: BofA Global Research, Bloomberg, ICE Data Indices, LLC

Figure 104: EUR less USD IG bond yields, hedged with 3M FX forwards: US issuers



Source: BofA Global Research, Bloomberg, ICE Data Indices, LLC

Figure 105: EUR less USD IG bond yields based on a 3M FX forward hedge, by sector

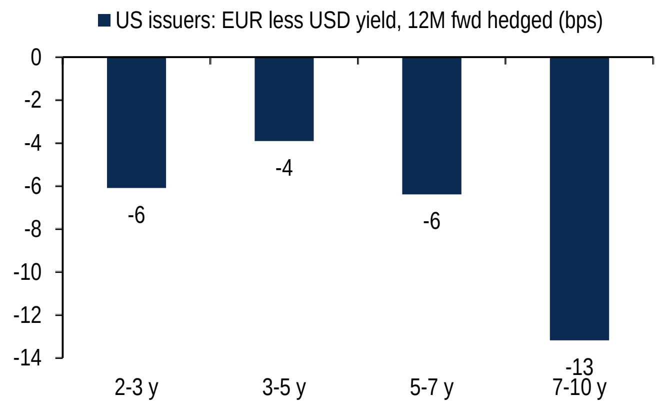


Source: BofA Global Research, Bloomberg, ICE Data Indices, LLC

Yields based on 3-month hedged 12 months forward

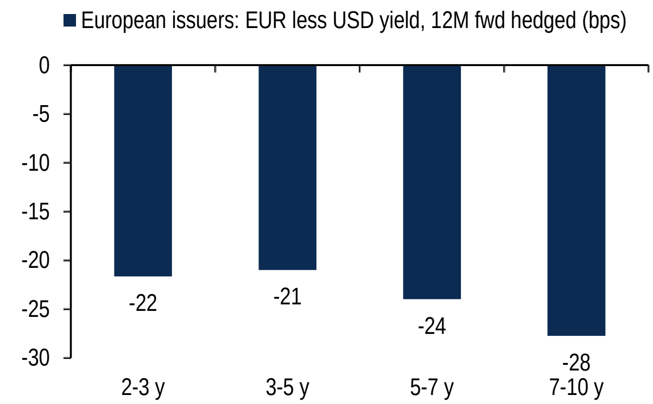
Below we consider relative USD and EUR yields based on 3M hedging costs that are priced in a year from now. Specifically the hedging cost is calculated based on 15- and 12-month FX forward rates. Since the hedging cost is largely a function of the difference in short-term rates between the two currencies, the 12-month forward hedging cost reflects the market pricing of monetary policies rates in the US and the Euro area.

Figure 106: EUR less USD IG bond yields based on 12-month forward hedging cost: European issuers



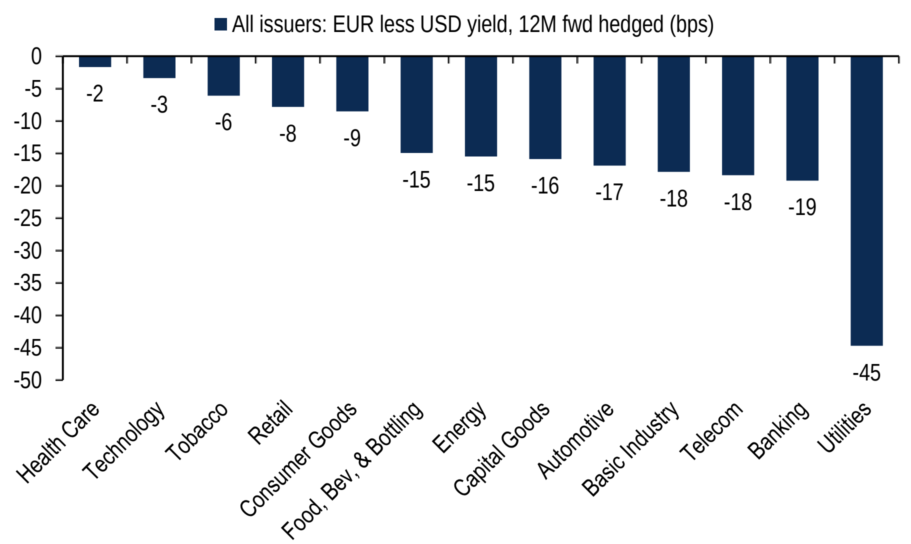
Source: BofA Global Research, Bloomberg, ICE Data Indices, LLC

Figure 107: EUR less USD IG bond yields based on 12-month forward hedging cost: US issuers



Source: BofA Global Research, Bloomberg, ICE Data Indices, LLC

Figure 108: EUR less USD IG bond yields based on 12-month forward hedging cost, by sector



Source: BofA Global Research, Bloomberg, ICE Data Indices, LLC

Appendix: bond selection methodology

We identify pairs of senior (including senior preferred for banks) bonds denominated in USD and EUR in the current ICE BofA Global Corporate Index G0BC. The bonds in each pair are from the same issuer, have the same average index rating and are less than a year apart in terms of time to maturity (based on the workout date). We use bonds with maturities of two years or longer. Below we list the resulting bond pair and issuer counts.

Figure 109: US / EUR cross currency relative value: issuer and bond counts by maturity bucket

	US issuers		European issuers		Other regions		Total	
Maturity	Bond pair count	Issuer count	Bond pair count	Issuer count	Bond pair count	Issuer count	Bond pair count	Issuer count
2-3yr	25	25	27	27	32	11	84	63
3-5yr	29	11	57	24	24	5	110	40
5-7yr	43	7	28	4	4	2	75	13
7-10yr	28	4	25	3	3	0	56	7
10+yr	11	3	11	1	1	0	23	4
Total	136	50	148	59	64	18	348	127

Source: BofA Global Research

Figure 110: US / EUR cross currency relative value: issuer and bond counts by sector

Sector	Bond pair count	Issuer count
Automotive	19	7
Banking	122	45
Basic Industry	9	6
Capital Goods	11	5
Consumer Goods	4	2
Energy	26	8
Food, Bev, & Bottling	14	6
Health Care	29	18
Retail	4	3
Technology	16	5
Telecom	28	8
Tobacco	9	4
Utilities	10	5
Rest	47	5
Total	348	127

Source: BofA Global Research

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