Private Bank

Bond Market Monthly

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Assessing the damage, and the opportunity

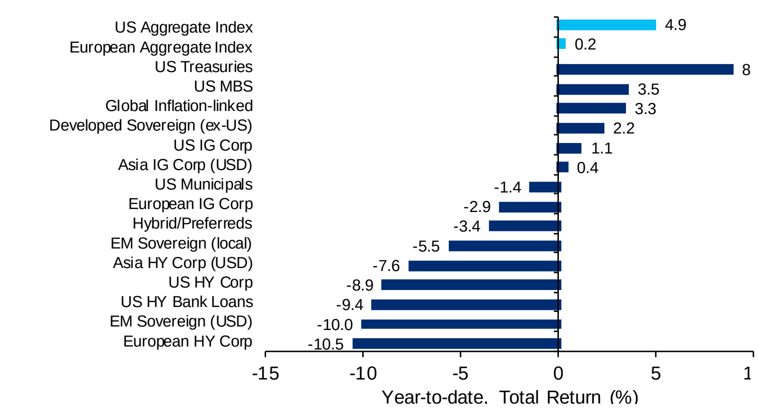
- As the smoke from last month's fire sale clears, bond markets are left with lower risk-free rates and wider credit spreads. In certain higher-risk assets, valuations are downright cheap. However, we express some caution as the public and personal impact surrounding the Covid-19 pandemic has likely translated into one of the deepest economic contractions in modern times. We remain focused on keeping portfolio quality high and preparing for what could be a volatile time ahead.
- We expect the US Federal Reserve to keep policy rates at the zero bound for the foreseeable future. Futures markets currently imply a mere 15bp worth of rate hikes through 1Q 2023. It's unlikely we see the Fed raise rates before the unemployment rate drops dramatically. This could take a couple of years at a minimum. Long-term rates may eventually come under pressure as virus fears abate and Fed purchases slow. With short rates anchored, the yield curve is more likely to steepen.
- The severe dislocation that credit markets endured last month has largely been resolved. With the low hanging fruit now gone, investors are still left with cheap valuations. Though secondary market liquidity has improved, it's far from normal. New issuance has become an easier venue to source bonds, with corporations taking advantage at a record-breaking pace. In many instances, lower Treasury yields has resulted in attractive "all-in" financing for issuers, despite wider spreads.
- We maintain our high conviction in US investment grade (IG) corporates. At the same time, rate differentials between the US and Europe have narrowed significantly, increasing the value proposition for non-US bonds. We stay neutral high yield for now, though history does suggest a long-term opportunity is present. However, this may be more so in bonds than HY bank loans. For US investors, municipals remain cheap across the entire curve.

Figure 1. Fixed income convictions[1]

	-1	0	1
US Treasuries		■	
Developed market sovereign (ex- US)	■		
Emerging market sovereign (USD)			■
Emerging market sovereign (local)		■	
Inflation-linked		←	
Securitized debt			■
US investment grade corporates			→
Euro investment grade corporates			→
US high yield corporates		■	
Euro high yield corporates		■	
US preferreds		←	
European Additional Tier 1 (AT1)		←	
Municipal bonds			■

Source: CPB as of May 5, 2020. -1=Low, 0=Neutral, 1=High. 1) Convictions are to be used within a fixed-income only context and can be either short-term (1-3 months) or long-term (12-18 months). High conviction implies a positive view, while low conviction implies a negative view. A neutral conviction implies our confidence is neither positive nor negative.

Figure 2. Market performance, year-to-date (local currency, %)



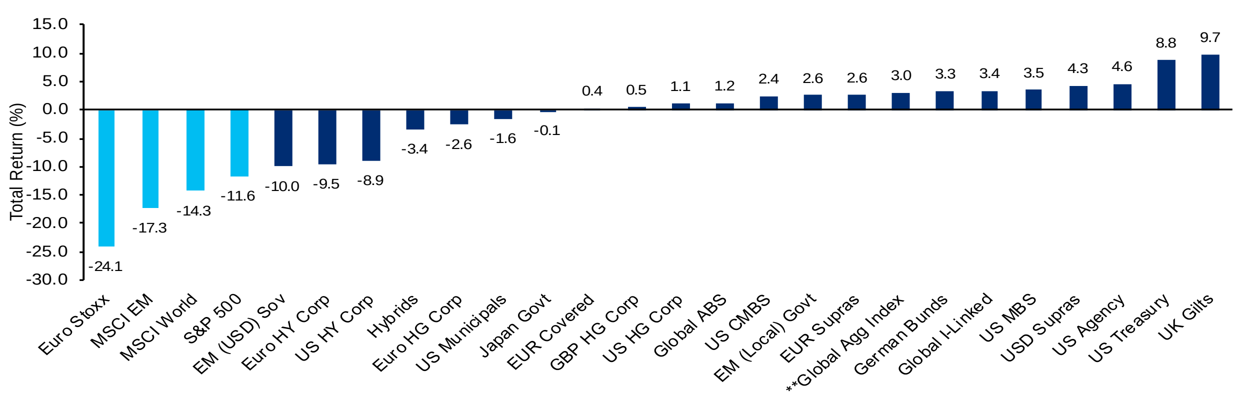
Source: Bloomberg Barclays Indices; Merrill Lynch as of May 5, 2020.
Light blue indicates total return on benchmark indices. Dark blue indicates total return on sub-indices. Past performance is no guarantee of future results. Real results may vary. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only.

Market performance views and recommendations[1]

Sectors	Conviction[2]	Focus comments/recommendations
US Treasuries	Neutral	Short-term US Treasury yields are likely to stay low, with the Federal Reserve possibly on hold until 2023; Long-term yields curve face some pressure when Covid-19 fears abate and as the Fed reduces asset purchases; Favor steepeners
Developed market sovereigns (ex-US)	Low	Central bank policies are expansive though possible we could still see more to come; Policies rates in Europe and Japan are unlikely to change for the foreseeable future; Italy concerns likely to grow and we remain deeply underweight
Emerging market debt	External – High Local – Neutral	**External debt:** Fundamentals have deteriorated, but a lot has been priced in. We favor geographical diversification, but tactically find a regional barbell with Asia (low beta) and LatAm (high beta) attractive. **Local bonds:** Yields have fallen to lowest levels on record, though EM FX remains volatile; Unhedged returns may eventually benefit from Fed cuts and USD weakness
Inflation-linked debt	Neutral	After a significant rally, US Treasury Inflation Protected Securities (TIPS) are expected to face benign inflation pressures and volatile oil prices; Reduce to neutral from overweight
Securitized debt	High	**US agency MBS:** The drop in rates and rise in mortgage refis has fueled agency MBS underperformance versus UST; Yields and spreads remain attractive when compared to similarly rated US IG corporate bonds **Non-agency RMBS/ABS:** Non-agency RMBS displays lower correlations to rates and equity and comparable yields to US IG or high quality HY; Offers exposure to the US household sector where leverage is near all-time lows
High grade corporates	US IG – High Euro IG – High	**US IG:** Credit Valuations have improved from the March lows, but remain cheap; Best value between 5-7 years to maturity; Avoid cyclicals; Favor consumer discretionary, communications and technology **Euro IG:** Yield differentials versus the US have narrowed and look regionally attractive; Raise our conviction from neutral to high; Favor consumer discretionary and telecom
High yield bonds/loans	US HY – Neutral Euro HY – Neutral	**US HY:** Spreads are cheap, though we may not have seen the end of market volatility; History suggests a long-term opportunity, though we favor an up in quality bias amid a likely rise in defaults **Euro HY:** Spreads are cheap, though regional growth is expected to contract severely; ECB purchases could end up supporting prices, though we remain cautious
Hybrid debt securities[3]	US prefs. – Neutral Euro AT1's – Neutral	**US prefs:** Prices have rebounded significantly and we revise our view down to neutral; We would accumulated shares on periods of market weakness **Euro AT1's:** Similar to the US, valuations have improved and we temper our view to neutral and wait for a better entry point; Focus on highest quality issuers
Municipal bonds	High	Valuations have improved since the sell-off in March, but remain cheap; Flat yield curves and inverted ratio curves keeps best value within 5-years; Focus on high quality

Source: Citi Private Bank Global Fixed Income Strategy as of May 5, 2020. 1) Convictions are to be used within a fixed-income only context and can be either short-term (1-3 months) or long-term (12-18 months). 2) High conviction implies a positive view, while low conviction implies a negative view. A neutral conviction implies our confidence is neither positive nor negative. 3) Hybrids are securities that generally combine both debt and equity characteristics, and can include preferred stock, fixed-to-floating rate bonds or other convertible debt.

Figure 3. Global fixed income and select equity index returns, year-to-date (local currency, %)

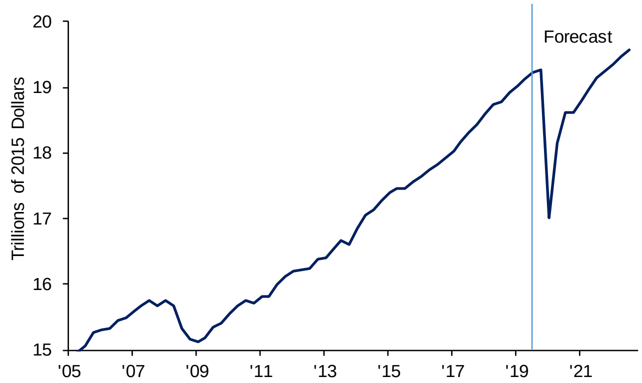


Source: Bloomberg Barclays Indices, Merrill Lynch, MSCI as of May 5, 2020. Light blue indicates an equity index. Global returns shown in hedged USD terms. "**Global Agg Index" is benchmark global fixed income index. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only and do not represent the performance of any specific investment. Index returns do not include any expenses, fees or sales charges, which would lower performance. Past performance is no guarantee of future results. Real results may vary.

Asset class update: Global rates and central bank policy

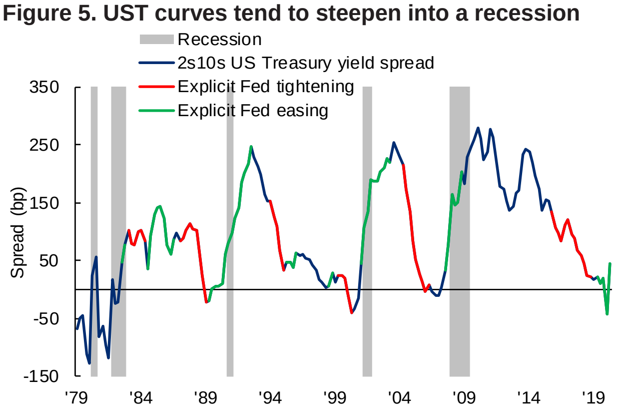
US rates

Figure 4. We expect a severe contraction in 2Q US GDP



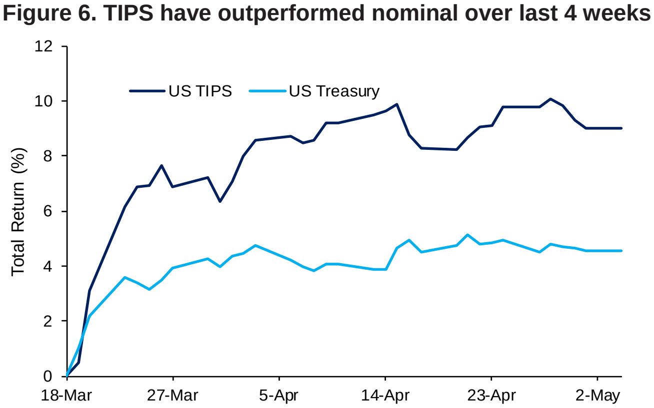
Source: CPB Strategy as of May 5, 2020. All forecasts are expressions of opinion and are subject to change without notice and are not intended to be guarantees of future events.

Figure 5. UST curves tend to steepen into a recession



Source: Bloomberg as of May 5, 2020.

Figure 6. TIPS have outperformed nominal over last 4 weeks

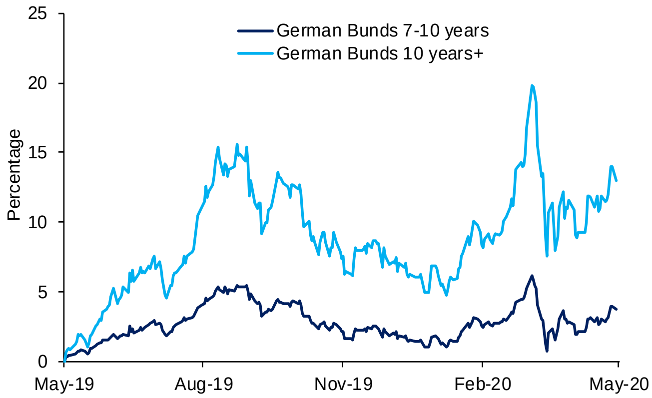


Source: Bloomberg Barclays as of May 5, 2020.

- **US Treasury (UST) rates**: Since our last monthly in March, US Treasury yields have remained low. For now, it is likely to stay that way. The public and personal impact surrounding the Covid-19 pandemic has likely translated into one of the deepest economic contractions in modern times. In our view, we anticipate 2Q US GDP to decline by an annualized pace of 40% and for unemployment to rise into the mid-teens **(Fig. 4)**. In other parts of the world, the economic impact is likely to be greater (i.e., Europe).
- **After a 25% rally year-to-date, CPB's Global Investment Committee reduced their overweight to long-dated UST**. We do not expect to see yields rise meaningfully over the immediate near-term, however, some factors could weigh on longer duration bonds over time. **One**, the Federal Reserve had been buying bonds at a feverish pace, with the current balance sheet now exceeding $6.5 trillion. This pace has slowed some and we could see further moderation as market liquidity improves. Heavy UST supply amid a reduction in Fed demand may weaken technical dynamics. **Two**, as the global health crisis fades and the economy begins to recover after a weak 2Q, risk aversion positions may reverse.
- We could see 10-year UST yields move back to 1.0% - 1.25% later this year, but we are unlikely to see a more meaningful move. Unfortunately, Treasury markets will still need to contend with persistent negative interest rate policies in Europe and Japan. A more severe economic contraction in the Eurozone may also keep the demand for UST elevated. Oil price volatility, renewed trade tensions with China and any reinfection of Covid-19 over the winter months can also keep a lid on US rates.
- **Federal Reserve:** We expect the Fed to keep policy rates at the zero bound for the foreseeable future. Futures currently imply a mere 15bp worth of rate hikes through 1Q 2023. It's unlikely we see the Fed raise rates before the unemployment rate drops dramatically. This could take a couple of years at a minimum. With short rates anchored, the yield curve is more likely to steepen. This is consistent with past recessionary periods **(Fig. 5)**. However, the extent of steepening may be more muted this time around.
- **US LIBOR**: Despite the Fed cutting rates to zero, the dysfunction within short-term funding markets had kept LIBOR rates elevated. Specific Fed policies directed towards commercial paper and money markets funds have helped boost demand and narrow spreads. As such, LIBOR rates have fallen by nearly 100bp over the last month to 0.5%. We would expect the relationship between Fed Funds and LIBOR to narrow even further, as markets normalize. The last time Fed Funds we at the zero bound, 3-month LIBOR averaged 30bp.
- **US TIPS:** Inflation is expected to remain muted, which prompted us to temper our view on US Treasury Inflation Protected Securities. Since reaching a post Global Financial Crisis low of 55bp on March 19, the yield difference – or breakeven spread – between 10-year nominal US Treasuries (UST) and 10-year TIPS had widened 70bp to 120bp. Over this time, TIPS outperformed nominal UST by 400bp **(Fig. 6)**. Going forward, price pressures are likely to be constrained by the Covid-19 impact. The drop in oil may dominate headline CPI, but other large segments, like housing, may be an inflationary headwind for a while. Beyond the crisis, Fed policy could fuel inflation expectations. Especially if forward guidance is strengthened or other policies (i.e., yield curve control) are implemented.

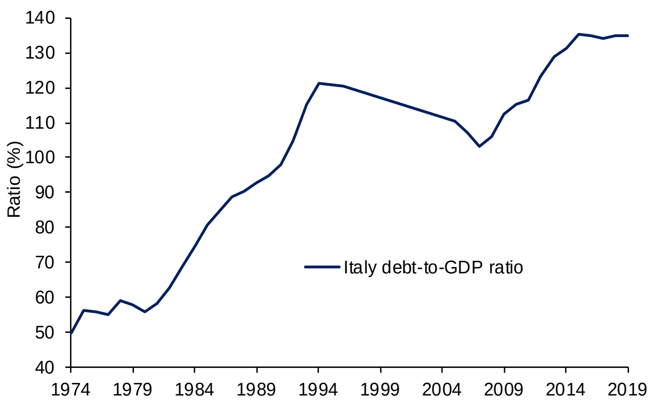
European rates

Figure 7. Long-dated Bunds have gained 14% year-over-year



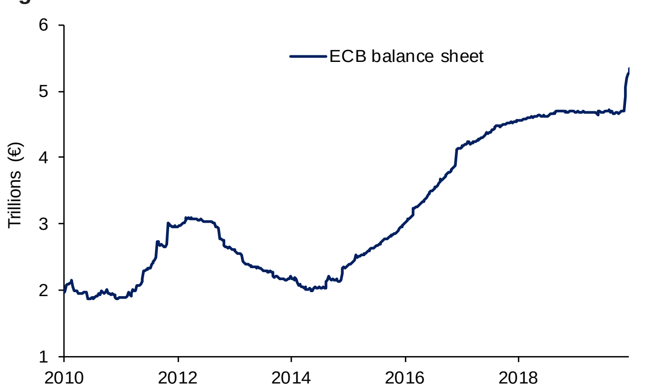
Source: Bloomberg Barclays as of May 5, 2020.

Figure 8. Italy debt-to-GDP has reached 135%



Source: Bloomberg as of May 5, 2020.

Figure 9. ECB's balance sheet has ballooned to €5.3 trillion



Source: Bloomberg as of May 5, 2020.

- **Eurozone (EZ) rates**: 10-year German Bunds have been firmly below zero for over a year now. In fact, it's been five years since short-dated euro bonds have seen the positive yielding light of day. Over the remainder of 2020, this is unlikely to change, as the Covid-19 virus impacts both growth and inflation prospects across the region. Luckily, for bond buyers, total return incorporates the change in price. Which is why long-dated German Bunds have managed to gain 8.5% year-to-date and 14% over the last 12 months **(Fig. 7)**.
- On the other hand, EZ periphery performance has been weak. With the exception of Ireland (+1.0% YTD), this segment has produced negative returns for the year. Italy has been one of the hardest hit countries to Covid-19, while also facing mounting fundamental concerns. As covered in a March 26 bulletin, the Italian economy will unfortunately suffer a sharp 2Q downturn with high unemployment. At 135%, Italy also has one of the highest debt-to-GDP ratios in the world **(Fig. 8)**. This is likely heading higher. A widening fiscal deficit has prompted further downgrades, with Fitch lowering Italy's sovereign to BBB- on April 28. If downgraded to below investment grade, yields would likely rise as forced sellers adjust allocations. We remain deeply underweight Italian sovereign bonds.
- **European Central Bank**: Not too much excitement from the ECB's April 30 policy meeting. Bottom line, the central bank continues to buy a lot of bonds. As highlighted in our European fixed income update last month, when we include the €870 billon of expected purchases under their asset purchase program (APP) and the Pandemic Emergency Purchase Program (PEPP), the ECB's balance sheet will eventually expand to at least 6 trillion euros **(Fig. 9)**. These purchases will more than offset the expected increase in government bond supply to fund the fiscal response to Covid-19. As a result, Citi economists expect EZ government net supply to move deeper into negative territory in 2020.
- Though the expanded ECB APP removed issuer limits to create greater flexibility, policymakers may not be done in their quest to keep the EZ economy afloat. Looking forward, we may see an increase to PEPP and some adjustment to eligibility criteria. It's quite possible the central bank will need to expand their APP to include financial IG corporates, primary issuance and "fallen angels" (similar to the Federal Reserve). In our view, adjustments to the capital key should be considered. This would allowed the ECB to have a greater impact on the more problematic EZ countries, like Italy.
- A notable improvement was some further easing for their third TLRTO (Targeted Longer-term Refinancing Operations) program. What amounts to an effective interest rate cut, the ECB lowered the rate on long-term loans designed to promote lending. They also announced a new facility PELTRO (Pandemic Emergency Longer-term Refinancing Operations) which creates a liquidity backstop to preserve a smooth functioning of money markets.
- **UK Gilts:** On March 27, Fitch downgraded the UK Gilt market to AA- (from AA), while leaving the country with a negative outlook. From the rating agency's perspective, weak public financing and fiscal loosening to defend against Covid-19 is likely to cause a widening in the deficit. Lingering Brexit and US-UK trade relationship also contributed to Fitch's decision. However, like most past downgrades of major economies, there wasn't much of a reaction. Being a safe-haven asset, Gilt yields have fallen over Covid-10 fears. 10-year Gilts are now roughly 0.25% and we remain underweight.

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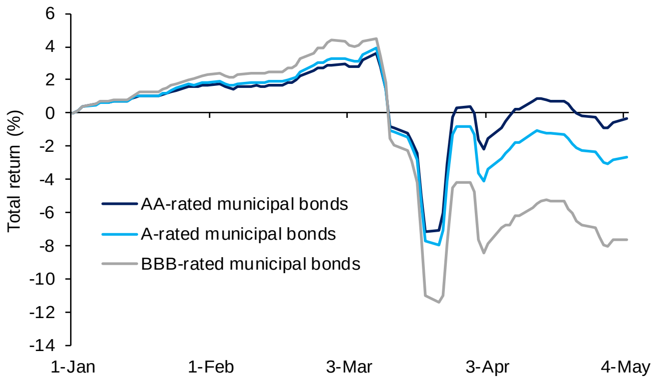
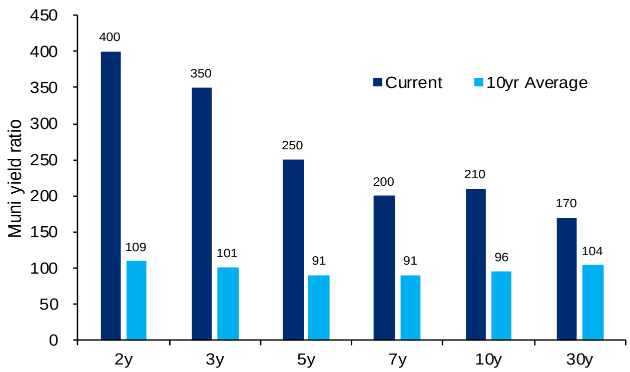
US municipals

Figure 10. Lower quality munis remain depressed YTD



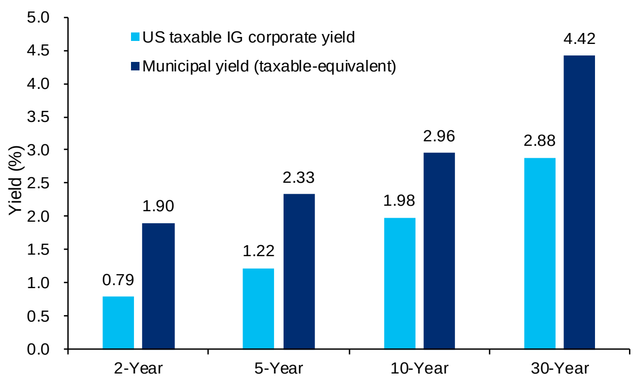
Source: Bloomberg Barclays as of May 5, 2020.

Figure 11. Yields ratios are elevated across the curve



Source: Bloomberg as of May 5, 2020.

Figure 12. For US investors, muni yields are superior



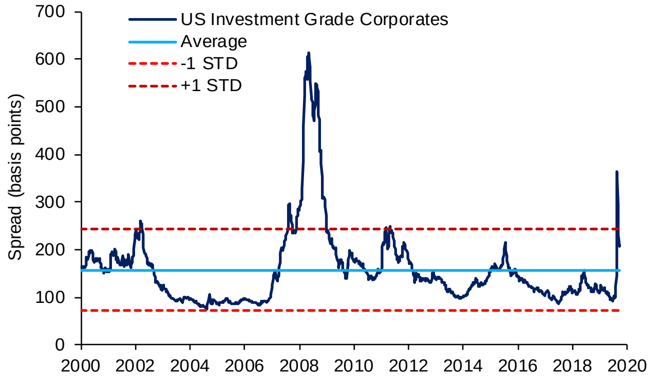
Source: Bloomberg as of May 5, 2020.

- **Market update:** From March 9 to March 23, the US municipal bond benchmark lost 11%. This was the fastest decline in muni bonds on record. With equity markets down 30% over the same period, investors facing margin calls have been forced to sell assets to raise cash. With high quality bonds sold first, reported outflows from muni bond funds and exchange-traded funds have been the largest on record. High quality munis have bounced back from dislocated levels, though benchmark returns remain negative on the year at -1.9%. This is likely being dragged down by low quality issuers, as BBBs have lost 8.0% YTD **(Fig. 10)**.
- **Yield ratios:** Despite the rebound in valuations, US munis remain cheap. In fact, yield ratios (or yields relative to UST) have come under a bit of pressure with new supply picking up. After falling to as low as 150% in mid-April, 10-year yield ratios are now back over 200%. The short-end remains the cheapest part of the muni curve, with 2-year ratios exceeding 400% **(Fig. 11)**.
- Similar to 2008, yield ratios are unlikely to snap back to expensive levels quickly. Public shutdowns to contain the spread of Covid-19 are likely to create lower tax receipts and real revenue loss. A more prolonged slowdown could also affect property tax revenue if rising unemployment transfers into higher delinquency rates in the mortgage market.
- **State bankruptcy not an option:** Political jawboning over allowing states to declare bankruptcy has also created some concern. During a media interview on April 22, Senate Majority Leader Mitch McConnell stated he has no plans to pass legislation to provide additional funding to states and local governments who he said are trying to “take advantage” of the coronavirus to get help with their expanding deficits. He followed by saying he favored “allowing states to use the bankruptcy route”.
- Chapter 9 was enacted during the Great Depression and provides financially distressed cities and towns with protection, but not states. For this to change, Congress would need to amend federal bankruptcy code. There are also potential Constitutional issues that may need to be resolved. A clause in the US Constitution prohibits state governments from ‘impairing the obligation of contracts.’
- Allowing US states the ability to declare bankruptcy is highly improbable, in our view. Despite the complexities behind the change itself, there does not appear to be consistent political support behind the measure. We should also remind that similar rhetoric was brought up in 2010-11, when the US was facing a heavy fiscal deficit on the heels of the Global Financial Crisis.
- While states will likely remain safe, this does not rule out the possibility for smaller, weaker localities to suffer significant credit deterioration. As mentioned above, the financial burden many states are facing is quite real. As rating agencies digest new data, downgrades could pick up. For the more troubled municipalities, default risks may rise.
- That said, we have consistently been encouraging building portfolios with a focus on higher quality. This advice should not preclude the US municipal bond market. If the rhetoric around state bankruptcies creates any price dislocations, we would be opportunistic. Of course, for US investors, munis offer great value. Especially when compared to taxable IG corporates **(Fig. 12)**.

Asset class update: Corporate credit

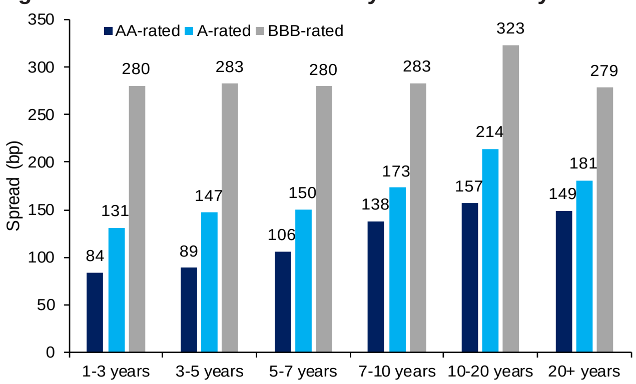
US investment grade (IG) corporates

Figure 13. IG valuations remain cheap despite bounce



Source: Bloomberg Barclays as of May 5, 2020.

Figure 14. Best value between 5-7 years to maturity

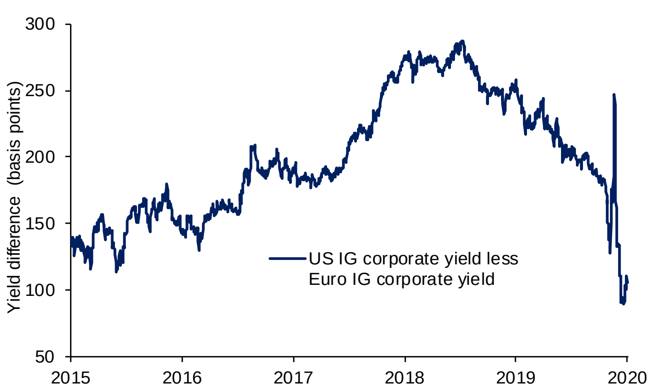


Source: FTSE Yield Book as of May 5, 2020.

- **Market performance:** Since our last monthly, US IG corporates have been through a lot. The widening in spreads from early March evolved into a severe market dislocation, as Covid-19 fears grew and liquidity dried up. Peak to trough (Mar 6th to 23rd), US IG corporates lost over 15%, with yields rising to 4.5% and spreads widening 250bp to 370bp. Low quality issuers weakened more, with BBB's losing over 17%. These were the cheapest valuations since 2009. However, more impressive, the sell-off only took 10 days.
- Over the subsequent weeks, US IG prices bounced higher nearly as fast as they sold off. Market liquidity has not completely returned to normal, but has improved. Spreads have retraced by nearly 70% and YTD returns have moved back into positive territory (currently +1.1%). The strong correlation to UST has also reconnected, with index yields back down to 2.7%. Despite the improvement, spreads remain attractive above 200bp and we stay overweight in both balanced and fixed-income only portfolios **(Fig. 13)**.
- **US Fed policy:** On April 9, the Fed announced new policies to support secondary trading and new issuance of corporate credit. See our bulletin of these announcements for more details. While supportive, especially for "fallen angels", we think it's important to clarify that these policies are meant to be a backstop and not to be confused with quantitative easing. At this point, the Fed has not purchased anything, though secondary purchases are likely coming. While these facilities won't likely prevent spreads from widening, Fed support can certainly create a higher floor.
- **New issuance:** One area that does not currently need assistance is the new issue market. Indeed, the month of April produced over $300 billion of new supply, well exceeding March's record supply of $260bn. For issuers, low yields offers an attractive opportunity to raise cash. Despite wider spreads, IG yields are still 150bp lower than 18 months ago. For investors, Fed support and attractive valuations has improved overall demand. With secondary trading still choppy, new issuance also provides a much easier way to source bonds. For now, we'd expect this trend to continue.
- **Investment strategy:** Considering our expectations for a severe economic contraction, we prefer to keep quality high. Troubled BBB-rated issuers can remain susceptible to downgrades, especially if the downturn is more prolonged. Spread curves have joined flat yield curves limiting value in longer durations. Best value appears between 5-7 years **(Fig. 14)**. We prefer to avoid cyclicals, especially those in the hospitality and leisure sectors. Tech, communications and consumer discretionary sectors are our preferred sectors.

European corporate bonds

Figure 15. Euro rate differentials have narrowed versus US



Source: Bloomberg Barclays as of May 5, 2020.

- **Market performance:** Despite the direct purchases from the ECB, euro IG has lagged the recovery in global credit markets. Spreads have retraced less than US dollar markets and returns have not enjoyed as much of a rally in risk-free rates. Index yields at 1.2% are still 70bp above January levels, with YTD returns at -2.3%.
- The expected economic downturn in Europe will likely be more severe, increasing the need for high quality bonds. With the presence of negative-yielding bonds still dominant, the cheapening in credit offers an opportunity. Rate differentials between the US and Europe have narrowed meaningfully, while the ECB is more likely to expand their scope of asset purchases **(Fig. 15)**. For these reasons, CPB's Global Investment Committee raised their weighting to euro IG to neutral from underweight.
- Like most credit markets in today's environment, being selective is important. We favor consumer non-cyclicals and communications sectors, while we avoid cyclical sectors effected by Covid-19.

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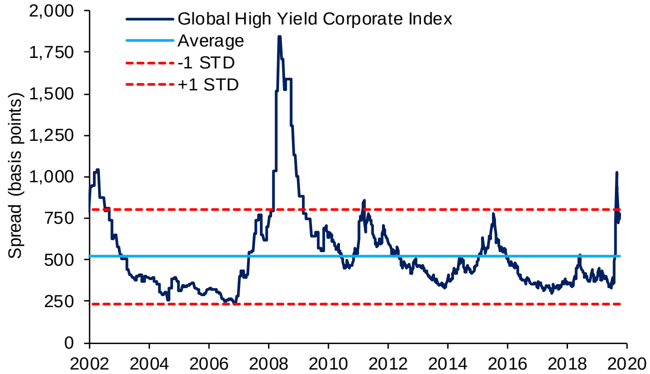
Asset class update: Global high yield bonds & loans

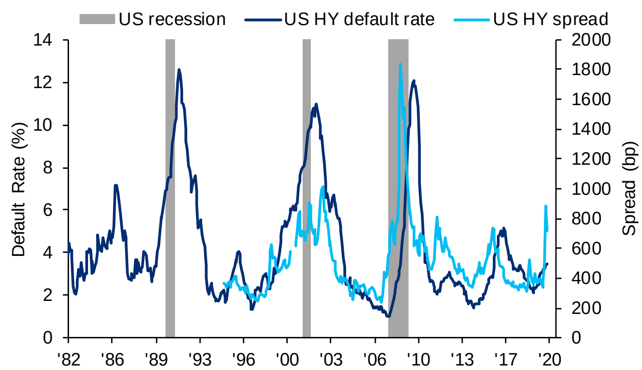
Global high yield (HY) bonds & loans

Figure 16. HY spreads remain cheap relative to history



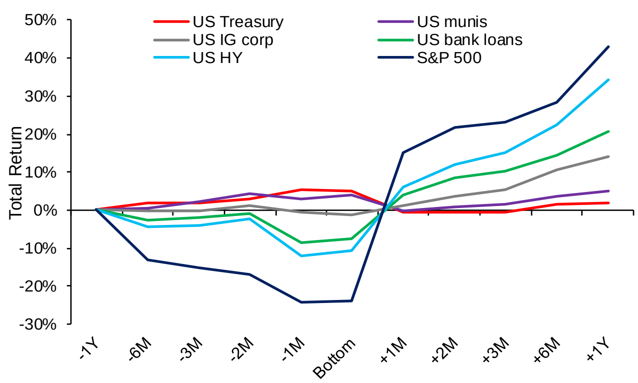
Source: Bloomberg Barclays as of May 5, 2020.

Figure 17. Default rates are likley to trend higher



Source: S&P as of May 5, 2020.

Figure 18. History favors HY bonds after severe weakness



Source: Bloomberg as of May 5, 2020.

- **Market performance:** After one of the quickest and deepest sell-offs on record, global HY bond valuations remain depressed. Both the US and European HY markets lost over 20% during the peak of the March sell-off, with YTD performance at -9.0% and -9.5%, respectively. Though global HY markets have improved, spreads remain wide. US dollar HY bond index spreads stand at +750bp, with yields over 8.0%. In Europe, spreads are closer to +650bp, with yields near 7.25%. Spreads remain one full standard deviation above their long-term average **(Fig. 16)**.

- **Short-term view:** Despite the firmer tone in markets today, we express some caution. One, we are likely entering into one of the worst macro-economic periods since World War II. This is going to have a significant impact on many cyclically oriented companies embedded in hospitality, leisure or other consumer discretionary sectors. Default rates have been steadily rising over the last 12 months, and likely to continue **(Fig. 17)**. Two, the risk of a Covid-19 reinfection in 4Q could drive a revival of risk aversion. This can further exacerbate underlying problems for troubled companies. Three, Fed policy to buy high yield corporate bonds ("fallen angels") may not be a panacea for all troubled companies. As such, we hold our neutral view on both US and European high yield.

- **Long-term view:** History suggests that current valuations offer an attractive total return opportunity. When we analyze the severe sell-offs in HY bonds over the last 20 years, we learn a few things. First, most of the decline in HY bonds occurs 6-months prior to the bottoming in equity markets. Secondly, HY bond performance tends to mean revert faster than equities. Finally, HY bonds provide a lot more upside than HY bank loans **(Fig. 18)**.

- We had favored US and European HY bank loans over bonds for some time, enjoying their higher yields and lower price volatility. Like many markets, loans fell victim to the decline in market liquidity with prices dropping to near-distressed levels. They have improved by 13.5% since the lows in March, nearly matching the pace with HY bonds. However, going forward, we think loan returns could be relatively more limited.

- As history suggests, the characteristics that dampen loan volatility (i.e., floating-rate coupons, senior in capital structure) are likely to work against the asset class as markets recovery. This is not meant to imply that bank loans won't improve over time. Just that the relative proposition favors a less constrained HY bond market. In the five years following the Global Financial Crisis, HY bonds outperformed HY bank loans by 4.5% on average.

- **Investment strategy:** Investing during the eye of the storm is not easy. It takes a certain amount of fortitude and a lot of patience. Indeed, calling a bottom to these kinds of volatile markets are largely done in hindsight. Nevertheless, if the above analysis tells us anything, it shows us that HY bonds do offer attractive long-term potential. For long-term fixed income only portfolios, we could argue a modest overweight to HY debt. Indeed, this would be consistent with our Global Investment Committee's decision to raise their allocation to small/midcap equities in balanced asset allocation.

- In the present tense, we feel its best to implement slowly and focus on higher rated issuers (BB-rated). In our view, this quality segment would benefit most from central bank intervention. We are very wary over passive strategies or exchanged traded funds and the sector concentrations that come attached. Similar to IG, we have a consumer non-cyclical bias to our favored sectors in both the US HY and in Europe. Duration is less of an issue for high yield markets, though one could consider shorter maturities for a more conservative approach. Still, shorter-term bonds does not eliminate default risk.

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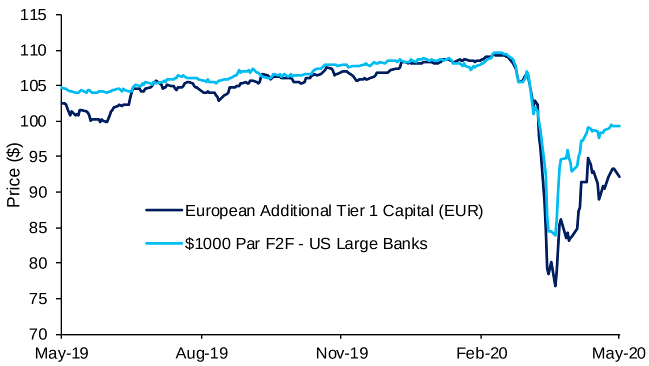
Asset class update: Preferred securities and emerging markets

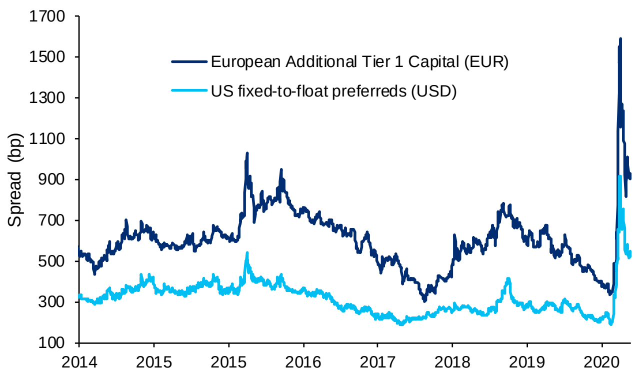
Preferreds (US & European)

Figure 19. US and Euro preferred prices have improved



Source: Bloomberg as of May 5, 2020.

Figure 20. Spreads remain wide relative to February

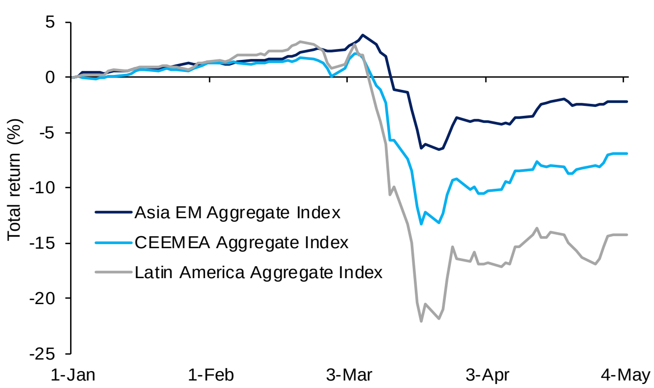


Source: Bloomberg as of May 5, 2020.

- **Market update:** Since we published our high conviction back on March 25, the US preferred fixed-to-float (F2F) and European Additional Tier 1 (AT1) market has gained between 20-25%. Prices on some structures issued by high quality banks have rallied 15-20pts, with average yields falling back below 6.0%. With the low hanging fruit picked, on April 17 we tempered our view on both markets **(Fig. 19)**. While some relative value exists, we do not believe we've seen the end of market volatility. First quarter bank earnings were weak, and we've yet to see the worst of the economic impact from the Covid-19 pandemic. Loan losses are likely to rise, especially from the commercial real estate.
- The willingness for banks to pay dividends on common equity may also remain a source of volatility for the preferred securities market. Most large banks have suspended stock buy-back programs, while European banks have already suspended dividends on common shares. Of course, suspending common dividends leaves preferreds next in line. For now, we expect the largest, highest quality issuers to continue to pay dividends on their preferred shares.
- **Investment strategy:** We remain constructive on the US and European preferred market for longer-term income-oriented investors. Despite the rally, spreads remain several hundred basis points higher than February levels **(Fig. 20)**. However, expected volatility could present better opportunities to add exposures. We would advise creating a list of preferable securities and use periods of market disruption to accumulate exposures. We prefer high quality European AT1 and large US bank F2F structures with wide back-end spreads. To be sure, market liquidity remains a factor in daily pricing, requiring patience.

Emerging markets (EM)

Figure 21. Asia has outperformed global EM markets



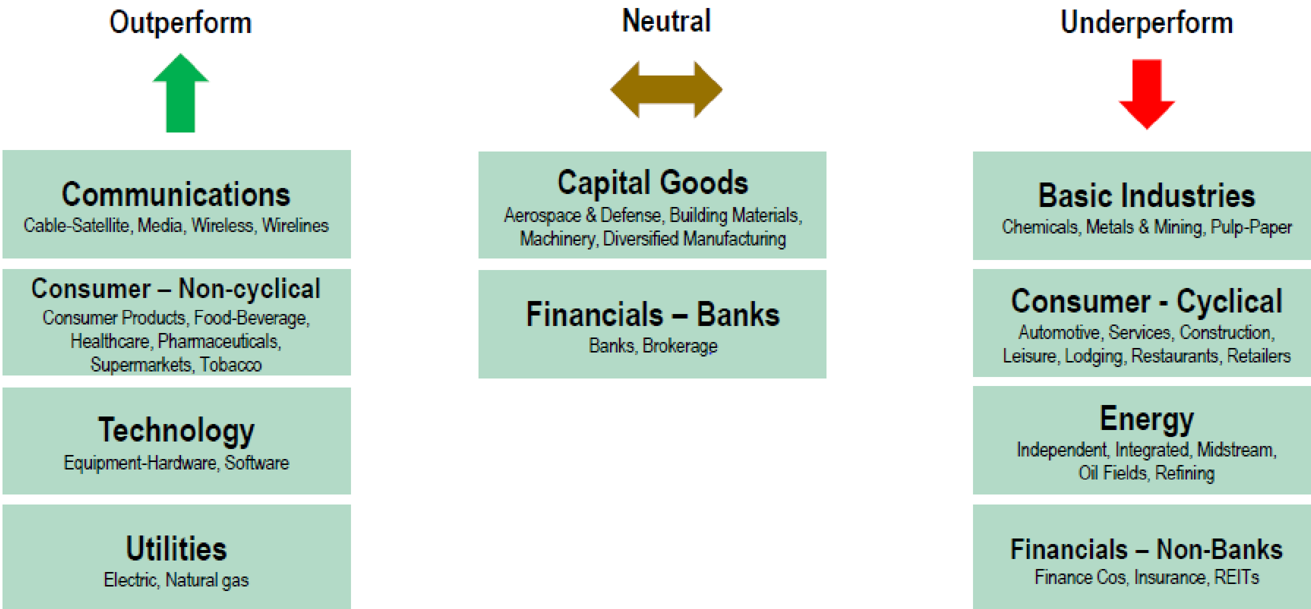
Source: Bloomberg as of May 5, 2020.

- **Market performance:** EM debt (both local and external bonds) have suffered alongside most other risk assets. However, many EM countries (especially net oil exporters) have had to contend with a historic collapse in crude oil markets amid excessive supply and falling global demand. USD sovereign bond benchmarks have lost 10% YTD, with spreads exceeding 800bp and yields near 9.0%. Corporates have performed better, losing a more modest 5.0%. Local markets have fallen 5.3% (unhedged), with Latin America and Eastern Europe/Africa losing 19.4% and 10%, respectively. Asia has been the prized jewel, with US dollar bonds losing 1.5% and local markets largely flat for the year **(Fig. 21)**
- The majority of EM has produced negative returns this year. However, overall benchmark performance has been dominated by several large issuers facing significant deterioration. Argentina (-42% YTD) is going through a restructuring, alongside Ecuador (-67%) and Lebanon (-64%) who have both defaulted on their debt. The market value of these countries had a 7% weight in global benchmarks at the beginning of the year. Today, it's less than 3%.
- **Investment strategy:** We remain neutral local EM, but continue to hold a high conviction in USD bonds. To be clear, the fundamental EM outlook has worsened. Deficits are wider, growth is slowing and central banks are running out of ammunition. Indeed, the fiscal capacity for many EM's to defend against Covid-19 is much less than developed economies. On the other hand, valuations are cheap and largely price in these risks. The cyclicality of the EM asset class is why it produces very attractive risk-adjusted returns over extended periods. We favor geographical diversification when allocating, but tactically find a regional barbell with Asia (low beta) and LatAm (high beta) attractive. Highly advise an active approach when investing.

Past performance is no guarantee of future results. Real results may vary. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only.

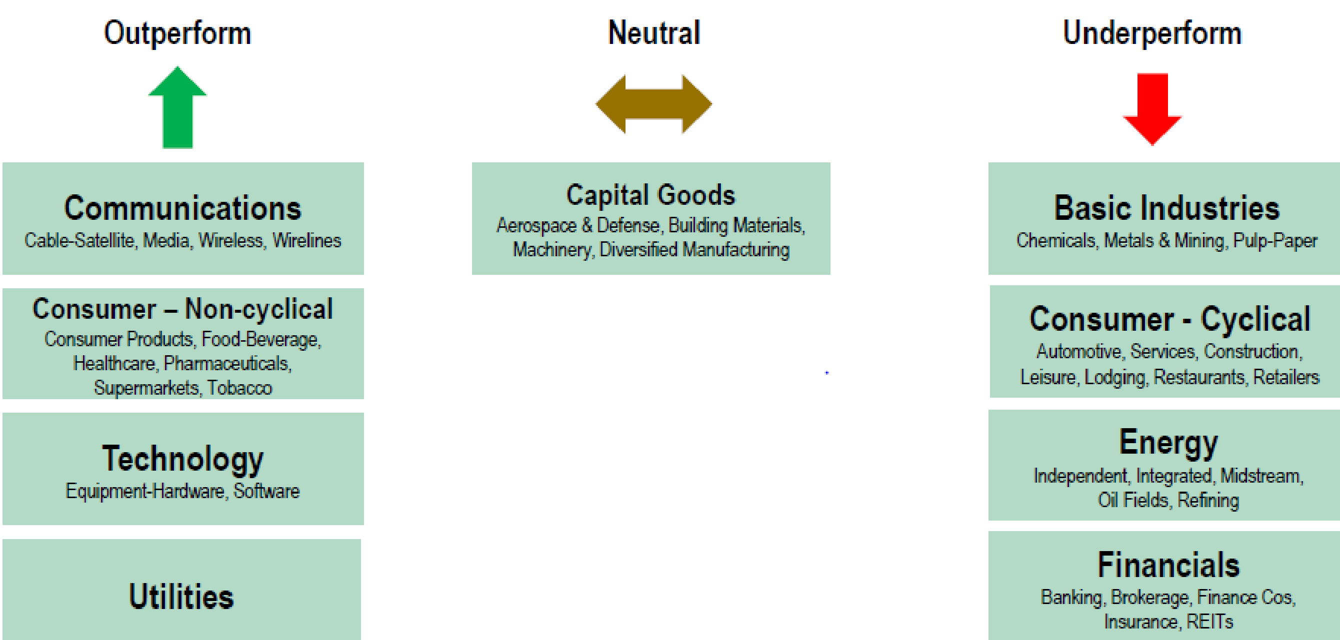
Corporate sector views – US markets

Figure 22. US Investment Grade Corporates – Summary of sector views
See our Q220 US Credit Sector Views report for further details



Source: Citi Private Bank Global Fixed Income Strategy, Bloomberg Barclays US Intermediate Corporate Bond Index as of May 5, 2020. The expressions of opinion are not intended to be a forecast of future events or a guarantee of future results. Arrows imply our expectations of sector performance versus the Bloomberg Barclays US Intermediate Corporate Bond Index. Up arrow = outperform, Sideways arrow = market perform, Down arrow = underperform

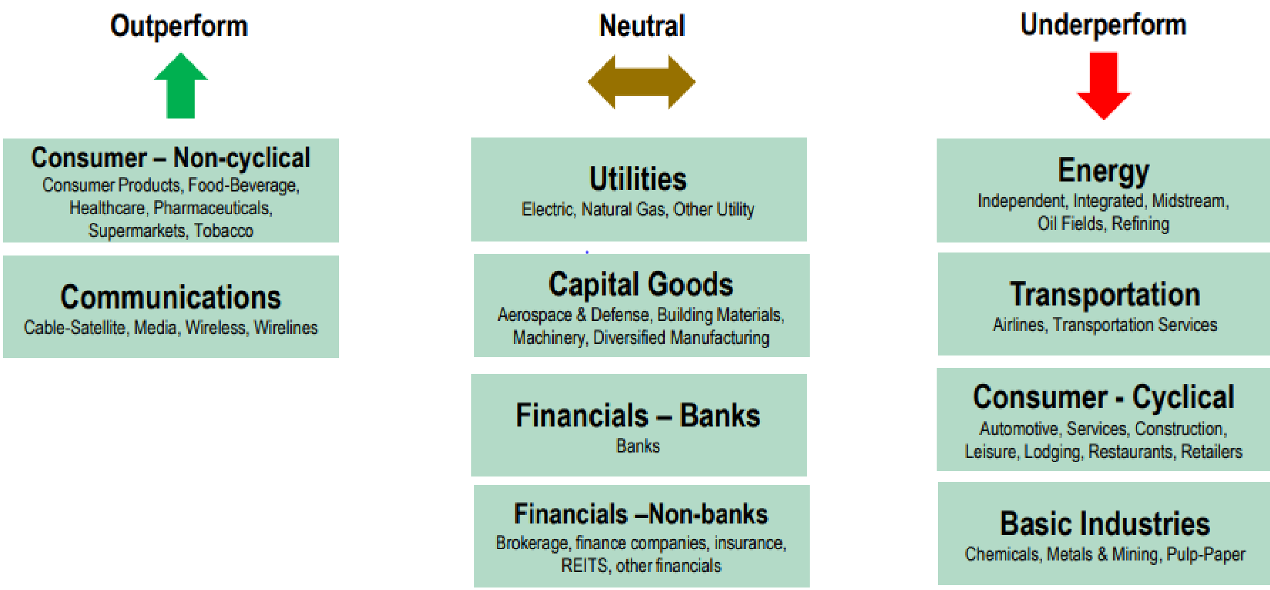
Figure 23. US High Yield Corporates – Summary of sector views
See our Q220 US Credit Sector Views report for further details



Source: Citi Private Bank Global Fixed Income Strategy, Bloomberg Barclays US Corporate High Yield Bond Index as of May 5, 2020. The expressions of opinion are not intended to be a forecast of future events or a guarantee of future results. Arrows imply our expectations of sector performance versus the Bloomberg Barclays US Corporate High Yield Bond Index. Up arrow = outperform, Sideways arrow = market perform, Down arrow = underperform

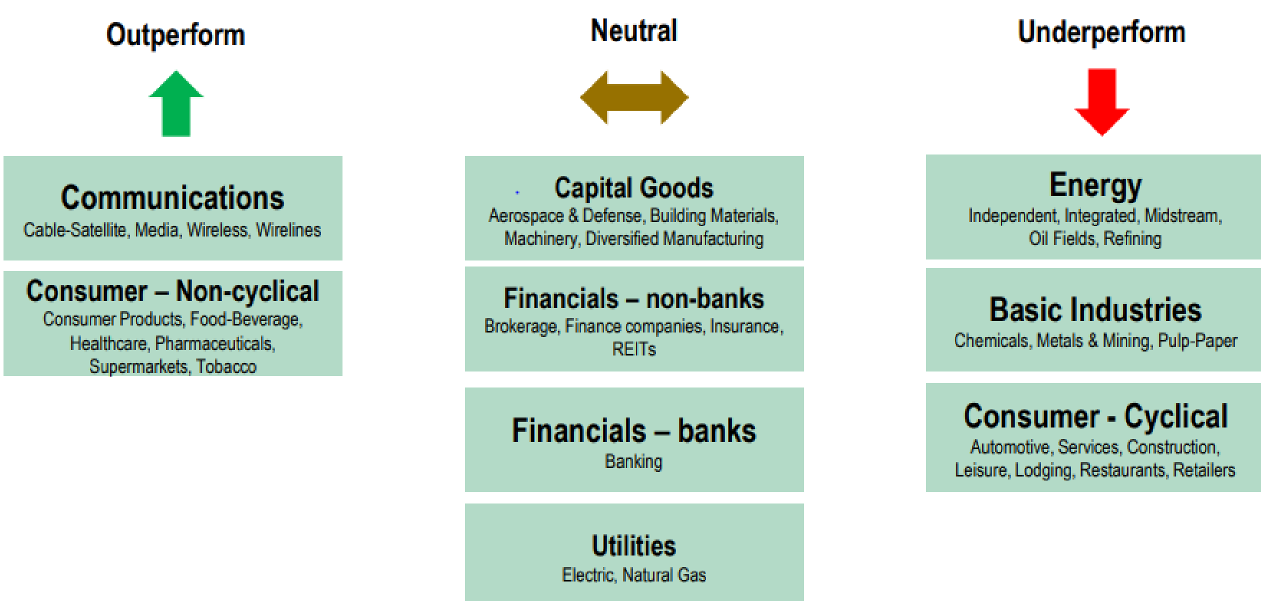
Corporate sector views – European markets

Figure 24. EMEA Investment Grade Corporates – Summary of sector views
See our [2Q20 EMEA Credit Sector Views report for further details]



Source: Citi Private Bank Global Fixed Income Strategy, Bloomberg Barclays Euro-Aggregate Corporate Statistics Index as of May 5, 2020. The expressions of opinion are not intended to be a forecast of future events or a guarantee of future results. Arrows imply our expectations of sector performance versus the Bloomberg Barclays Euro-Aggregate Corporate Statistics Index. Up arrow = outperform, Sideways arrow = market perform, Down arrow = underperform

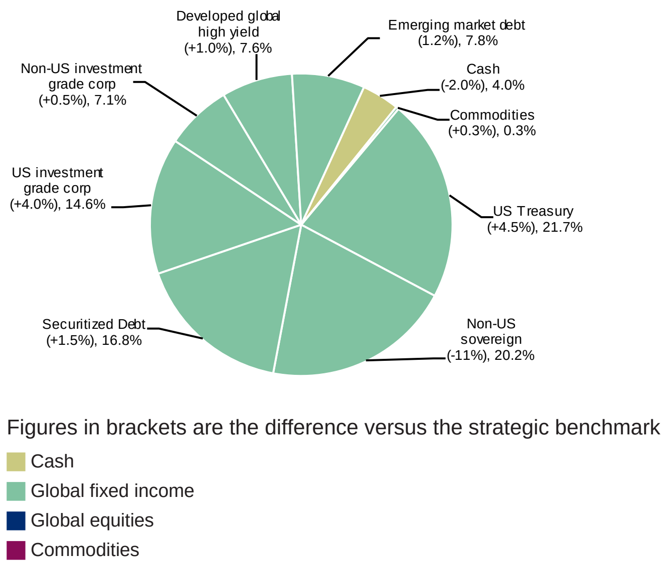
Figure 25. EMEA High Yield Corporates – Summary of sector views
See our [2Q20 EMEA Credit Sector Views report for further details]



Source: Citi Private Bank Global Fixed Income Strategy, Bloomberg Barclays Euro High Yield Corporate Bond Index as of May 5, 2020. The expressions of opinion are not intended to be a forecast of future events or a guarantee of future results. Arrows imply our expectations of sector performance versus the Bloomberg Barclays Euro High Yield Corporate Bond Index. Up arrow = outperform, Sideways arrow = market perform, Down arrow = underperform

Global Investment Committee (GIC) Fixed Income Tactical Asset Allocation

Figure 26. GIC fixed income allocation – Risk Level 1*



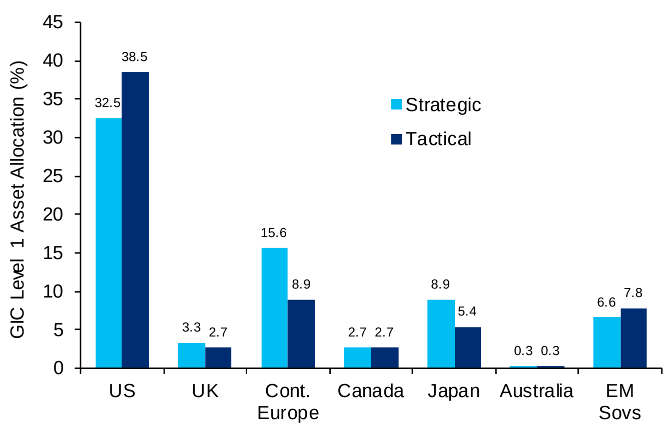
Source: Citi Private Bank Global Investment Committee, April 22, 2020.

Core Positions

- Our largest overweights remain in US Treasury (+4.5%) and US investment grade corporate bonds (+4.0%). We also have modest overweights in high quality securitized debt (1.5%) and non-US investment grade corporates. We maintain our deepest underweight in non-US sovereigns (-11%), particularly in the Eurozone and Japan.
- Global high yield has modest +1.0% overweight position, particularly from the US. Emerging market debt has an overweight positon of +1.2% with overweight in Asia and LatAm.
- In Level 1 portfolios, the committee also maintains a small overweight position in gold.

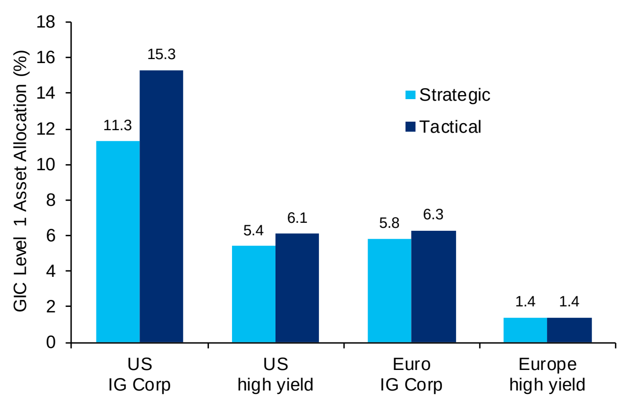
Strategic = benchmark; tactical = the Citi Private Bank Global Investment Committee's current view; and active = the difference between strategic and tactical.

Figure 27. Fixed income sovereign tactical allocation (Level 1)



Source: Citi Private Bank Global Investment Committee, April 22, 2020.

Figure 28. Fixed income credit tactical allocation (Level 1)



Source: Citi Private Bank Global Investment Committee, April 22, 2020.

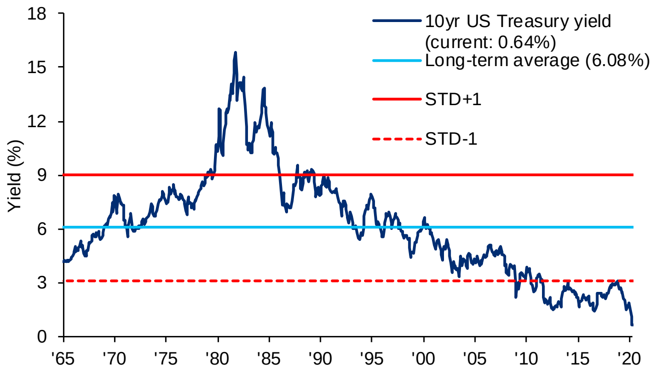
* Risk level 1 is designed for investors who have a preference for capital preservation and relative safety over the potential for a return on investment. These investors prefer to hold some cash, time deposits along with fixed income instruments.

Strategic = benchmark; tactical = the Citi Private Bank Global Investment Committee's current view; and active = the difference between strategic and tactical.

Opinions expressed herein may differ from the opinions expressed by other businesses or affiliates of Citigroup, Inc., and are not intended to be a forecast of future events, a guarantee of future results or investment advice, and are subject to change based on market and other conditions. In any case, past performance is no guarantee of future results, and future results may not meet our expectations due to a variety of economic, market and other factors. Further, any projections of potential risk or return are illustrative and should not be taken as limitations of the maximum possible loss or gain.

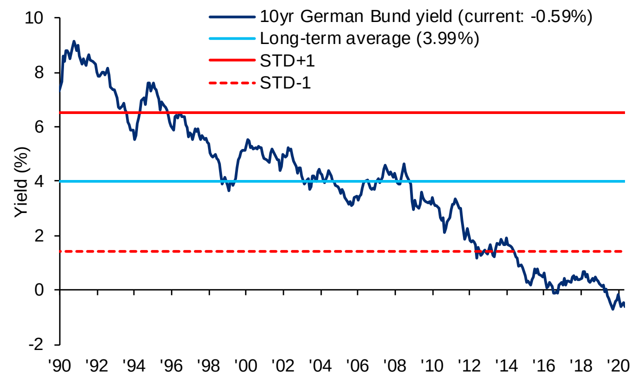
Long-term historical government bond yields

Figure 29. US government bond yield



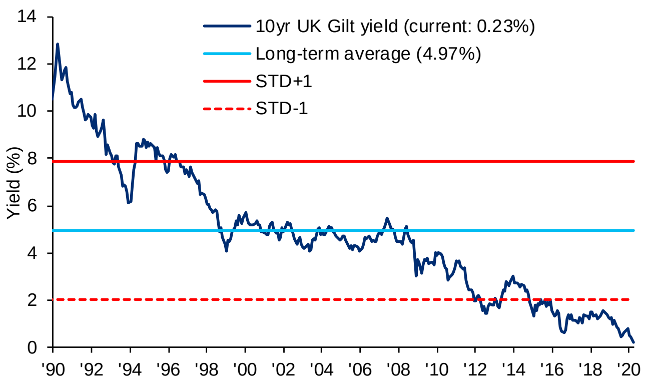
Source: Bloomberg.

Figure 30. German government bond yield



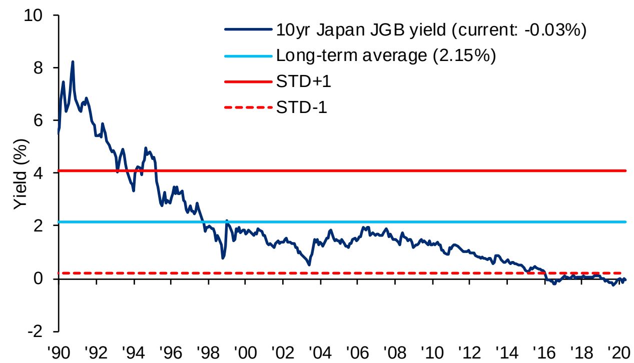
Source: Bloomberg.

Figure 31. UK government bond yield



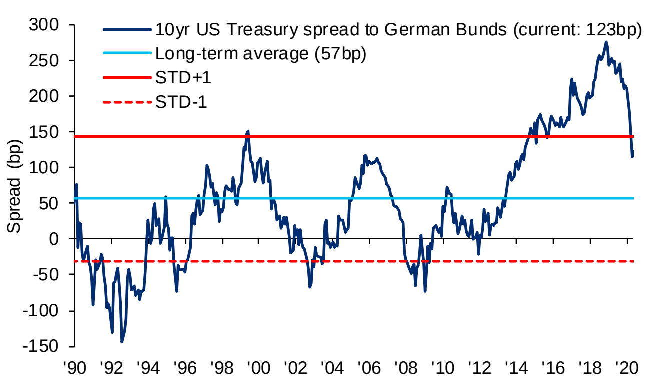
Source: Bloomberg.

Figure 32. Japan government bond yield



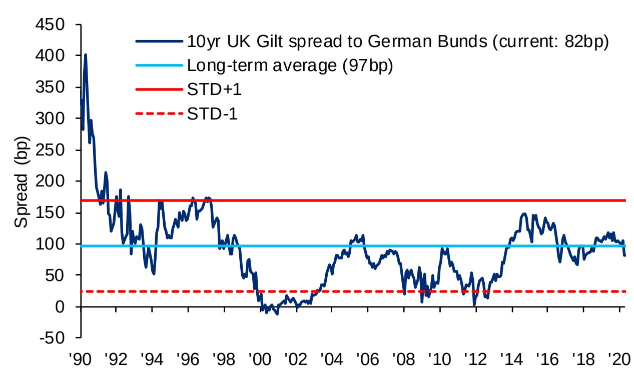
Source: Bloomberg.

Figure 33. 10yr US Treasury spread to German Bunds



Source: Bloomberg.

Figure 34. 10yr UK Gilt spread to German Bunds

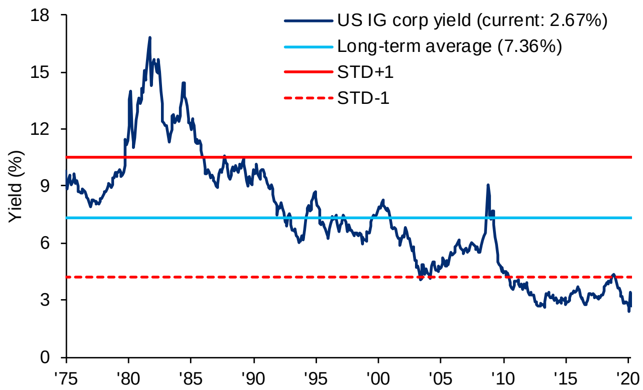


Source: Bloomberg.

Figures as of May 5, 2020. Note: STD+1= Plus one standard deviation from the average, STD-1= Minus one standard deviation from the average. Past performance is no guarantee of future returns. Real results may vary.

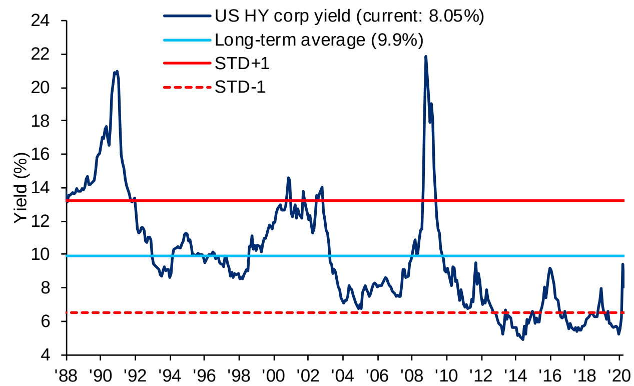
Long-term historical corporate bond yields

Figure 35. US investment grade corporate yield



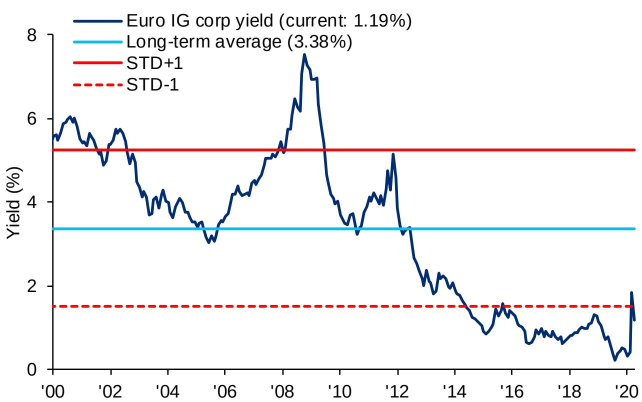
Source: Bloomberg Barclays Indices.

Figure 36. US high yield corporate yield



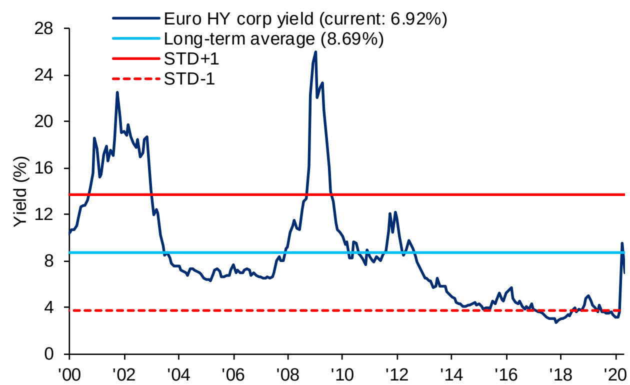
Source: Bloomberg Barclays Indices.

Figure 37. European investment grade corporate yield



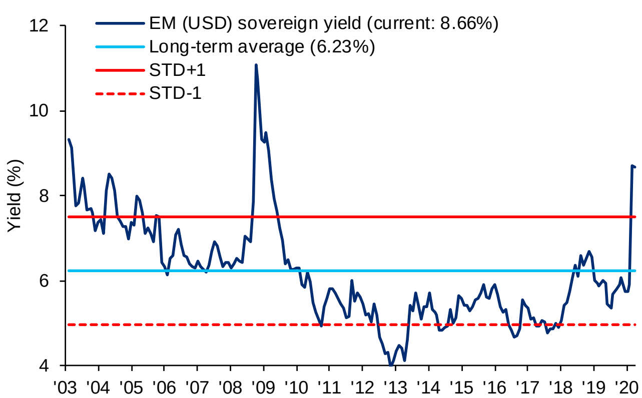
Source: Bloomberg Barclays Indices.

Figure 38. European high yield corporate yield



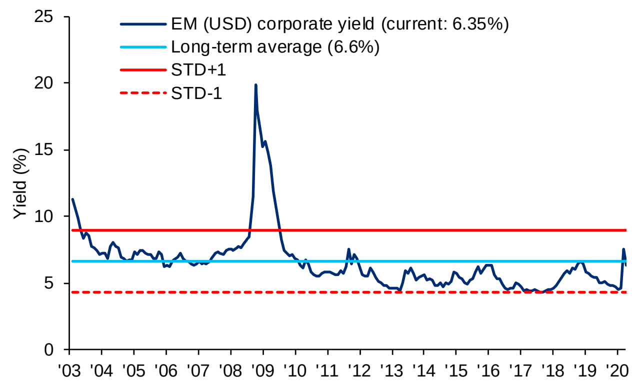
Source: Bloomberg Barclays Indices.

Figure 39. EM (USD) sovereign yield



Source: Bloomberg Barclays Indices.

Figure 40. EM (USD) corporate yield

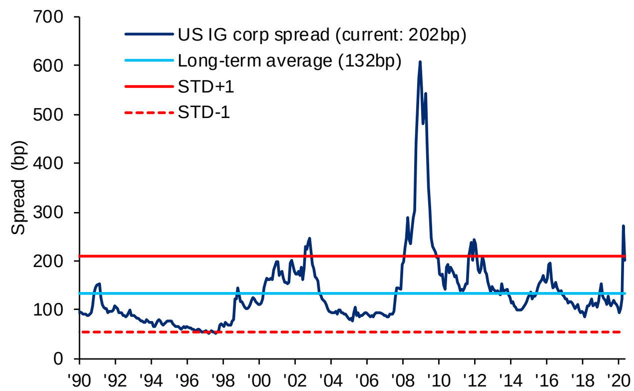


Source: Bloomberg Barclays Indices.

Figures as of May 5, 2020. Note: STD+1= Plus one standard deviation from the average, STD-1= Minus one standard deviation from the average. Past performance is no guarantee of future returns. Real results may vary.

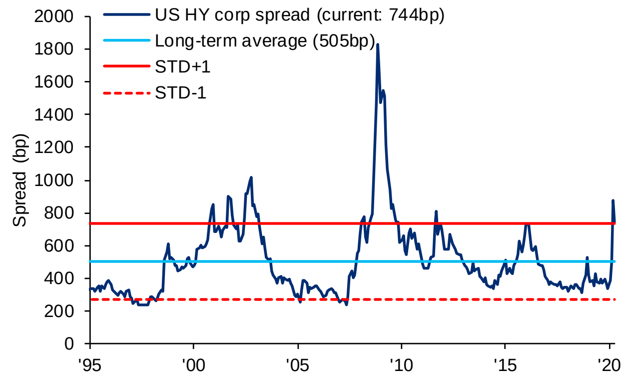
Long-term historical corporate bond spreads

Figure 41. US investment grade corporate spread



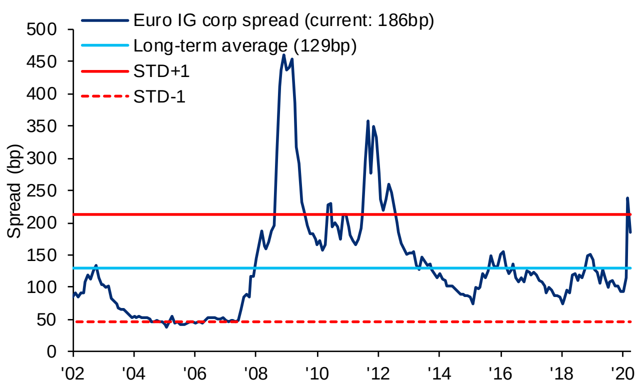
Source: Bloomberg Barclays Indices.

Figure 42. US high yield corporate spread



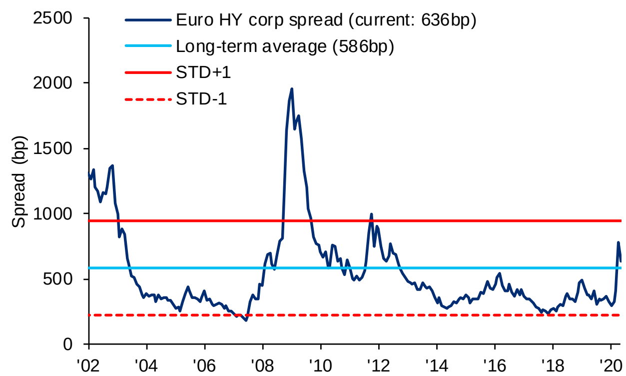
Source: Bloomberg Barclays Indices.

Figure 43. European investment grade corporate spread



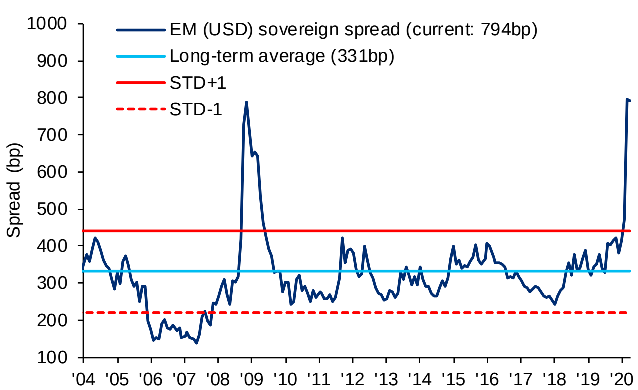
Source: Bloomberg Barclays Indices.

Figure 44. European high yield corporate spread



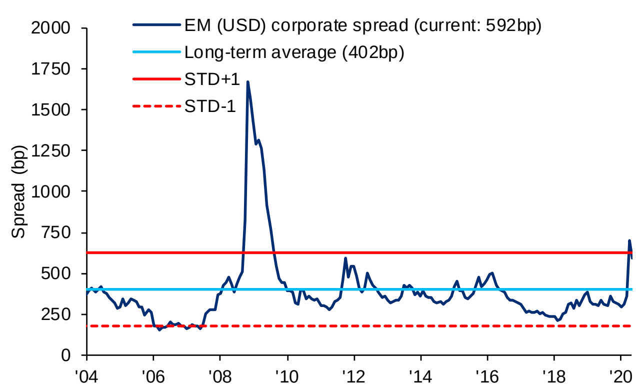
Source: Bloomberg Barclays Indices.

Figure 45. EM (USD) sovereign spread



Source: Bloomberg Barclays Indices.

Figure 46. EM (USD) corporate spread

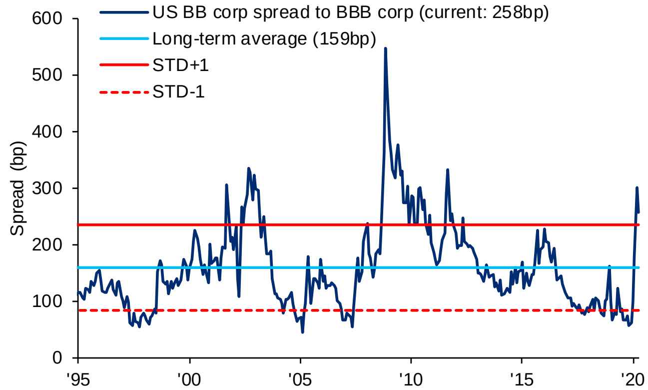


Source: Bloomberg Barclays Indices.

Figures as of May 5, 2020. Note: STD+1= Plus one standard deviation from the average, STD-1= Minus one standard deviation from the average. Past performance is no guarantee of future returns. Real results may vary.

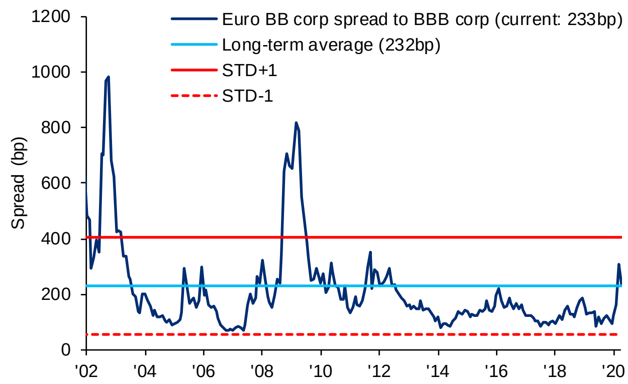
Long-term historical corporate bond spread comparisons

Figure 47. US BB corp spread to BBB corp



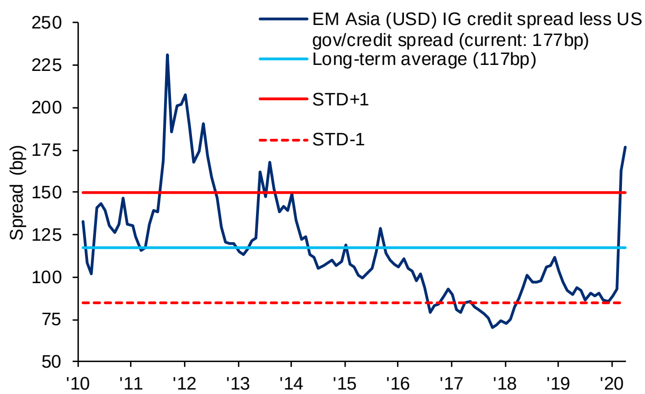
Source: Bloomberg Barclays Indices.

Figure 48. Euro BB corp spread to BBB corp



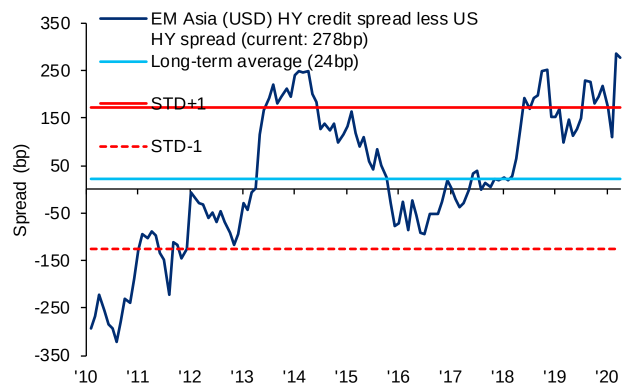
Source: Bloomberg Barclays Indices.

Figure 49. EM Asia (USD) IG credit spread to US Gov/Credit



Source: Bloomberg Barclays Indices.

Figure 50. EM Asia (USD) HY credit spread to US HY

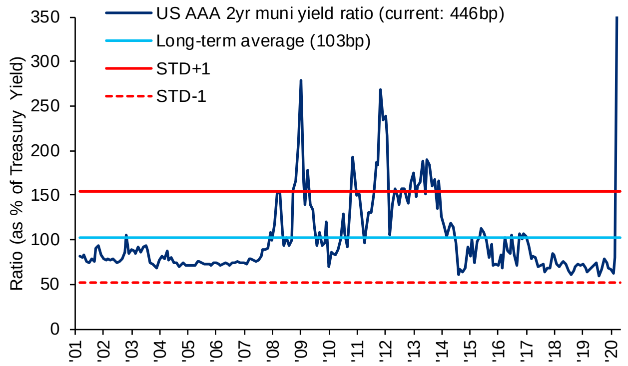


Source: Bloomberg Barclays Indices.

Figures as of May 5, 2020. Note: STD+1= Plus one standard deviation from the average, STD-1= Minus one standard deviation from the average. Past performance is no guarantee of future returns. Real results may vary.

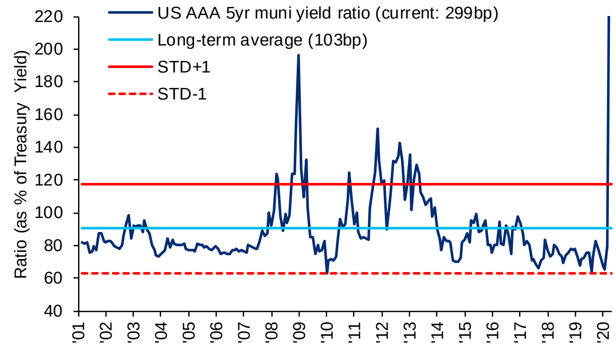
Long-term historical municipal bond yield ratios vs US Treasuries

Figure 51. US AAA-rated 2yr muni yield ratio



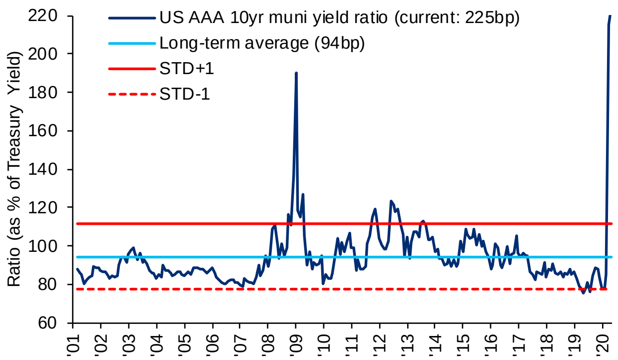
Source: Bloomberg.

Figure 52. US AAA-rated 5yr muni yield ratio



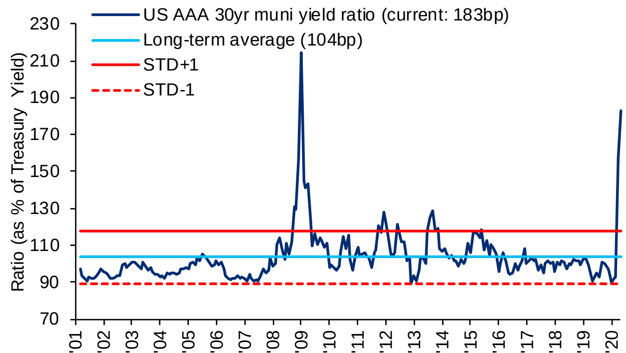
Source: Bloomberg.

Figure 53. US AAA-rated 10yr muni yield ratio



Source: Bloomberg.

Figure 54. US AAA-rated 30yr muni yield ratio



Source: Bloomberg.

Figures as May 5, 2020. Note: STD+1= Plus one standard deviation from the average, STD-1= Minus one standard deviation from the average. Past performance is no guarantee of future returns. Real results may vary.

Fixed income market returns

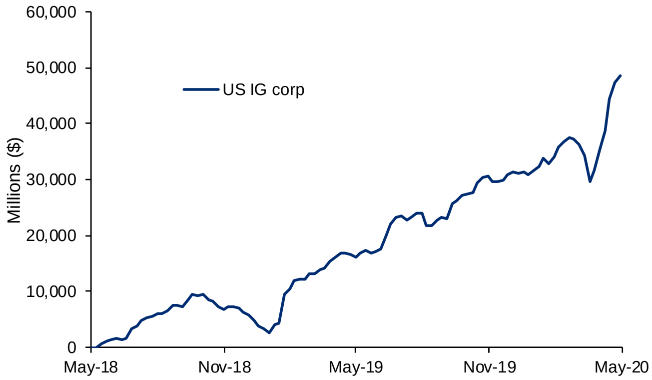
Figure 55. Fixed Income index returns (local currency, %)

Index	YTD	Last 12m	Last 3m	Last 1m	Yield	Duration
Broad Aggregate Indices						
Global Agg (local currency)	3.1	7.6	1.5	1.3		
US Agg Bond	4.9	10.8	3.2	1.4	1.34	5.76
European Agg	-0.2	3.0	-2.0	1.0	0.39	7.39
Developed Sovereign Debt						
Global (local currency)	4.5	8.6	2.6	0.4	0.37	8.87
US Treasury	8.8	14.2	6.7	-0.1	0.52	7.13
US Agency	4.6	8.9	3.4	0.2	0.68	3.84
German Bunds	3.4	4.9	1.6	1.1	-0.61	8.45
UK Gilts	10.9	17.4	6.9	2.4	0.36	14.97
Japan JGBs	-0.2	0.7	-0.3	-0.1	0.06	11.75
Portugal	-1.4	2.3	-3.0	0.7	10.58	2.77
Italy	-2.0	6.2	-4.9	-1.1	1.43	7.13
Ireland	1.1	4.7	-1.0	1.7	0.02	8.96
Spain	-1.2	3.3	-2.6	0.7	0.50	8.03
Inflation-linked Sovereign Debt						
Global I-Linked (local currency)	3.4	8.3	0.9	1.0	-1.15	12.50
US I-Linked	4.2	9.6	2.8	0.4	0.76	6.78
US Municipals						
US Municipals	-1.4	2.4	-3.2	0.9	2.19	6.03
Emerging Markets						
EM (Hard Currency) Sovereign	-10.0	-4.0	-11.3	2.8	8.75	8.01
EM LatAm	-15.6	-12.7	-16.4	1.3	11.27	8.86
EM Asia	-4.6	3.4	-6.3	2.4	4.53	8.03
EM EMEA	-8.0	0.2	-9.6	3.8	5.67	7.65
EM (Local) Govt, hedged USD	2.6	9.1	1.1	2.1	3.05	7.11
EM LatAm	2.1	9.0	0.7	4.0	5.50	4.78
EM Asia	3.8	9.0	2.3	1.5	3.07	7.64
EM EMEA	0.8	8.7	-0.3	3.2	5.03	5.23
Securitized debt						
US MBS	3.5	7.7	2.9	0.5	1.03	1.34
US CMBS	2.4	7.4	0.4	0.9	2.17	5.33
US ABS	1.2	4.0	0.3	0.8	1.80	2.11
High Grade Corporate Debt						
USD Corporates	1.1	9.7	-0.9	5.2	2.72	8.37
EUR Corporates	-2.9	-0.8	-3.9	3.6	1.24	5.27
GBP Corporates	0.7	7.1	-1.9	4.7	2.36	8.60
High Yield Corporate Debt						
USD High Yield	-8.9	-4.3	-9.2	6.5	8.05	3.93
EUR High Yield	-10.2	-6.1	-10.5	5.5	8.10	4.12
Asia (USD)High Yield	-7.6	-3.8	-8.3	4.5	10.58	2.77
S&P/LSTA Leveraged Loan	-9.4	-6.8	-9.7	4.4		
Hybrid debt						
S&P US Variable Rate Preferred Index (F2F)	-9.8	-2.5	-11.7	19.0		
S&P US Fixed Rate Preferred Index	-5.3	1.2	-6.9	12.9		

Source: The Yield Book, Bloomberg Barclays Indices, S&P as of May 5, 2020. Past performance is no guarantee of future results. Real results may vary. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only.

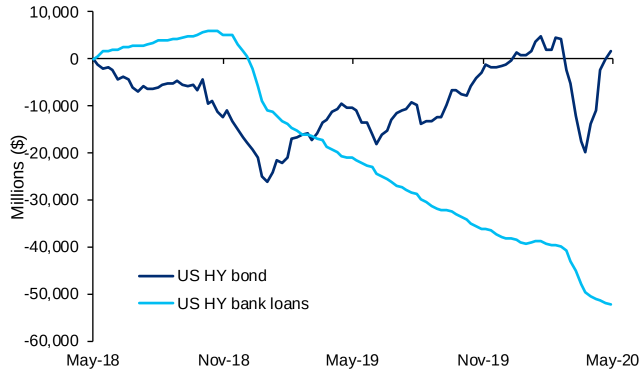
Bond fund cumulative weekly flows

Figure 56. Cumulative fund flows – US IG corp



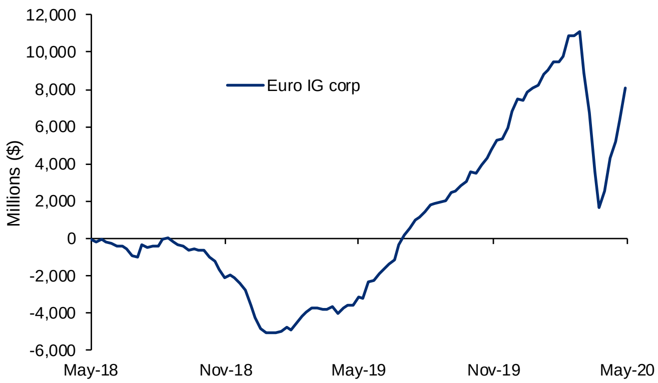
Source: EPFR.

Figure 57. Cumulative fund flows – US HY bond vs loans



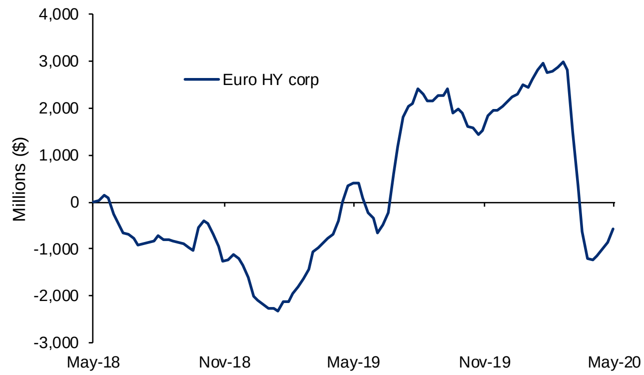
Source: EPFR.

Figure 58. Cumulative fund flows – Euro IG corp



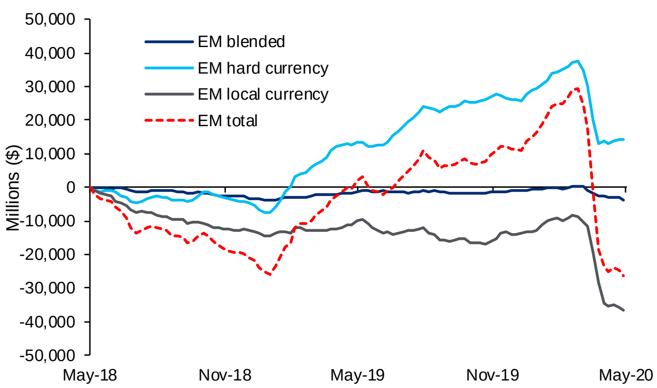
Source: EPFR.

Figure 59. Cumulative fund flows – Euro HY corp



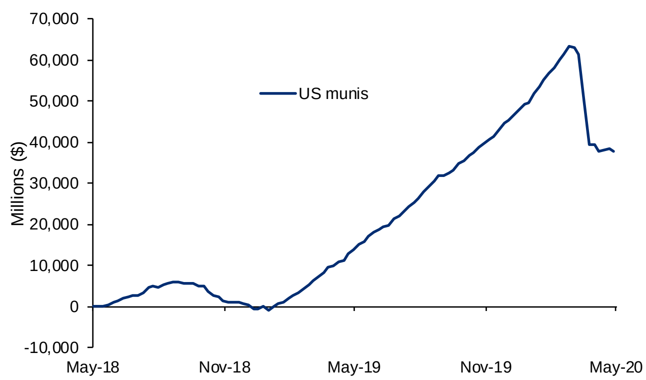
Source: EPFR.

Figure 60. Cumulative fund flows – EM, by currency



Source: EPFR.

Figure 61. Cumulative fund flows – US munis



Source: EPFR.

Figures as of May 5, 2020.

Notes

Notes

Market definitions

Asset classes	Benchmarked against
Global equities	MSCI All Country World Index, which represents 48 developed and emerging equity markets. Index components are weighted by market capitalization.
Global bonds	Bloomberg Barclays Multiverse (Hedged) Index, which contains the government -related portion of the Multiverse Index, and accounts for approximately 14% of the larger index.
Hedge funds	HFRX Global Hedge Fund Index, which is designed to be representative of the overall composition of the hedge fund universe. It comprises all eligible hedge fund strategies; including but not limited to convertible arbitrage, distressed securities, equity hedge, equity market neutral, event driven, macro, merger arbitrage and relative value arbitrage. The strategies are asset-weighted based on the distribution of assets in the hedge fund industry.
Commodities	Dow Jones-UBS Commodity Index, which is composed of futures contracts on physical commodities traded on US exchanges, with the exception of aluminium, nickel and zinc, which trade on the London Metal Exchange (LME). The major commodity sectors are represented including energy, petroleum, precious metals, industrial metals, grains, livestock, softs, agriculture and ex-energy.

Equities	
Developed market large cap	MSCI World Large Cap Index, which is free-float adjusted and weighted by market capitalization. The index is designed to measure the equity market performance of the large cap stocks in 23 developed markets. Large cap is defined as stocks representing roughly 70% of each market's capitalization.
US	Standard & Poor's 500 Index, which is a capitalization -weighted index that includes a representative sample of 500 leading companies in leading industries of the US economy. Although the S&P 500 focuses on the large cap segment of the market, with over 80% coverage of US equities, it is also an ideal proxy for the total market.
Europe ex UK	MSCI Europe ex UK Large Cap Index, which is free-float adjusted and weighted by market capitalization. The index is designed to measure large cap stock performance in each of Europe's developed markets, except for the UK.
UK	MSCI UK Large Cap Index, which is free-float adjusted and weighted by market capitalization. The index is designed to measure large cap stock performance in the UK.
Japan	MSCI Japan Large Cap Index, which is free-float adjusted and weighted by market capitalization. The index is designed to measure large cap stock performance in Japan.
Asia Pacific ex Japan	MSCI Asia Pacific ex Japan Large Cap Index, which is free-float adjusted and weighted by market capitalization. The index is designed to measure the performance of large cap stocks in Australia, Hong Kong, New Zealand and Singapore.
Developed market small and mid-cap	MSCI World Small Cap Index, which is a capitalization-weighted index that measures small cap stock performance in 23 developed equity markets.
Emerging market	MSCI Emerging Markets Index, which is free-float adjusted and weighted by market capitalization. The index is designed to measure equity market performance of 22 emerging markets.

Bonds	
Global Aggregate Index	Bloomberg Barclays Global Aggregate Index is a flagship measure of global investment grade debt from twenty-four local currency markets. This multi-currency benchmark includes treasury, government-related, corporate and securitized fixed-rate bonds from both developed and emerging markets issuers.
US Aggregate Bond Index	Bloomberg Barclays US Aggregate Bond Index is a broad-based flagship benchmark that measures the investment grade, US dollar-denominated, fixed-rate taxable bond market. The index includes Treasuries, government-related and corporate securities, MBS (agency fixed-rate and hybrid ARM pass-throughs), ABS and CMBS (agency and non-agency).
Pan-European Aggregate Index	Bloomberg Barclays Pan-European Aggregate Index tracks fixed-rate, investment-grade securities issued in the following European currencies: Euro, British pounds, Norwegian krone, Danish krone, Swedish krona, Czech koruna, Hungarian forint, Polish zloty, and Slovakian koruna. Inclusion is based on the currency of the issue, and not the domicile of the issuer. The principal asset classes in the index are Treasuries, Government-Related, Corporate and Securitised, which include Pfandbriefe, other covered bonds and asset-backed securities.
Developed sovereign	Citi World Government Bond Index (WGBI), which consists of the major global investment grade government bond markets and is composed of sovereign debt, denominated in the domestic currency. To join the WGBI, the market must satisfy size, credit and barriers-to-entry requirements. In order to ensure that the WGBI remains an investment grade benchmark, a minimum credit quality of BBB–/Baa3 by either S&P or Moody's is imposed. The index is rebalanced monthly.
Emerging sovereign	Citi Emerging Market Sovereign Bond Index (ESBI), which includes Brady bonds and US dollar -denominated emerging market sovereign debt issued in the global, Yankee and Eurodollar markets, excluding loans. It is composed of debt in Africa, Asia, Europe and Latin America. We classify an emerging market as a sovereign with a maximum foreign debt rating of BBB+/Baa1 by S&P or Moody's. Defaulted issues are excluded.
Inflation-Linked	Citi World Inflation-Linked Securities Index (WorldILSI) coverage includes the United States, Japan, France, Germany, Greece, Italy, Sweden, and the United Kingdom. It measures the returns of the inflation-linked bonds with fixed-rate coupon payments that are linked to an inflation index.
Supranationals	Citi World Broad Investment Grade Index (WBIG)—Government Related, which is a subsector of the WBIG. The index includes fixed rate investment grade agency, supranational and regional government debt, denominated in the domestic currency. The index is rebalanced monthly.

Securitized	Citi World Broad Investment Grade Index (WBIG)—Securitized, which is a subsector of the WBIG. The index includes global investment grade collateralized debt denominated in the domestic currency, including mortgage -backed securities, covered bonds (Pfandbriefe) and asset -backed securities. The index is rebalanced monthly.
Corporate investment grade	Citi World Broad Investment Grade Index (WBIG)—Corporate, which is a subsector of the WBIG. The index includes fixed rate global investment grade corporate debt within the finance, industrial and utility sectors, denominated in the domestic currency. The index is rebalanced monthly.
Mortgage Backed Security	Mortgage Backed Security (MBS) is a type of asset-backed security that is secured by a mortgage or collection of mortgages. The mortgages are sold to a group of individuals (a government agency or investment bank) that securitizes, or packages, the loans together into a security that investors can buy
Corporate high yield	Bloomberg Barclays Global High Yield Index is a multi-currency flagship measure of the global high yield debt market. The index represents the union of the US High Yield, the Pan-European High Yield, and Emerging Markets (EM) Hard Currency High Yield Indices.
Municipal	Bloomberg Barclays Municipal Bond Index is a broad-based benchmark that measures the investment grade, US dollar-denominated, fixed tax-exempt bond market. The index includes state and local general obligation, revenue, insured, and pre-refunded bonds
Preferred/Hybrid	Bank of America (BofA) Merrill Lynch Fixed Rate Preferred Securities Index tracks the performance of fixed rate US dollar denominated preferred securities issued in the US domestic market.
European Contingent Convertible	Credit Suisse European Contingent Convertible Index tracks bonds known as “CoCos”. The term CoCo is used to describe a new type of convertible bond that is automatically converted into a predetermined amount of shares when a predefined trigger is breached. Since this type of bond is transformed into equity upon conversion, it would be available for further loss absorption and therefore satisfies regulatory requirements of hybrid capital instruments.

CDS

CDX North America Inv Grade	Markit CDX North American Investment Grade Index consists of CDS levels for the most liquid north American entities with investment grade credit ratings.
CDX North America High Yield	Markit CDX North American High Yield Index consists of CDS levels for the most liquid north American entities with high yield credit ratings.
CDX North America High Vol	Markit CDX North American Investment Grade High Volatility Index consists of CDS levels for the most liquid north American entities with investment grade credit ratings and higher volatility.
Markit MCDX Municipal Index	The Markit MCDX index is a credit index consisting of municipal single name CDS.
iTraxx Europe Index Inv Grade	The benchmark Markit iTraxx Europe index comprises CDS levels of 125 equally-weighted European names.
iTraxx Europe Crossover Index	The Markit iTraxx Crossover index comprises CDS levels for the 75 most liquid sub-investment grade entities.
iTraxx Europe Senior Financial	The Markit iTraxx Europe Senior Financials Index consists of twenty-five (25) financial entities from the Markit iTraxx Europe index referencing senior debt.
iTraxx SOVX Western Europe	The Markit iTRaxx SovX Western Europe index consists of 15 equally weighted Western European sovereign CDS constituents.
iTraxx Japan Inv Grade	The Markit iTraxx Japan Investment Grade Index consists of fifty (50) of the most liquid Japanese entities with investment grade credit ratings as published by Markit
iTraxx Asia ex-Japan Inv Grade	The Markit iTraxx Asia ex-Japan Investment Grade Index consists of forty (40) of the most liquid Asian entities with investment grade credit ratings as published by Markit
CDX Emerging Markets	The Markit CDX Emerging Markets Index is composed of 14 sovereign CDS issuers. All entities are domiciled in three regions: (i) Latin America, (ii) Eastern Europe, the Middle East and Africa, and (iii) Asia.

Other miscellaneous definitions

Citi Economic Surprise Index	The Citigroup Economic Surprise Index are objective and quantitative measures of economic news, covering all G10 economies. They are defined as weighted historical standard deviations of data surprises (actual releases vs Bloomberg survey median).
S&P/LSTA Leveraged Loan Index	The S&P/LSTA (Loan Syndication and Trading Association) Leveraged Loan Index is a rules based index that tracks the investable senior loan market.
European Additional Tier 1	European Additional Tier 1 capital (or Contingent Convertibles or CoCo's) are subordinated securities that qualify as Tier 1 capital under Basel III capital requirements.
LIBOR	The London Interbank Offered Rate (LIBOR is the average of interest rates estimated by each of the leading banks in London that it would be charged were it to borrow from other banks. Libor rates are calculated for 5 currencies, including Euros, and 7 borrowing periods ranging from overnight to one year and are published each business day
Barbell strategies	Barbell strategies incorporate weighing two distinctively different investments in order to mitigate potential market risk
AMT Bond	Alternative Minimum Tax (AMT) bond is a private activity municipal bond whose interest is treated as a preference item for purposes of computing the alternative minimum tax imposed on individuals and corporations.
Variable rate demand note (VRDN)	Longer-term municipal securities that feature both a periodic coupon reset and a demand feature that allows an investor to periodically tender, or put, the securities at par plus accrued interest.

Covenant-Lite loan	Loan agreement that has fewer covenants to protect the lender and fewer restrictions on the borrower regarding payment terms, income requirements and collateral. Conversely a covenant heavy loan has more covenants.
Fixed to Float Preferred (F2F) securities	Are junior subordinated structures that carry a fixed coupon for a specified period of time. If not redeemed by the issuer at that time, coupon payments would then float at a spread, determined at issuance, over a specified benchmark — typically three-month LIBOR.
Bond Connect	Bond Connect is a new mutual market access scheme that allows investors from mainland China and overseas to trade in each other's respective bond market
Runoff Cap	According to the US Federal Reserve, holdings of Treasuries, agency debt and agency mortgage-backed securities will be allowed to mature (or run-off) up to a pre-determined amount. This amount is considered a "cap". Any amount of matured debt that exceeds this cap, will be reinvested back into their respective market.
G7	Group of 7 (G7) is a group consisting of Canada, France, Germany, Italy, Japan, the United Kingdom and the United States.
EuroCOIN	Is a coincident indicator of the euro area business cycle that provides an estimate of monthly growth of euro area GDP after the removal of measurement errors, seasonal, and other short run fluctuations.
Merrill Lynch Option Volatility Expectations	Merrill Lynch Option Volatility Expectations or MOVE is an index measure of Treasury yield volatility.
Asset Backed Security (ABS)	A security whose income payments and hence value are derived from and collateralized (or "backed") by a specified pool of underlying assets such as consumer credit card debt or auto loans.
Investment Grade Corporate bonds (IG)	Investment grade corporate bonds are bonds with a credit rating equal to or above BBB- (S&P) or Baa3 (Moody's), and are debt securities issued by a corporation and sold to investors. The backing for the bond is usually the payment ability of the company, which is typically money to be earned from future operations.
High Yield Corporate Bonds (HY)	High yield corporate bonds are bonds with a credit rating less than BBB- (S&P) or Baa3 (Moody's), and are debt securities issued by a corporation and sold to investors. The backing for the bond is usually the payment ability of the company, which is typically money to be earned from future operations.
Commercial Mortgage Backed Securities	Commercial mortgage-backed securities (CMBS) are a type of mortgage-backed security that is secured by mortgages on commercial properties, instead of residential real estate.
Collateralized loan obligation (CLO)	A form of securitization where payments from multiple middle sized and large business loans are pooled together and passed on to different classes of owners in various tranches. A CLO is a type of collateralized debt obligation.

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Bond rating equivalence

Alpha and/or numeric symbols used to give indications of relative credit quality. In the municipal market, these designations are published by the rating services. Internal ratings are also used by other market participants to indicate credit quality.

Bond credit quality ratings	Rating agencies		
Credit risk	**Moody's[1]**	**Standard and Poor's[2]**	**Fitch Ratings[2]**
Investment Grade			
Highest quality	Aaa	AAA	AAA
High quality (very strong)	Aa	AA	AA
Upper medium grade (Strong)	A	A	A
Medium grade	Baa	BBB	BBB
Not Investment Grade			
Lower medium grade (somewhat speculative)	Ba	BB	BB
Low grade (speculative)	B	B	B
Poor quality (may default)	Caa	CCC	CCC
Most speculative	Ca	CC	CC
No interest being paid or bankruptcy petition filed	C	D	C
In default	C	D	D

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Additionally, the underlying collateral supporting non-Agency MBS may default on principal and interest payments. In certain cases, this could cause the income stream of the security to decline and result in loss of principal. Further, an insufficient level of credit support may result in a downgrade of a mortgage bond's credit rating and lead to a higher probability of principal loss and increased price volatility. Investments in subordinated MBS involve greater credit risk of default than the senior classes of the same issue. Default risk may be pronounced in cases where the MBS security is secured by, or evidencing an interest in, a relatively small or less diverse pool of underlying mortgage loans.

MBS are also sensitive to interest rate changes which can negatively impact the market value of the security. During times of heightened volatility, MBS can experience greater levels of illiquidity and larger price movements. Price volatility may also occur from other factors including, but not limited to, prepayments, future prepayment expectations, credit concerns, underlying collateral performance and technical changes in the market.

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