

# Bond Market Monthly

September 2020

## The Fed is in control

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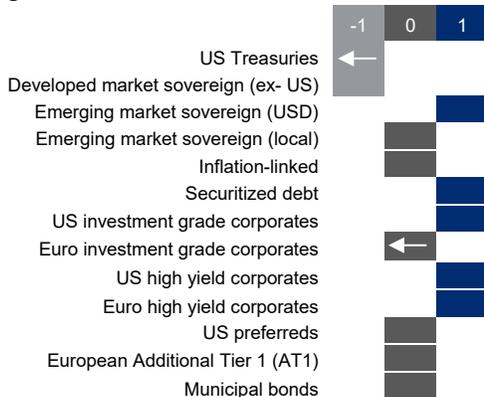
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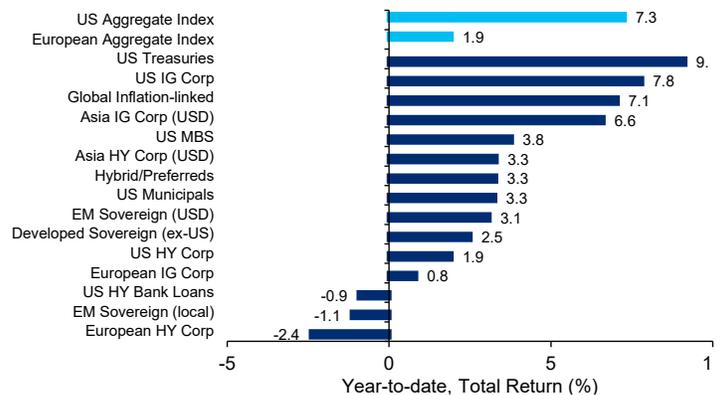
- At the Jackson Hole Economic Symposium on August 27, US Federal Reserve Chairman Jerome Powell announced changes to the central bank’s monetary policy framework. During his speech, Powell focused specifically on the persistent undershoot of inflation from their 2.0% longer-run objective. The Fed will adopt flexible average inflation targeting that will *average* 2.0% over time. This implies a willingness for the Fed to allow inflation to run *above* 2.0%, without the need to tighten policy. Powell also expressed some modification to the Fed employment mandate, implying labor markets can improve, inflation can rise, and policy rates can remain low.
- With forward inflation expectations still below 2.0%, policy rates are likely to be on hold for some time. Eurodollar futures are not pricing in rate hikes until 2024, while Fed futures are also implying lower for longer. In our view, we would not expect the Fed to consider raising policy rates until the recovery is sustained, labor markets improve and inflation stabilizes at or above 2.0%.
- For now, long-term US rates will likely be contained by a slow economic recovery, large-scale asset purchases by central banks, possible re-emerging concerns over rising COVID infections and the delay of additional fiscal stimulus. However, a credible COVID vaccine could push 10-year yields back over 1.0%. We favor positioning for a steeper US Treasury curve, while taking advantage of low policy rates by using leverage to enhance portfolio yields.
- With real rates negative, we prefer credit risk to interest rate risk. Spreads in corporate credit have narrowed meaningfully, supported by central bank asset purchases. The coming months do present some risks to markets (i.e., US election, COVID reacceleration), however, the Fed’s unprecedented credit facilities are expected to limit significant spread widening. We continue to favor high yield bonds (particularly Fallen Angels), preferred stocks, structure credit and emerging market debt.

Figure 1. Fixed income convictions<sup>1</sup>



Source: CPB as of September 8, 2020. -1=Low, 0=Neutral, 1=High.  
<sup>1</sup>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, %)



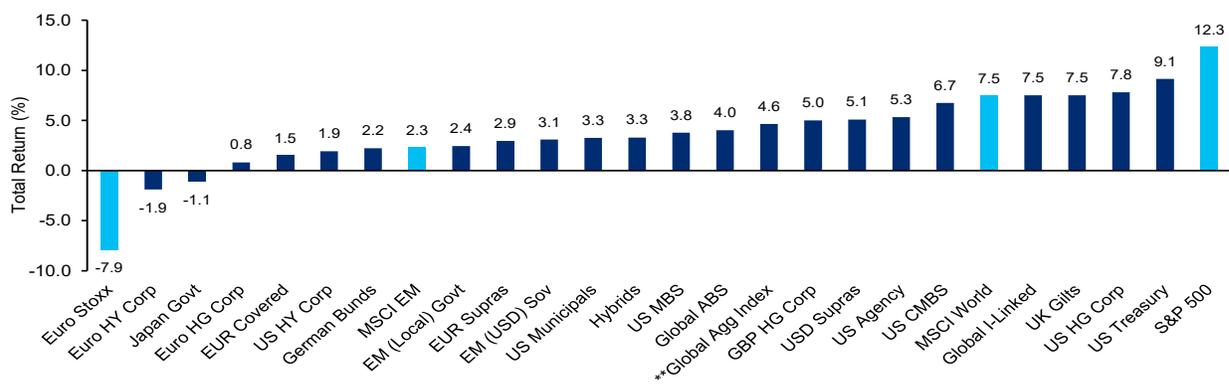
Source: Bloomberg Barclays Indices; Merrill Lynch as of September 4, 2020.  
 Light blue indicates total return on benchmark indices. Dark blue indicates total return on sub-indices. Past performance is no guarantee of future results. Real results may vary. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only.

# Market performance views and recommendations<sup>1</sup>

Sectors	Conviction <sup>2</sup>	Focus comments/recommendations
US Treasuries	Low	US Treasuries offer little value outside of hedging risk assets; Long-term yields are expected to rise on fiscal expansion or a COVID vaccine, pushing prices lower; Short-term yields are likely to stay low, with the Federal Reserve possibly on hold until 2024; Favor steepeners; Low LIBOR also creates opportunities to utilize leverage
Developed market sovereigns (ex-US)	Low	An average yield of 0% remains unappealing and we stay underweight; The periphery is <a href="#">likely to remain well supported</a> from the EU Recovery Fund, where valuations are relatively better.
Emerging market debt	External – High Local – Neutral	<b>External debt:</b> USD sovereign and corporate spreads have fully recovered, though valuations still look relatively attractive when compared to US corporates <b>Local bonds:</b> Yields have fallen to lowest levels on record; Future returns may be predicated on FX, where continued USD weakness supports performance
Inflation-linked debt	Neutral	Valuations remain attractive for inflation hawks, though we believe the fundamental outlook for inflation remains poor; Still offers a better risk/return profile than nominals
Securitized debt	High	<b>US agency MBS:</b> Spreads to UST have tightened with the Fed creating strong technical support; Yields are attractive versus IG corporates but prepay risk is high <b>Non-agency RMBS/ABS/CMBS:</b> High quality non-agency CMBS offers HY-like valuations and poised to produce solid returns as the economy rebounds; Still favor opportunities in non-agency RMBS
Investment grade corporates	US IG – High Euro IG – Neutral	<b>US IG:</b> Maintain a down-in-quality bias, favoring BBBs within 5-7 years to maturity; Fed corporate purchases likely to minimize a reversal in spreads if risk aversion rises <b>Euro IG:</b> Spreads and yields have recovered, supported by improving risk appetite and ECB purchases; Selective opportunities in lower quality IG and some cyclical sectors
High yield bonds/loans	US HY – High Euro HY – High	<b>US HY:</b> Expect spreads to be supported by Fed purchases, if needed; Fallen Angels offer an interesting opportunity, given its higher quality and longer duration <b>Euro HY:</b> Spreads are cheap amid an improving macro outlook; EU policy and ECB purchases are likely to indirectly support prices
Hybrid debt securities <sup>3</sup>	US prefs. – Neutral Euro AT1's – Neutral	<b>US prefs:</b> Despite higher valuations, preferreds offer value versus high yield bonds; We would look to accumulate shares on periods of market weakness <b>Euro AT1's:</b> Similar to the US, valuations have improved but remain attractive versus high yield bond markets; Focus on highest quality issuers
Municipal bonds	Neutral	Muni yields relative to UST remain attractive, however, absolute yields in high quality bonds are near historical lows; Favor moving down in quality where value still remains

Source: Citi Private Bank Global Fixed Income Strategy as of September 8, 2020. <sup>1</sup>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). <sup>2</sup>High conviction implies a positive view, while low conviction implies a negative view. A neutral conviction implies our confidence is neither positive nor negative. <sup>3</sup>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. All forecasts are expressions of opinion and are subject to change without notice and are not intended to be a guarantee of future events. For illustrative purposes only. Past performance is no guarantee of future results. Real results may vary.

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



Source: Bloomberg Barclays Indices, Merrill Lynch, MSCI as of September 4, 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.

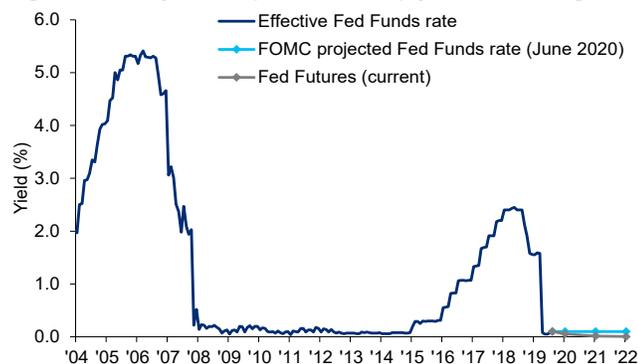
## US Treasuries and Fed policy

**Figure 4. Forward inflation rates remain below 2.0%**



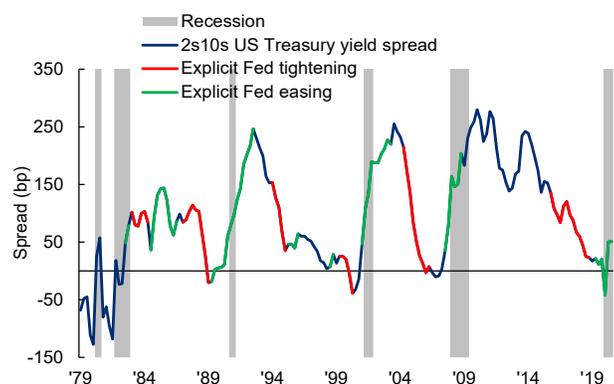
Source: Haver Analytics as of September 4, 2020.

**Figure 5. Policy rate expectations imply lower for longer**



Source: Haver Analytics, FactSet as of September 4, 2020. All forecasts are expressions of opinion and are subject to change without notice and are not intended to be a guarantee of future events. For illustrative purposes only. Past performance is no guarantee of future results. Real results may vary.

**Figure 6. Easy monetary policy tends to steepen yield curve**



Source: Haver Analytics as of September 4, 2020.

- At the Jackson Hole Economic Symposium on August 27, US Federal Reserve Chairman Jerome Powell announced changes to the central bank's monetary policy framework. During his speech, Powell focused specifically on the persistent undershoot of inflation from their 2.0% longer-run objective. Considering the implication low inflation has on the interest rates, there are concerns over the Fed's ability to use policy rates to manage any future economic downturns. Therefore, the Fed will adopt flexible average inflation targeting that will average 2.0% over time.
- This implies a willingness for the Fed to allow inflation to run above 2.0% for a period of time, without the need to tighten policy. In addition, the Fed will be somewhat less concerned with labor market strength and its impact on inflation. Meaning, labor markets can improve, inflation can rise, and policy rates can remain low.

### Implications of revised Fed policy

#### Fed Funds/short-term rates/LIBOR – Lower for a long, long time

- As the US economy recovers from a historical recession, inflation pressures are expected to remain benign. Base effects could see inflation rise to 2.0% in 2021, albeit briefly. Five-year forward inflation breakevens (the Fed's favored measure of forward inflation expectations) are still well below 2.0% (Fig. 4). Eurodollar futures are not pricing in rate hikes until 2024, while Fed futures are also implying lower for longer (Fig. 5). We would expect updated Fed projections in September ("Dots") to reflect a similar bias.
- In our view, we would not expect the Fed to consider raising policy rates until the recovery is sustained, labor markets improve and inflation stabilizes at or above 2.0%. Similar to 2011-2015 period, cash will likely earn negligible returns for an extended period. As such, using leverage to enhance portfolio yields has become increasingly attractive. LIBOR tends to trade alongside Fed Funds, and would be expected to remain low. LIBOR's possible replacement, SOFR (Secured Overnight Financing Rate), would also likely remain near zero.

#### Long-rates/yield curve – Higher and steeper (eventually)

- For now, long-term US rates will likely be contained by a slow economic recovery, possible re-emerging concerns over rising COVID infections and delays of additional fiscal stimulus. At the same time, the US Fed will continue to buy at least \$80 billion of UST every month, adding to their \$6.2 trillion holdings of UST and agency mortgage-backed securities. At the September 16 Fed meeting, there is also some risk the central bank increases their purchases of longer-dated bonds to offset its willingness to allow inflation to run higher.
- In our view, additional fiscal stimulus will be bearish for long-term US rates. However, a credible COVID vaccine could push 10-year yields back over 1.0%. This can have a meaningful impact on UST prices or other high quality fixed income assets. While other factors could limit a more meaningful rise (i.e., trade uncertainty, ongoing asset purchases), positioning for a steeper yield curve is our base-case view (Fig. 6).

#### Real yields to remain in negative territory

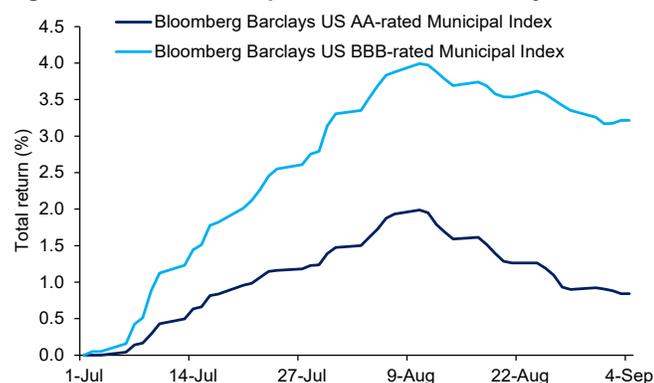
- Even if 10-year yields move towards 1.25%, real yields will likely remain negative, in our view. This will leave interest rate risks elevated, while leaving risk assets supported. As such, CPB's Global Investment Committee has reduced their exposure to US IG and UST to neutral (from overweight), while increasing high yield to overweight, alongside our overweight to emerging market debt.

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# Asset class update: US municipals

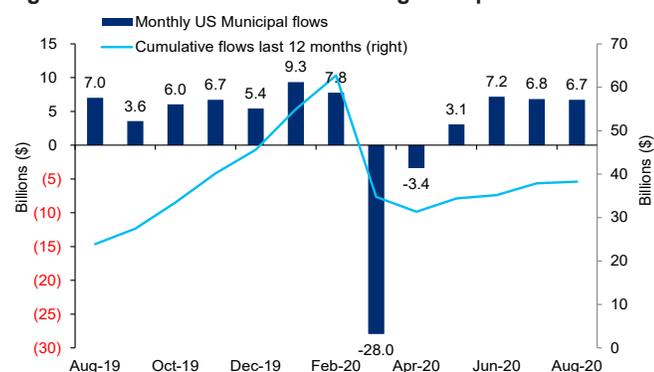
## US municipals

**Figure 7. BBBs have outperformed AAs since July**



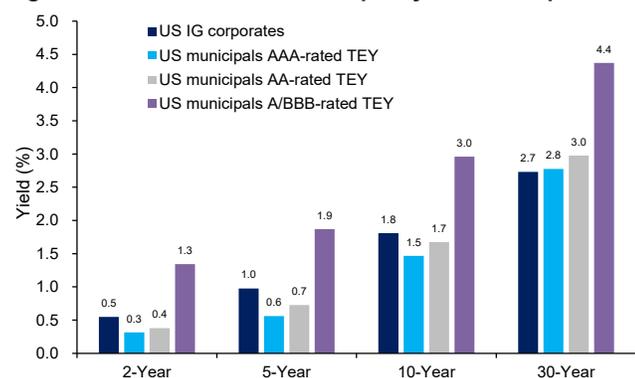
Source: Bloomberg Barclays as of September 4, 2020.

**Figure 8. Fund inflows have been large and persistent**



Source: Lipper as of September 4, 2020.

**Figure 9. Need to move down in quality to beat corporates**



Source: Bloomberg as of September 4, 2020. Note: Tax equivalent yields adjust for top Federal and Affordable Care Act tax rate (40.8%).

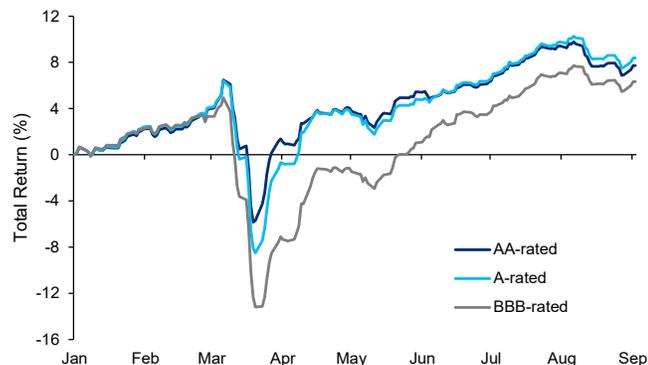
- Market update:** Despite persistent fund inflows, US municipal bond performance has stalled alongside the subtle rise in long-term UST. Benchmarks have lost 1.0% since August 10, slightly underperforming UST. However, munis have still recovered nearly 12% since the trough in March 23 and have gained 3.3% for the year (through September 2).
- Below the top line numbers, recent performance has been led by lower quality bonds. Over the last two months, BBB-rated munis have outgained AA's by 230bp (3.2% vs. 0.9%) (**Fig. 7**). Issuers like the State of Illinois have continued to rebound, with longer-dated general obligation (GO) bonds gaining an additional 14-15% between July and August. While other types of BBB-rated transportation and healthcare bonds in New Jersey, New York and Washington State have also generated double-digit returns.
- Valuations:** Benchmark yields remain low at 1.3%, after reaching an historical low of 1.1% on August 10. Yield ratios (vs. UST) remain attractive on the surface, with 10-year yields averaging 115% of UST since June. However, this is largely due to Fed policy keeping risk-free rates heavily depressed. At the same time, low UST yield has kept muni spreads relatively wide, especially down in quality. For example, BBB-rated spreads are roughly 225bp, which is still 170bp wider than pre-COVID levels.
- Technicals:** According to Lipper, fund flows have now been positive for 16 straight weeks. Weekly inflows have averaged \$1.5 billion, for a total of \$25 billion in new assets since May 13. This brings total year-to-date flows to +\$14.2 billion through August 26 (**Fig. 8**).
- While demand has been strong, new supply has been robust. Through August, gross muni supply of \$310 billion is an increase of 30% year-over-year. However, it's important to note that a larger portion of new issuance has been in *taxable* munis, not tax-exempt. Indeed, 30% of issuance through August has consisted of taxable munis, the highest percentage since 2010. Therefore, as we enter a seasonally low period for coupon payments, technical dynamics may still be supportive for tax-exempts.
- Investment strategy:** Since June, we've expressed a bias towards moving down in credit quality. We maintain this view. Historically low absolute yields in high quality issuers has left many securities unable to beat IG corporates, even on a taxable equivalent yield basis (**Fig. 9**). The potential for higher long-term US rates (post COVID vaccine) may also weigh on higher quality muni performance. In our view, wider spreads and higher yields in A/BBB rated securities can help buffer relative performance if this was to occur.
- At the same time, yield differentials between high/low quality issuers are still relatively wide. Though yields in BBBs have fallen along with the market, many issuers still offer value. The Fed's Municipal Liquidity Facility, which has been largely unused thus far, will continue to provide support to weaker issuers, when/if needed. We believe the longer risk-free yields remain low, the more likely investors will search for better opportunities down in quality.
- To be sure, taking on greater credit risk does require additional due diligence. While we recommend moving down in quality, that is different from chasing yield. In our view, navigating the vast municipal bond landscape requires expertise in order to identify the appropriate level of value.

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# Asset class update: Corporate credit

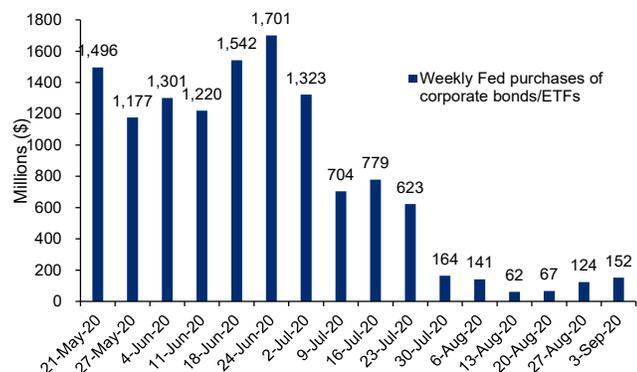
## US investment grade (IG) corporates

Figure 10. Lower quality has closed the gap



Source: Bloomberg Barclays Indices as of September 4, 2020.

Figure 11. Fed credit purchases have slowed



Source: Federal Reserve as of September 4, 2020

- Market update:** Through September 4, US IG corporates has generated a 7.8% return. While higher quality issuers outperformed throughout the market turmoil in March-April, lower quality has narrowed the gap. For example, A-rated issuer performance for the year has now surpassed double A's, with BBB-rated credits not far behind. Indeed, BBB-rated corporates have gained 22% since the March lows (**Fig. 10**).
- Fed support:** As highlighted in our past publications, the Fed's Primary and Secondary Market Corporate Credit Facility (PMCCF and SMCCF) have had a meaningful impact on valuations and issuer behavior. Index spreads have nearly retraced all the widening seen last March (currently +130bp), with yields reaching new historical lows (~1.9%). At the same time, new supply has run rampant. US IG companies have already issued over \$1.5 trillion in new bonds, well above 2017 record figures. What's more extraordinary is this has occurred despite PMCCF being left unused and only 5% of the Fed's SMCCF being utilized.
- As Figure 11 shows,** the pace of corporate purchases has slowed. With the coming months presenting some risks to spreads (i.e., COVID reacceleration, US politics), it's possible to see the Fed ramp up purchases to stabilize credit markets as needed. Its worth noting that these credit facilities are set to expire in December 2020. However, even with a Democratic sweep in November, we don't envision a scenario where any administration would risk instability in financial markets. Therefore, an extension into 2021 is likely.
- Investment strategy:** With 95% of the Fed's SMCCF unused (and 100% of the PMCCF unused), any sign of dysfunction within credit markets is likely to be followed by a more significant Fed involvement. As such, we would take advantage of any sell-offs as they are likely to be short-lived. We find the best relative value down in quality and in the belly of the curve (5-7 years). While additional value can be found in longer maturities, price sensitive investors need to weigh the duration impact if long rates rise. At the sector level, we see value in "best of breed" issuers most directly impacted by the decline in economic activity caused by Covid. See our [US Credit Sector report](#) for deeper insights.

## European corporate bonds

Figure 12. Euro IG corporates have lagged the US this year



Source: Bloomberg Barclays Indices as of September 4, 2020.

- Market Update:** Euro IG corporates are up just 0.9% this year through September 4, underperforming US IG by 700bps (**Fig. 12**). Even the rebound since March has lagged the US, with euro IG gaining 9.0% between March-August vs. 20% in US IG. While the rebound in euro credit has been less significant, so was the decline. In our view, this was largely a result of ongoing ECB corporate bond purchases that has existed since 2016. At the same time, low/negative rates within the region creates a drag on overall total returns, with coupons contributing much less. Today, euro IG index yields are now 0.5%.
- Investment strategy:** Euro IG corporate spreads are likely to be supported by significant ECB support. The ECB is not just heavily engaged in corporate bond purchases through their Corporate Sector Purchase Program (CSPP), but also the Pandemic Emergency Purchase Program (PEPP), which was further extended by €600bn to a total of €1,350 billion back in June.
- In globally diversified portfolios,** we hold a neutral view on euro IG credit given better yield and total return opportunities elsewhere. For fixed income-only investors, we are more constructive. Similar to our sector views in the US, we favor selective opportunities in cyclically oriented sectors to enhance returns. See our [3Q European credit sector report](#) for our best ideas.

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# Asset class update: Global high yield bonds & loans

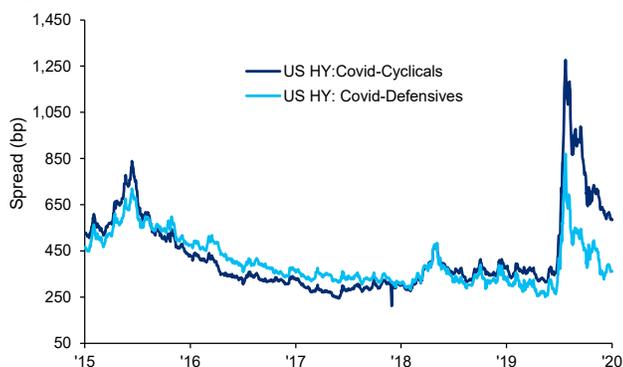
## Global high yield (HY) bonds & loans

Figure 13. US/Euro HY performance YTD



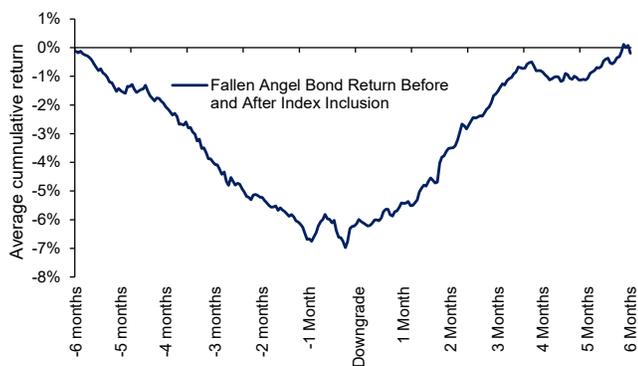
Source: Bloomberg Barclays as of September 4, 2020.

Figure 14. US HY spreads of Covid Cyclical/Defensives



Source: Bloomberg Barclays as of September 4, 2020. Covid-Cyclicals: Banks, Basic Materials, Capital Goods, Airlines, Energy, REITS, Consumer Cyclical. Covid-Defensives: Telecom, Technology, Utilities, Consumer-non cyclical

Figure 15. Average price movement of Fallen Angels into and after downgrade to HY



Source: VanEck as of September 4, 2020.

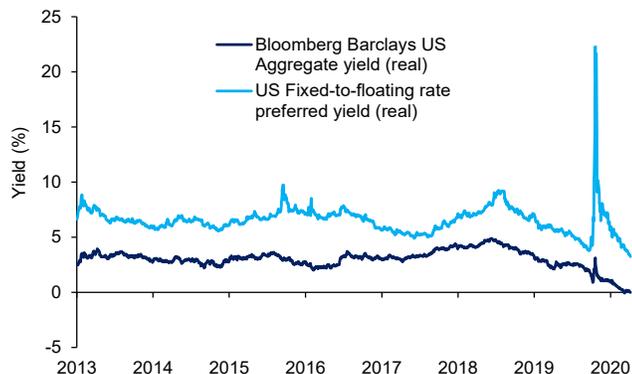
- Market update:** The global HY bond market continues to grind higher fueled by central bank support, economic improvement and vaccine optimism. Between July-August, European and US HY have gained an additional 3-5%. Both regions have gained 22% since the lows in March (thru Sept 4). Though Euro HY remains negative for the year, US HY has fully recovered (**Fig. 13**).
  - The recovery has been led by higher quality, with BB-rated US HY the only quality bucket posting positive returns this year (+5.8% YTD). Again, BB-rated euro HY has generated a negative 1.0% return, but still outperforming B-rated bonds by 400bp. CCC-rated bonds have begun to close the gap, gaining 5% over the last 3 months, but still remain heavily depressed for the year.
  - Valuations:** After exceeding 1100bps in March, US HY spreads have tightened 600bp to 480bp. Though the tightening has been sharp and fast, spreads remain 175bps above January pre-COVID levels. Yields at ~5.5% have dropped as well, though so has everything else. Yield differentials across quality buckets have narrowed, but remain relatively wide. BB-rated yields have dropped to 3.9%, while B/CCC-rated bonds yield 5.5% and 10%, respectively.
  - We reiterate the divergence between issuers/sectors more deeply affected by Covid, and others that are not. While the spread difference between “Covid cyclicals” and “Covid defensives” has narrowed over the last few months, the gap remains quite wide at 225bps (**Fig. 14**).
  - Investment Strategy:** As financial markets and the global economy rebound from the Covid-19 shock, we’ve slowly increased our desire to move down in quality within corporate credit. Consistent with our positive macro outlook, at its [August 19 meeting, the CPB GIC](#) shifted its overweight in US investment grade corporates to US HY bonds. Not only are spread premiums still relatively wide, but lower quality corporates can help buffer a cyclical rise in risk-free rates.
  - Despite our preference to add exposure to HY assets, we do exhibit some near-term caution as we head into year-end. We do not believe election risk is at the same level as COVID’s *first* impact. However, performance of risk assets over the last few months are ignoring the volatility that may transpire from either a contested US Presidential election result, or a change in the administration. Less surprising is a Covid reacceleration into the Fall, but another risk markets may have the contend with. A delay in expected fiscal expansion can also spark a bout of broader risk aversion.
- Our base case economic view incorporates a strong recovery into 2021. As such, we stay overweight global HY and suggest buying the dips. We believe that continued Fed support can keep any meaningful widening contained. The Fed’s ability to purchase HY exchange-traded funds (ETFs) and individual bonds adds a strong technical dynamic. At the same time, ECB purchases of IG corporates will continue to have a trickle-down effect in HY, supporting spreads. See latest [European strategy monthly](#).
- Fallen Angels:** As we detailed in the [August Quadrant](#) (Page 17), we believe there is an opportunity in the HY Fallen Angels (FA) market. HY issuers that were once IG has accelerated because of the COVID pandemic. In our view, the mechanical nature of how a downgraded bond price falls, creates an attractive total return opportunity (**Fig.15**). For some passive ETF strategies strictly connected to FA’s, this somewhat contrarian investment philosophy has produced consistent outperformance relative to the broader HY market. Over the last 20 years, annual FA returns have exceeded broader HY 15 times. Since the March 23 low in risk assets, FA’s have managed to return 34% through September 4, outperforming the broader HY market by 700bp.

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# Asset class update: Preferred securities and emerging markets

## Preferreds (US & European)

Figure 16. Preferreds still offer attractive real yields

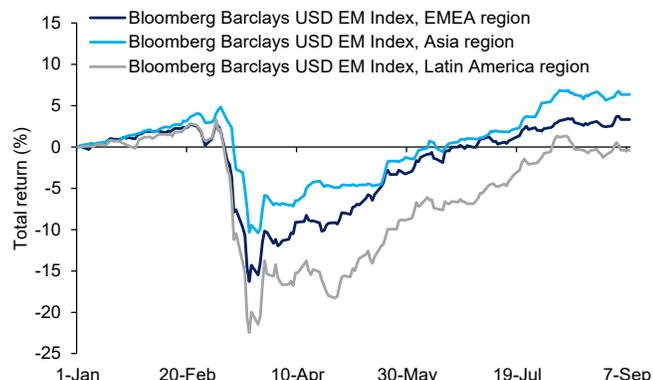


Source: Bloomberg, Bloomberg Barclays as of September 4, 2020.

- **Market update:** US fixed-to-floating (F2F) rate preferreds continue to grind higher, as deeply negative real yields supports risk assets overall. Between July-August, US F2Fs have gained roughly 6.0%. Although the market is still producing negative returns for the year, US F2F's have gained between 35-45% since the lows in March. Yields (to worst) have dropped precipitously and now range between 3.5-4.5%, depending on issuer and structure. This implies average spreads around +385bp, or 100bp tighter over the last two months.
- A similar story in European Additional Tier 1 (AT1) securities (euro denominated), which have gained 4.5% over the last two months and 30-35% since the March sell-off through September 2. Valuations remain much more attractive relative to US markets, with yields (to worst) around 4.8%, implying spreads north of 500bp.
- **Investment strategy:** in our view, US and European preferred stocks should remain a focal point in income-oriented portfolios. Despite lower absolute yields, relative value is likely to remain alongside persistent negative real yields. Along with limited new issuance, the demand for higher real yields will maintain a positive technical dynamic for the preferred market (**Fig. 16**).
- While risk assets could face volatility over Q4 (see US rates section), we would expect any pullback in preferreds to be limited. More often than not, preferreds tend not to react as severely when equity markets pull back. Concerns around bank common dividend are not likely to fade. However, even if certain banks were pressured to cut/suspend common dividends, we would look at any weakness in preferreds as a buying opportunity. ECB and Fed QE may also keep credit spreads from reacting more negatively, especially if they decide to ramp up the size of their corporate bond buying programs.

## Emerging markets (EM)

Figure 17. EM hard currency bond returns, by region



Source: Bloomberg Barclays Indices as of September 4, 2020.

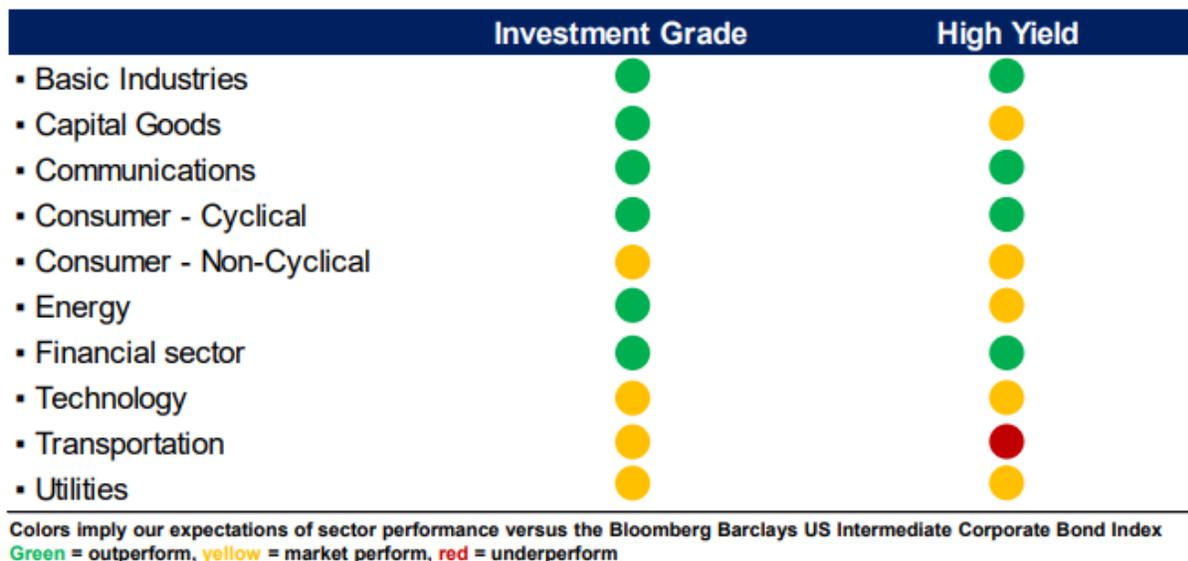
- **Market update:** External US dollar denominated (USD) EM debt (both sovereigns and corporates) has fully recovered from the steep sell-off in March. Thru September 4, EM sovereigns have gained 2.6%, while corporates have gained 4.3%. Latin America has led the rebound (+7% over last 3 months), though regional benchmarks still contain defaulted Argentina debt. Argentina has seen their USD bonds double in price as the government [reaches a deal](#) on a restructuring. Asia USD EM has lagged between Jun-August (+3.8%), through the region has been the most resilient, outperforming other EM regions this year (**Fig. X**).
- Average aggregate EM index spreads have narrowed to 340bp, which is only 40bp wide to pre-Covid levels. Similar to many other fixed income markets, average yields at 4% is a historical low. This is predominately a result of Asia (25% of the index), which has seen average yields drop to 2.8%. Bear in mind, the Asia's overall credit quality is a lot higher (A-/BBB+) than other EM regions. Still, Latin America (4.8%) and Eastern Europe/Africa (4.3%) have seen their yields drop meaningfully over the last several months.
- **Investment strategy:** While EM bond valuations have risen tremendously, the greater rally in higher quality assets has kept the value proposition attractive, in our view. When adjusting for differences in credit quality across regions, yields and spreads are higher than US corporates. Indeed, USD EM bonds are one of the few global markets to offer positive real yields. We stay overweight.
- That said it is important to remind investors that EM is a wide collection of idiosyncratic narratives. Fundamentals for many EM countries are poor. As such, concentrated positions can add different levels of risk. We advise keeping EM exposures globally diversified. The lack of Fed involvement could also keep spreads relatively more volatile during pullbacks.

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## Corporate sector views – US and European markets

**Figure 18. US Investment Grade and High Yield Corporates – Summary of sector views**

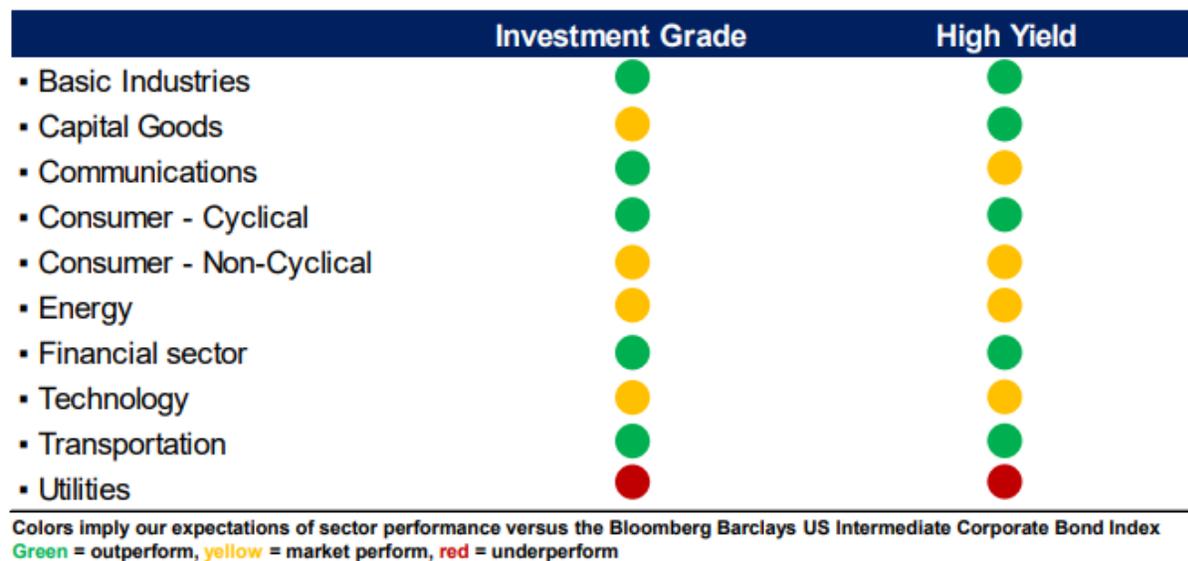
See our [Q320 US Credit Sector Views report](#) for further details



Source: Citi Private Bank Global Fixed Income Strategy, Bloomberg Barclays US Corporate Bond Index as of September 8, 2020.

**Figure 19. EMEA Investment Grade and High Yield Corporates – Summary of sector views**

See our [Q320 EMEA Credit Sector Views report](#) for further details

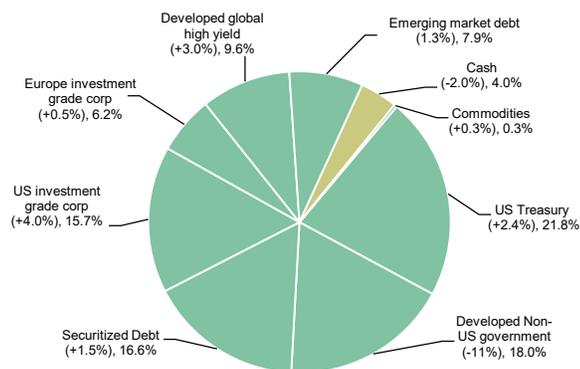


Source: Citi Private Bank Global Fixed Income Strategy, Bloomberg Barclays Euro-Aggregate Corporate Statistics Index as of September 8, 2020.

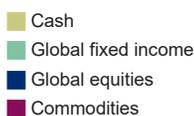
Past performance is no guarantee of future results. Real results may vary. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only. All forecasts are expressions of opinion and are subject to change without notice and are not intended to be a guarantee of future events. For illustrative purposes only.

# Global Investment Committee (GIC) Fixed Income Tactical Asset Allocation

Figure 20. GIC fixed income allocation – Risk Level 1\*



Figures in brackets are the difference versus the strategic benchmark



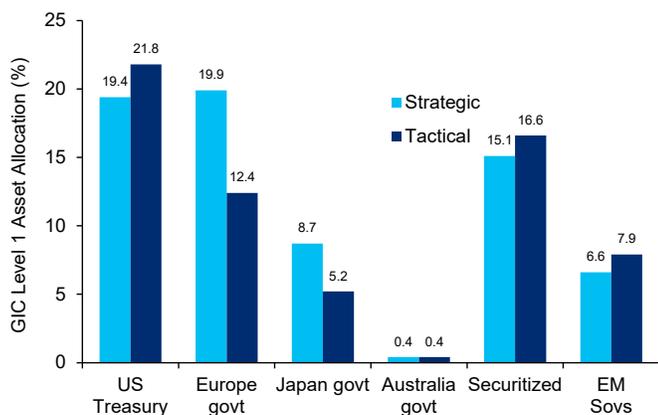
## Core Positions

- Our largest overweight is in US investment grade corporate bonds (+4.0%), Global HY (+3.0%), and US Treasury (+2.4%). 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.
- Emerging market debt has an overweight position of +1.3% 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.

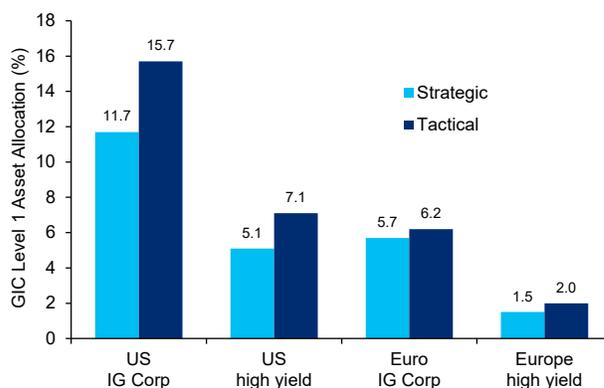
Source: Citi Private Bank Global Investment Committee, August 19, 2020.

Figure 21. Fixed income sovereign tactical allocation (Level 1)



Source: Citi Private Bank Global Investment Committee, August 19, 2020.

Figure 22. Fixed income credit tactical allocation (Level 1)



Source: Citi Private Bank Global Investment Committee, August 19, 2020.

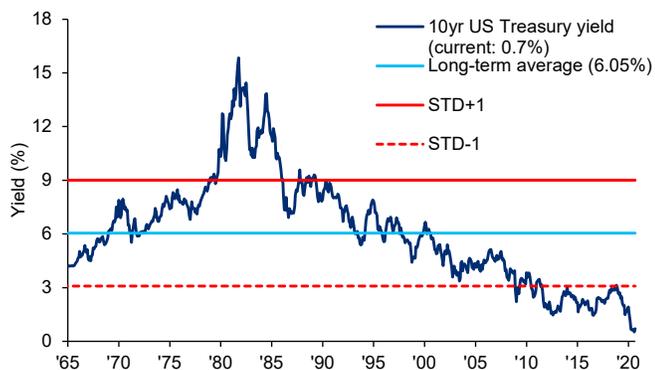
\* Risk level 1 is designed for investors who have a preference for capital preservation and relative safety over the potential for a return on investment. These investors prefer to hold some cash, time deposits along with fixed income instruments.

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.

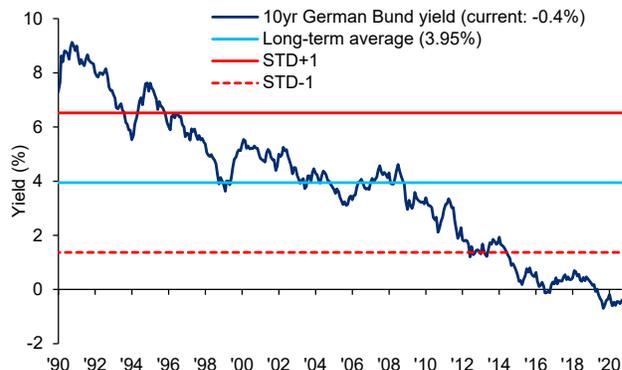
# Long-term historical government bond yields

**Figure 23. US government bond yield**



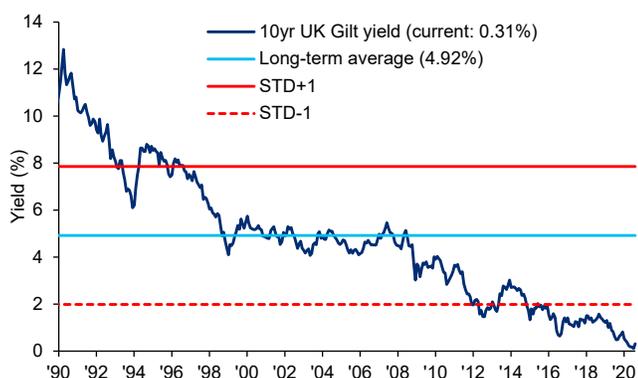
Source: Bloomberg.

**Figure 24. German government bond yield**



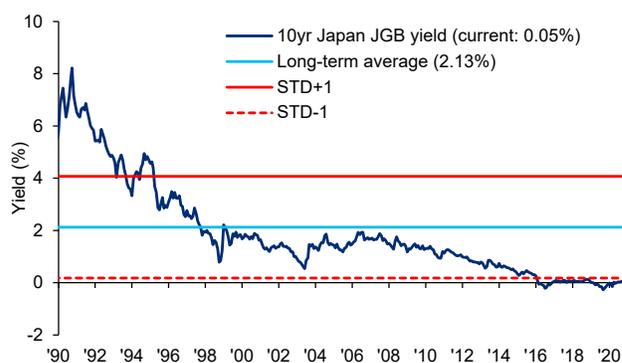
Source: Bloomberg.

**Figure 25. UK government bond yield**



Source: Bloomberg.

**Figure 26. Japan government bond yield**



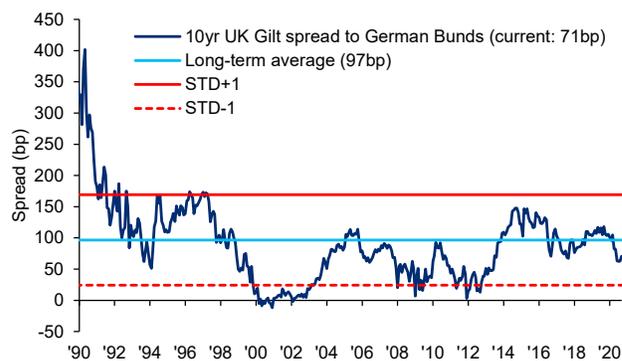
Source: Bloomberg.

**Figure 27. 10yr US Treasury spread to German Bunds**



Source: Bloomberg.

**Figure 28. 10yr UK Gilt spread to German Bunds**

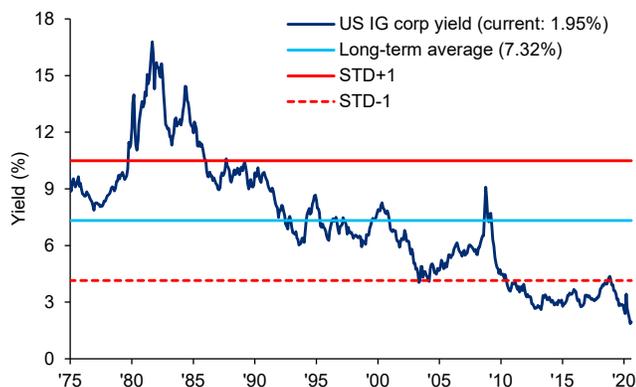


Source: Bloomberg.

Figures as of September 1, 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. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only.

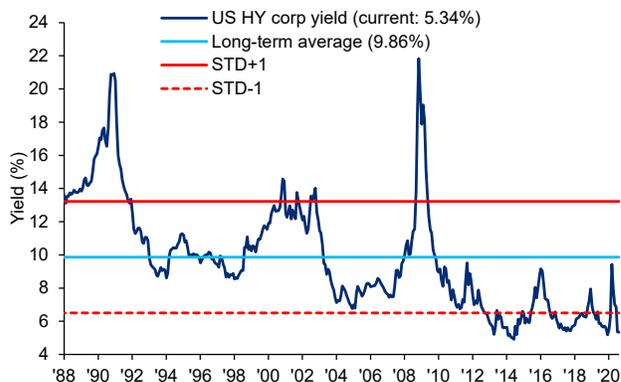
# Long-term historical corporate bond yields

**Figure 29. US investment grade corporate yield**



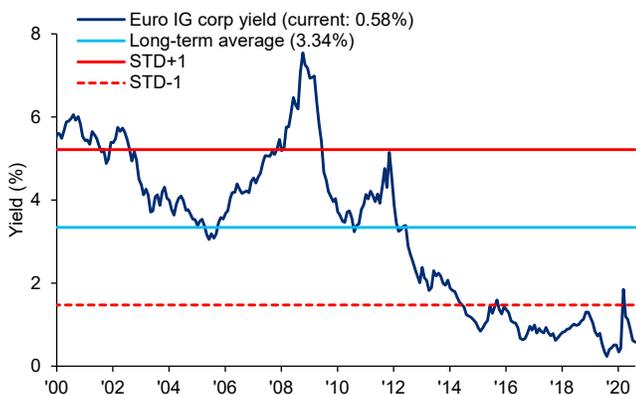
Source: Bloomberg Barclays Indices.

**Figure 30. US high yield corporate yield**



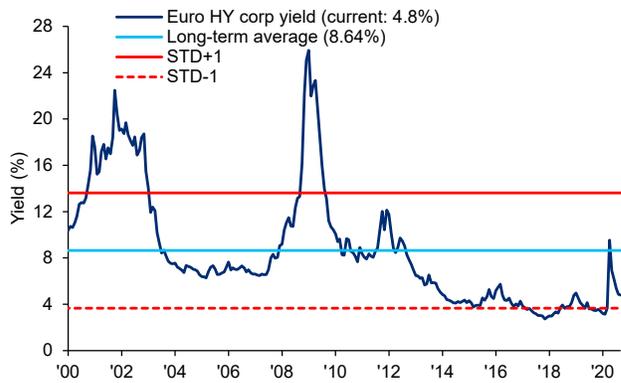
Source: Bloomberg Barclays Indices.

**Figure 31. European investment grade corporate yield**



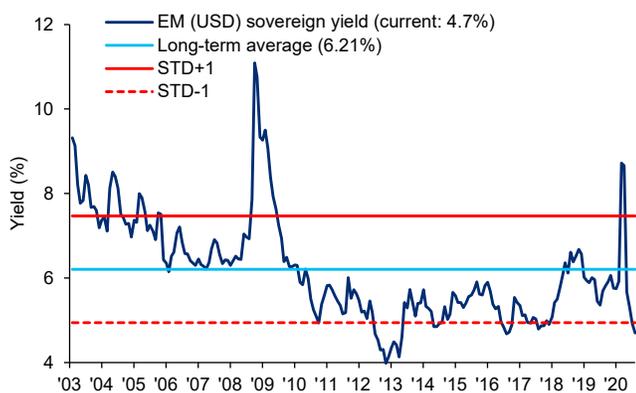
Source: Bloomberg Barclays Indices.

**Figure 32. European high yield corporate yield**



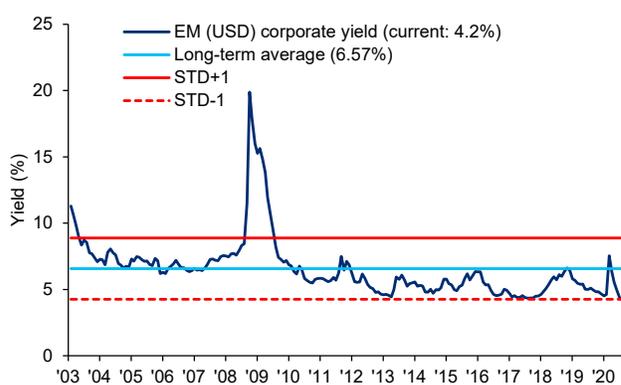
Source: Bloomberg Barclays Indices.

**Figure 33. EM (USD) sovereign yield**



Source: Bloomberg Barclays Indices.

**Figure 34. EM (USD) corporate yield**

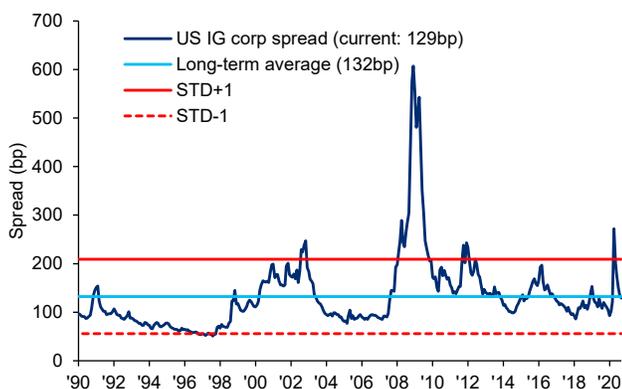


Source: Bloomberg Barclays Indices.

Figures as of September 1, 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. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only.

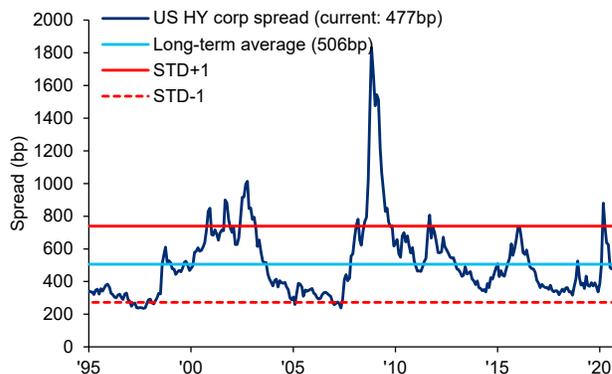
# Long-term historical corporate bond spreads

**Figure 35. US investment grade corporate spread**



Source: Bloomberg Barclays Indices.

**Figure 36. US high yield corporate spread**



Source: Bloomberg Barclays Indices.

**Figure 37. European investment grade corporate spread**



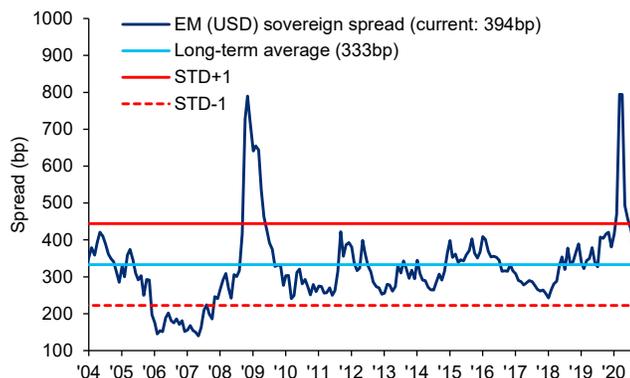
Source: Bloomberg Barclays Indices.

**Figure 38. European high yield corporate spread**



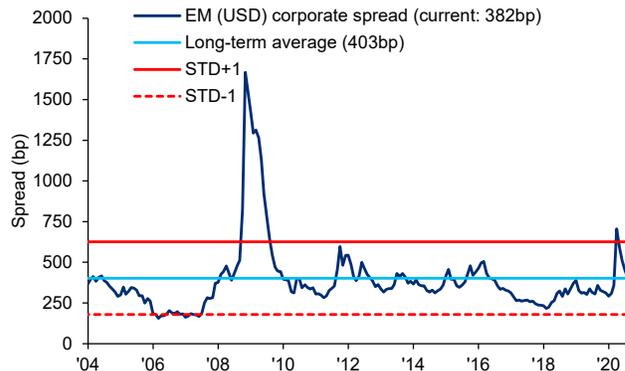
Source: Bloomberg Barclays Indices.

**Figure 39. EM (USD) sovereign spread**



Source: Bloomberg Barclays Indices.

**Figure 40. EM (USD) corporate spread**

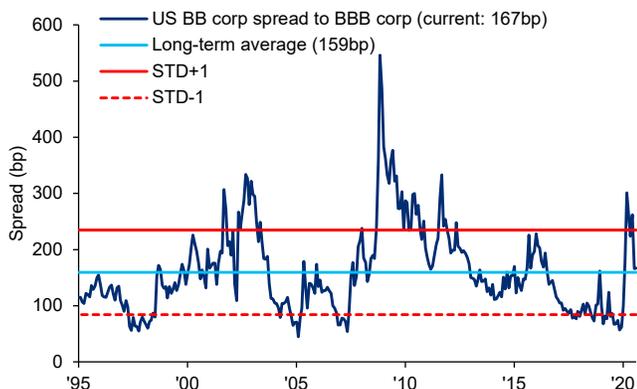


Source: Bloomberg Barclays Indices.

Figures as of September 1, 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. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only.

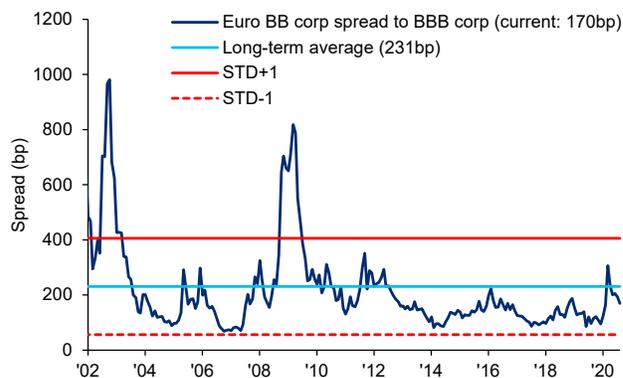
# Long-term historical corporate bond spread comparisons

**Figure 41. US BB corp spread to BBB corp**



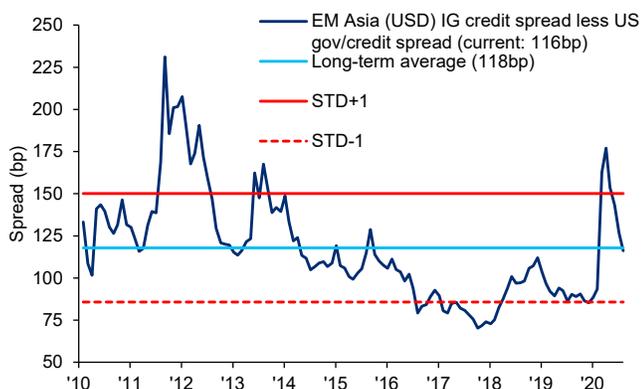
Source: Bloomberg Barclays Indices.

**Figure 42. Euro BB corp spread to BBB corp**



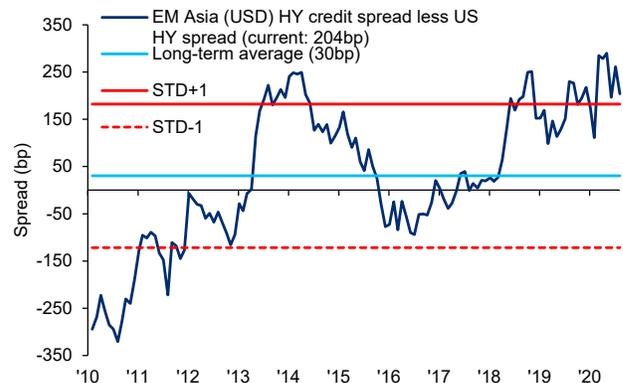
Source: Bloomberg Barclays Indices.

**Figure 43. EM Asia (USD) IG credit spread to US Gov/Credit**



Source: Bloomberg Barclays Indices.

**Figure 44. EM Asia (USD) HY credit spread to US HY**

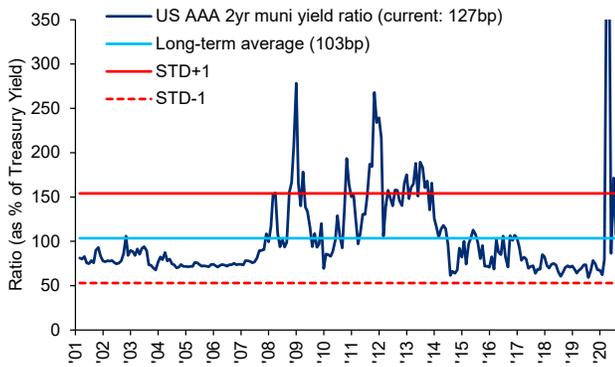


Source: Bloomberg Barclays Indices.

Figures as of September 1, 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. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only.

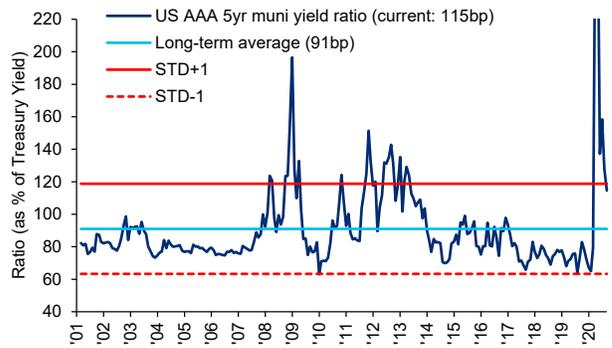
# Long-term historical municipal bond yield ratios vs US Treasuries

**Figure 45. US AAA-rated 2yr muni yield ratio**



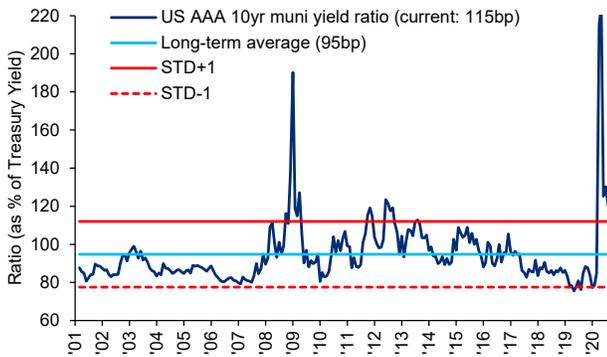
Source: Bloomberg.

**Figure 46. US AAA-rated 5yr muni yield ratio**



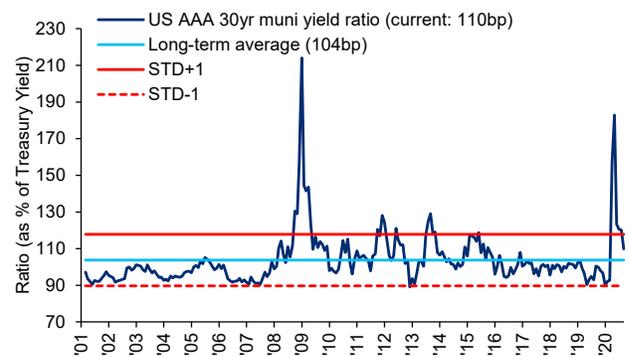
Source: Bloomberg.

**Figure 47. US AAA-rated 10yr muni yield ratio**



Source: Bloomberg.

**Figure 48. US AAA-rated 30yr muni yield ratio**



Source: Bloomberg.

Figures as September 1, 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. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only.

## Fixed income market returns

Figure 49. Fixed Income index returns (local currency, %)

Index	YTD	Last 12m	Last 3m	Last 1m	Yield	Duration
<b>Broad Aggregate Indices</b>						
Global Agg (local currency)	4.9	3.2	1.8	-0.3		
US Agg Bond	7.3	6.7	2.0	-0.3	1.11	6.14
European Agg	2.3	-0.7	2.4	0.1	0.05	7.54
<b>Developed Sovereign Debt</b>						
Global (local currency)	5.1	2.2	1.3	-0.4	0.32	8.85
US Treasury	9.1	7.1	1.3	-0.5	0.49	7.20
US Agency	5.3	4.6	0.8	-0.1	0.52	3.78
German Bunds	2.2	-2.2	1.1	-0.5	-0.47	8.37
UK Gilts	8.3	2.1	-0.9	-2.4	0.49	14.11
Japan JGBs	-1.3	-4.0	-0.5	-0.3	0.17	11.73
Portugal	2.0	-0.1	1.9	0.1	7.05	2.72
Italy	4.0	1.2	4.7	0.5	0.80	7.41
Ireland	3.5	1.6	3.4	0.0	-0.15	9.01
Spain	2.1	-0.5	2.4	0.1	0.21	8.44
<b>Inflation-linked Sovereign Debt</b>						
Global I-Linked (local currency)	7.5	3.2	2.6	-0.9	-1.47	12.41
US I-Linked	9.6	9.0	4.8	0.9	0.66	5.27
<b>US Municipals</b>						
US Municipals	3.3	3.2	1.9	-0.5	1.32	5.38
<b>Emerging Markets</b>						
<b>EM (Hard Currency) Sovereign</b>	<b>3.1</b>	<b>4.7</b>	<b>6.5</b>	<b>1.2</b>	<b>4.57</b>	<b>8.61</b>
EM LatAm	0.5	2.7	7.8	1.1	4.99	9.75
EM Asia	6.5	6.4	7.5	1.0	2.81	8.21
EM EMEA	3.7	4.8	5.4	1.3	4.23	8.21
<b>EM (Local) Govt, hedged USD</b>	<b>2.4</b>	<b>2.9</b>	<b>-0.6</b>	<b>-0.8</b>	<b>3.21</b>	<b>7.07</b>
EM LatAm	6.4	7.8	1.2	-0.5	4.79	4.81
EM Asia	3.0	3.1	-0.5	-0.9	3.41	7.61
EM EMEA	2.8	4.9	-0.4	-0.5	4.65	5.39
<b>Securitized debt</b>						
US MBS	3.8	4.5	0.2	0.0	1.14	1.89
US CMBS	6.7	5.4	3.4	0.3	1.47	5.33
US ABS	4.0	4.1	1.6	0.3	0.58	2.13
<b>High Grade Corporate Debt</b>						
USD Corporates	7.8	8.2	4.4	-0.5	1.90	8.79
EUR Corporates	0.8	-0.4	3.1	0.6	0.52	5.32
GBP Corporates	5.0	4.1	3.6	-0.3	1.73	8.60
<b>High Yield Corporate Debt</b>						
USD High Yield	1.9	5.1	5.0	1.0	5.28	3.58
EUR High Yield	-1.9	-0.2	4.1	1.7	4.47	4.05
Asia (USD)High Yield	3.3	6.5	7.1	2.2	7.05	2.72
S&P/LSTA Leveraged Loan	-0.9	1.2	4.2	1.8		
<b>Hybrid debt</b>						
S&P US Variable Rate Preferred Index (F2F)	-1.8	1.5	4.7	2.4		
S&P US Fixed Rate Preferred Index	3.2	5.9	5.0	2.0		

Source: The Yield Book, Bloomberg Barclays Indices, S&P as of September 4, 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.

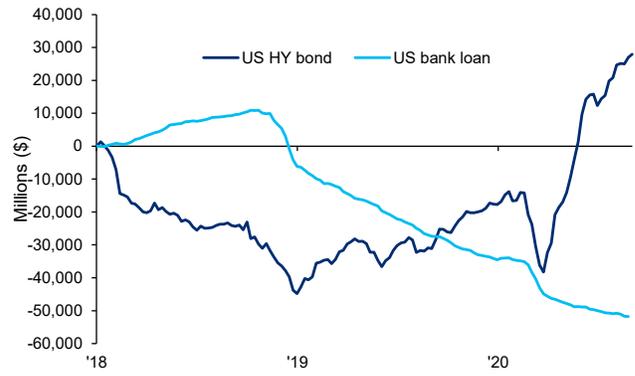
# Bond fund cumulative weekly flows

**Figure 50. Cumulative fund flows – US IG corp**



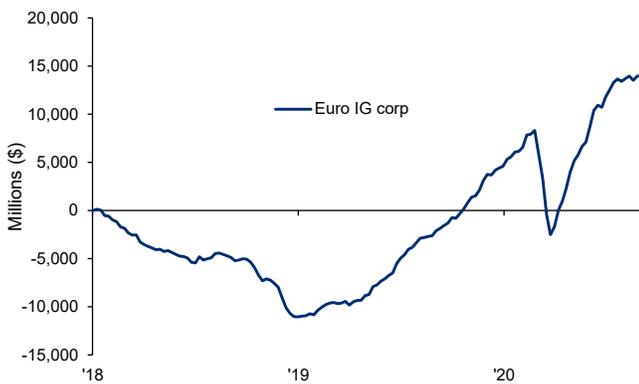
Source: EPFR.

**Figure 51. Cumulative fund flows – US HY bond vs loans**



Source: EPFR.

**Figure 52. Cumulative fund flows – Euro IG corp**



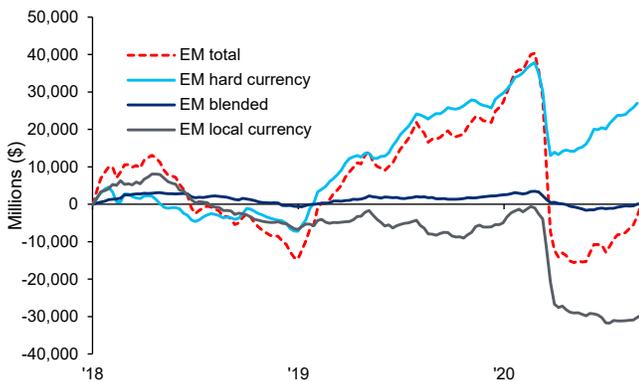
Source: EPFR.

**Figure 53. Cumulative fund flows – Euro HY corp**



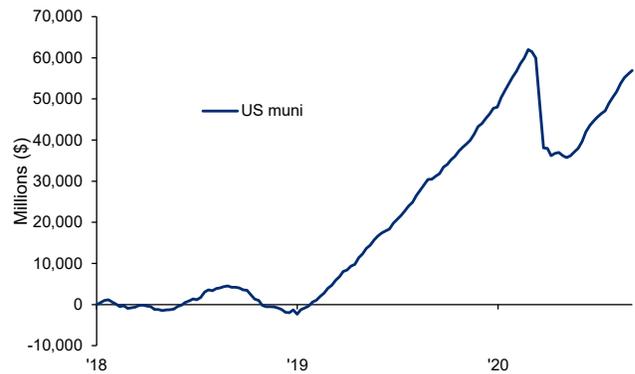
Source: EPFR.

**Figure 54. Cumulative fund flows – EM, by currency**



Source: EPFR.

**Figure 55. Cumulative fund flows – US munis**



Source: EPFR.

Figures as of September 4, 2020.

## 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.
Suprationals	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		
	Moody's <sup>1</sup>	Standard and Poor's <sup>2</sup>	Fitch Ratings <sup>2</sup>
<b>Credit risk</b>			
<b>Investment Grade</b>			
Highest quality	Aaa	AAA	AAA
High quality (very strong)	Aa	AA	AA
Upper medium grade (Strong)	A	A	A
Medium grade	Baa	BBB	BBB
<b>Not Investment Grade</b>			
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

<sup>1</sup> The ratings from Aa to Ca by Moody's may be modified by the addition of a 1, 2, or 3 to show relative standing within the category.

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