



# Corporate Credit Outlook 2021

## A Brighter Future That Comes With A Price

December 2020

*A brighter economic future is reasonably expected in 2021, but active and smart management will be required to navigate credit markets with tighter valuations.*

*Muzinich & Co*

# Key Takeaways

## Credit - Further compression and the hunt for yield with strong technicals in 2021

- The big reset in economic prospects should trigger deep portfolio re-balancing, with accumulated cash put to work in early 2021
- The search for yield will likely dominate the credit asset allocation, as the ultra-low rates environment continues, supporting further spread compression amid excess liquidity channelled into credit markets
- High yielding markets should benefit from better cyclical prospects and lower default/loss risks
- We see main opportunities in emerging markets corporate bonds, global high yield bonds, and leveraged loans in a carry focused investment strategy
- We favour Euro investment grade over US investment grade on a relative basis due to European Central Bank support and reduction in bond supply
- We are carefully rotating global portfolios to 'reopening' sectors in global credit, such as autos and energy, with attention to the individual balance sheet's strengths and weaknesses

## Macroeconomic Environment - A brighter future requiring further fiscal and monetary support

- Recovery will likely remain uneven in 2021 and fiscal policies are unlikely to shift to austerity soon. Continued support from monetary policies will be needed to prevent unwarranted financial conditions tightening, and to help maintain the cost of servicing debt at affordable levels
- With persistent low levels of inflation in developed economies, short rates are "pinned" and changes in the economic outlook will reflect on the steepness of yield curves
- Emerging economies' recovery, supported by a dynamic export sector and a translation into domestic demand, is well underway, especially in China. The commodity prices' bullish cycle should benefit Latin America

## Fundamentals - Further improvement in 2021 with earnings growth but still highly liquid balance sheets

- We see improving fundamentals trend to likely continue in 2021 from 1H20 lows
- We expect persistent earnings growth to progressively reduce leverage from elevated levels in 2020. Corporates may want to keep high liquidity on the balance sheet as a cheap insurance policy, in case the economic recovery disappoints expectations
- We keep a constructive view on fallen angels for 2021, both in USD and Euro markets

## Technicals - The big rotation from cash to a search for yield, and lower supply

- Less gross issuance and investors with a higher risk appetite, could help to further compress credit spreads in 2021
- High yielding assets are set to benefit amid improvement of economic prospects, and lower default risks
- We expect the European Central Bank to continue to purchase corporate bonds, reducing bond supply risk from non-financial investment grade issuers

## Valuations - From tight to ... tighter

- Total return prospects for investment grade (IG) will likely be closely linked to yields' direction given tight spread situation, more so in the US
- Further compression of spreads differential between high yield (HY) and IG is expected, with B-rated companies to perform further, before being considered too rich
- The emerging market premium has remained elevated in 2020 which presents an opportunity to improve spreads and yields in 2021
- Leveraged loans could offer higher carry and better convexity potential than bonds. We also expect renewed demand from US retail investors for US leveraged loans. Both Euro and US markets should benefit from higher activity in Collateralised Loan Obligation (CLO) printing in 2021.



**Erick Muller,**  
**Director of Product**  
**and Investment**  
**Strategy**

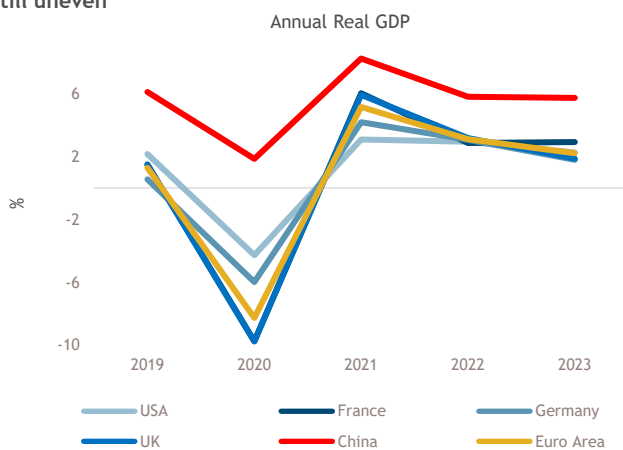
Erick joined Muzinich in 2015. His responsibilities cover macro and fixed income markets strategy and product management, as well as client relationships across institutions, global distribution platforms and global private banks. Erick joined Muzinich from JP Morgan AM, where he spent nearly four years as a Senior Client Portfolio Manager. Prior to that he spent over four years as Head of Fixed Income Product Management at Fidelity Worldwide Investment and before that was Global Head of Capital Market Research at Crédit Agricole CIB for eight years. Erick started his career in finance as a European economist at SG Warburg in France. He then worked as a Senior Economist at HSBC and UBS with a particular focus on the Eurozone preparation and creation. Erick has an MBA in Finance - Marketing from the ESLSA Business School and a degree in Economics from the Université Panthéon Assas.

The attempt to forecast future market returns often appears futile, but it was all the more so this year. The magnitude of the pandemic, the severity of the economic shock, and the speed of the financial dislocation in the first quarter of 2020 were unprecedented and barely imaginable. And yet, as the virus outbreak continues to expand this winter, in most areas of the globe, all major corporate credit asset classes are set to deliver positive total returns for 2020, likely to be close or superior to returns promised by the yield at the end of December 2019.

## Hopes for a Global Economic Recovery Acceleration in 2021-2022

The availability and distribution of a vaccine against Covid-19 is a game changer when building the global economic scenario for 2021-2022. There are still some uncertainties on the speed of deployment and the population's desire to be inoculated, but overall, the vaccine availability builds a robust floor to the economic recovery projections for the next two years, eventually closing the global negative output gap generated in 2020. The question is whether permanent damage has been done to the global economy, acting as a drag and slowing the recovery, or if most of the economic pain is reversible in full. In such a scenario, accumulated private sector savings being re-injected into the economy would help to boost economic growth in this catch-up phase, beyond current general expectations.

Fig. 1: Global GDP recovery boosted by vaccines deployment, but still uneven



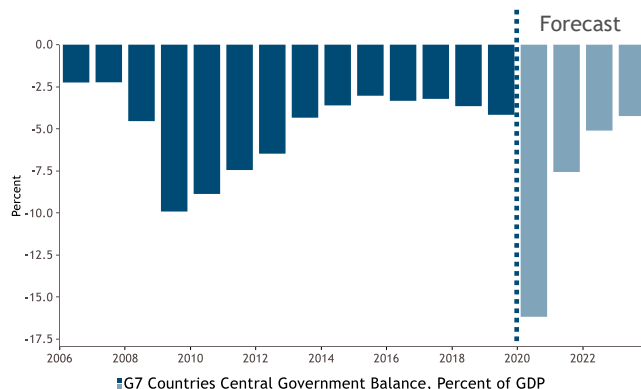
Source: IMF WEO October 2020, World Economic Outlook Database.

## Fiscal and Monetary Response Still Needed, but Long-Term Credibility Likely to be Tested

Sustained fiscal support, co-ordinated with monetary policy, is a condition of success for persistent economic recovery, in our view. The lessons learned from the 2008/09 financial crisis episode is that shifting to austerity measures too soon after a crisis alters the recovery dynamic. However, the extraordinary emergency fiscal response to the economic slump has deteriorated public finances far more so than the 2008/09 financial crisis. According to the IMF, the fiscal deficit of G7 countries will reach 16% of GDP in 2020, x1.6 times what was registered in 2009.<sup>1</sup> The 2021 expected deficit according to the IMF is 7.5% but will likely be far superior in our view given the cost of lockdowns extension in most western countries in 4Q20 and part of 1Q21.

As a result sovereign, and sometimes corporate, debt levels reached due to the pandemic episode are likely to test the nerves of investors, and we cannot think about the future without incorporating risk of credibility loss and solvency accident, particularly in those areas most hit by the Covid-19 crisis. However, we apprehend this risk more in idiosyncratic terms than systemic terms.

Fig. 2: G7 Fiscal Deficit unlikely to disappear quickly



Source: IMF Fiscal Monitor, October 2020.

Continued support from monetary policies is a necessary condition in that context. Given the magnitude of the debt accumulation, maintaining the cost of service of the debt at minimum levels helps to make this extra debt affordable. It is likely that policy rates will be kept close to lower bound levels, wherever this level is for each major region, for a very long time, and that quantitative easing will likely be maintained to prevent overall financial conditions from unwarranted tightening, and real yields from non-affordable increases. In this context, the recent announcements from the European Central Bank (ECB) highlights the shift from emergency actions, where overdelivering helped to stabilise markets, to extending the duration of the monetary cure to support economic catch-up and remove potential long-term scars from the crisis.

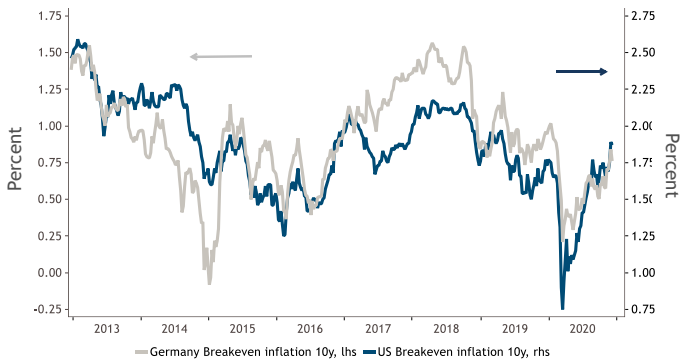
## The Inflation Game Ain't Over

The pandemic immensely complicated the Central Banks' task of getting inflation back to target. The induced demand shock more than compensated the initial supply side distortion's impact on prices, and finally exacerbated the inflation misses. Moreover, growing the monetary base at extraordinary pace was facing a parallel drastic fall in money velocity. As a result, the largest economies, including China, are now facing an even more persistent low level of core inflation. With labour markets durably wounded, inflation-push factors are unlikely to quickly restore inflation levels close to targets.

*"The availability and distribution of a vaccine against Covid-19 is a game changer"*

The question is whether the vaccine can act to reverse negative pressures on inflation, allowing the inflation gap to close. When observing market-based inflation expectations, the impact of vaccine availability boosted long-term inflation expectation (see Fig.3). In the US, 10y breakeven inflation rose back to June 2019 levels, but still below the 2% target set by the Federal Reserve. Germany's 10y breakeven also rose meaningfully since mid-November but stopped well below 1%. The bullish commodities price trend that is likely to go along economic recovery may help to partially close the inflation gap, but sustained support from monetary policy is the most likely scenario for the next few years, in order to achieve such an outcome.

**Fig. 3 Inflation expectations reset with vaccines, but Central Banks targets are still missed**

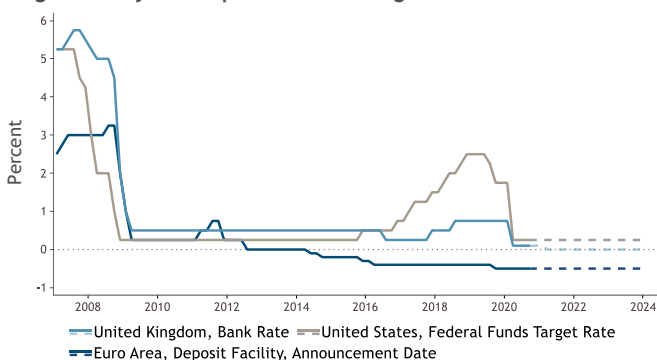


Source: Macrobond, as of December 11<sup>th</sup>, 2020.

### Policy Rates are Pinned Close to Zero or Negative for a Long While

Forward guidance on rates from Central Banks is unambiguous: policy rates are pinned where they are for a long time.<sup>2</sup> For the Federal Reserve, the new monetary policy framework would require not only inflation expectations to be durably anchored around target, but actual inflation should settle above target for a good while (a “make-up” strategy”) before it feels comfortable raising interest rates. Its updated reaction function incorporates that a low unemployment rate can be tolerated for some time before being followed by any tightening action. In the case of the ECB, while the Strategic Review conclusions shall be formally communicated by September 2021, it is likely that patience and perseverance will be required as well, and that strong convictions on an inflation upside trend are necessary before embarking on a policy rates normalisation journey, convictions not seen so far in the ECB staff economic projections running up to 2023.<sup>3</sup>

**Fig. 4: Policy rates “pinned” for a long time**



Source: Macrobond, official policy rates, Federal Reserve, European Central Bank, Bank of England, Muzinich forecasts starts at end of December 2020.

*“Forward guidance on rates from Central Banks is unambiguous: policy rates are pinned where they are”*

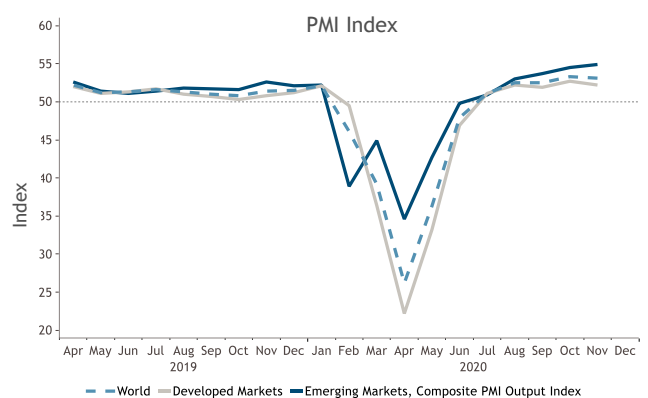
### The Steepness of Government Yield Curves to Absorb Inflation Expectations Changes

With stable policy rates, any changes in economic outlook, and their impact on inflation expectations, will likely be reflected in the steepness of the yield curve. On the other hand, the Central Banks won't be relaxed about any unwarranted tightening of real yields. So, they will very likely want to keep some control of the yield curve. There is a clear reluctance to formally express this that way - it would bind them too much to financing any fiscal deficit without control - but keeping the asset purchase programme active and flexible helps to reach the same results while keeping independence intact. For portfolio management, there is not much to expect from a strategic long positioning in duration as in 2020. In our view, the duration trade that helped in 2020 is likely to become much more tactical and opportunistic, in a long-term environment that will see long yields rising progressively, but not without volatility.

### Emerging Economies on the Recovery Path

China will likely show positive real GDP progression for 2020, unlike all other large economies. Its “first-in-first-out” trajectory after the pandemic is remarkable. Its manufacturing sector has been fully operational when other regions were still impaired by lockdowns, able to capture the restoration of the global cycle first, as soon as the second quarter of 2020. Moderate easing in monetary policy and targeted fiscal support were enough to manage the activity slump of the first half of the year. For this recovery to be sustained, a domestic demand dynamic shall complement the export sector dynamism. The recent data on PMIs and retail sales are encouraging in this context. We expect some fiscal support to be maintained in 2021 in this direction.

**Fig. 5 Emerging Markets are recovering well from the pandemic**



Source: Macrobond, Macrobond IHS Markit PMI, as of November 30<sup>th</sup>, 2020. Any figure above 50 suggests the economy is expanding, below 50 the economy is contracting.

*“The pandemic created a double shock for credit metrics: earnings destruction with the need to raise cash”*

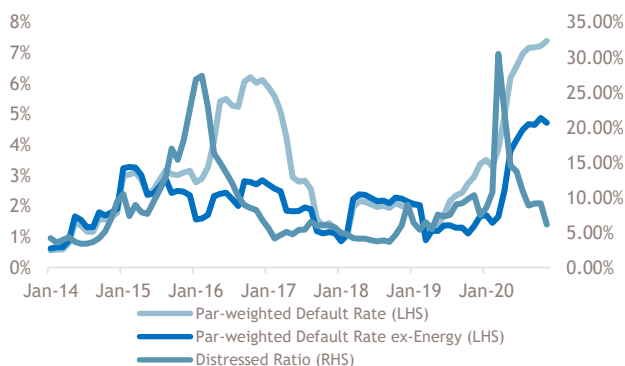
After a spectacular shut down in March, India’s economy has recovered progressively, despite the healthcare challenge. The manufacturing sector recovered very strongly in the third quarter, while the services sector surprised on the upside.

The reflation trade is also beneficial to Latin America. Commodities prices are back into a bullish cycle, which tend to help the region’s exporters. Improving terms in oil markets should also help the large state-owned energy corporations.

### Fundamentals on the Improving Slope

The severity of the pandemic created a double shock for credit metrics: an immediate earnings destruction followed by the need to raise cash to protect the balance sheet, to substitute for vanished earnings. As a result, the leverage ratio went up dramatically whilst the default risk also increased. Since then, the result of Muzinich’s bottom-up credit research led to a progressive and regular upgrade of our appreciation of corporate fundamentals on average, from very low levels in 1Q20 to close to neutral currently. The rise in default rate outside of the energy sector is likely to have peaked in 4Q20, in our view. We believe that this default cycle is not comparable to that in other crises, because the fiscal and monetary support has been remarkable, and efficient in maintaining banks credit flows to corporates open, or to allow them to access markets at affordable prices. With economic recovery underway, not only have earnings largely reversed the negative leverage ratio trend, but investors’ appetite for yields has sustained the demand for new issuance corporate bonds.

**Fig. 6: US Default Rates likely to have peaked in 4Q20**



Source: Bank of America, High Yield Credit Chartbook, as at end of November 2020. US High Yield par weighted default rate full market and ex-energy, distressed ratio US High Yield market.

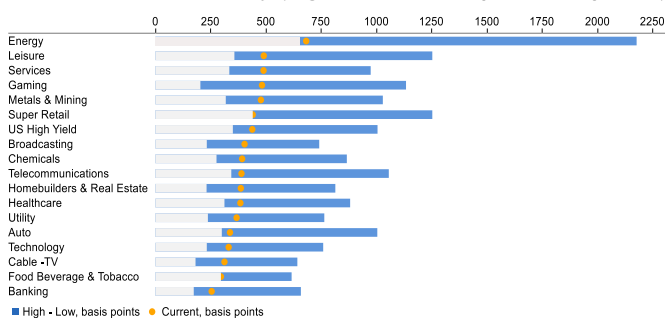
Looking forward, we believe it is unlikely that this precautionary cash in the balance sheet disappears quickly, financing M&A or share buy-backs. For corporates across the spectrum, generally speaking, it is a cheap insurance policy against the risk of sudden death, should the economic recovery disappoint expectations.

In addition, it should help to shift balance sheet management from defence to optimisation in comfortable financials conditions. Back to the leverage ratio, we recognize the current levels as elevated in aggregate, but are not particularly worried or impatient to see it being cut again, for the reasons stated above. As we believe rating agencies have a similar position, they are unlikely to downgrade corporates from this angle only. Prolonging this argument, we were not overly concerned by fallen angels after the 2Q20 wave and keep a constructive view on the matter for 2021.

Of course, such views are to be considered on average and do not include differentiation by sectors. While our investment approach favoured “work-from-home” and defensive sectors for most of the first half of 2020, the value created in sectors most affected by the pandemic opened opportunities during summer time, and we are carefully rotating global portfolios to ‘reopening’ sectors in global credit, such as autos and energy, with attention to the individual balance sheet’s strengths and weaknesses.

The vaccine deployment in 2021 encourages such rotation to go further, given the reduction in cyclical risks. We are however cognizant of the current virus circulation in developed economies and, the US specifically, raises short-term risks that cannot be ignored and require cautious stock selection and smart timing.

**Fig. 7: Still value in rotation into US HY “reopening” sectors after last few months’ recovery (High-Low-Current Spreads in bps YTD)**



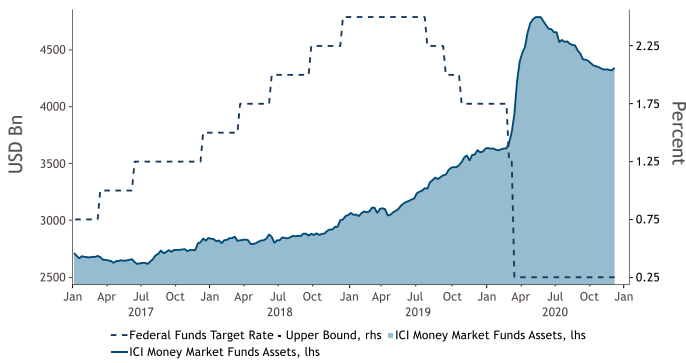
Source: Macrobond, ICE Bank of America, High-lows and current spread to worst in basis points, between January 1<sup>st</sup>, 2020 and November 30<sup>th</sup>, 2020, US High Yield index (ICE BAML H0A0 index) by sector composition.

Regarding emerging corporates, we have stressed several times that emerging corporates entered the crisis with a more positive leverage dynamic than their US or Euro corporate counterparts. Of course, they suffered a very similar earnings destruction phenomenon, but given the above, less demand on earnings growth is required in 2021 to compensate for the 2020 extra leverage.

### Technical Factors Should Support Further Spreads Compression

The supply/demand dynamic was everything but predictable in 2020. The Covid-19 crisis pressured corporates to raise precautionary cash, to protect from rating downgrades. In our view there will be less need for such a move in 2021, but very favourable borrowing conditions will likely prevail. Net negative rating migration from IG to HY has been a significant source of supply in the HY space. Such net change amounted to US\$190 bn in the US credit market in 2020, for an equivalent amount of EUR 60 bn in Euro credit market. It is expected to be much less remarkable in 2021, with net addition of US\$30 bn in the US and EUR 20 bn in Euro credit markets.<sup>4</sup>

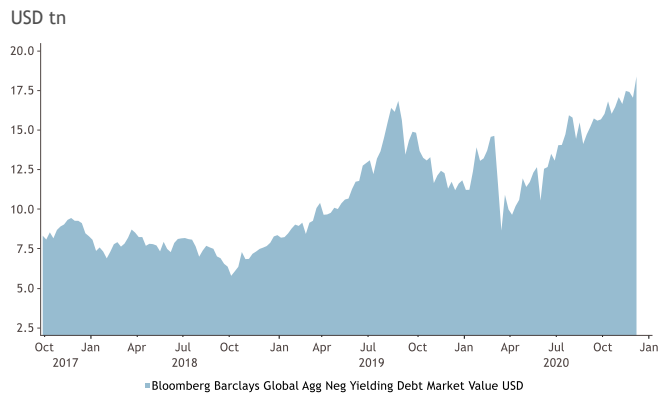
**Fig. 8: Large amount of risk-averse cash to be put at work in 2021 (US Money Market Funds assets and Fed Funds rates)**



Source: Macrobond, ICI, from January 1<sup>st</sup>, 2017 to Decemeber 13<sup>th</sup>, 2020.

With less net issuance, rising demand could compress credit spreads further. The roll-out of vaccines is changing the economic outlook, but it is much too early and uncertain for policy supports to be removed. Left tail risks are therefore diminishing notably.<sup>5</sup> We expect overall risk appetite to be on average significantly higher next year, which should translate to a higher allocation to High Yield amid better cyclical prospects. We noted that the pandemic has led investors to maintain high cash or very low risk exposure in their portfolio, which constitutes in our view an immense reservoir of risk capacity for next year.

**Fig. 9: US\$18 tn of assets yielding negative in December 2020 (\$ tn)**



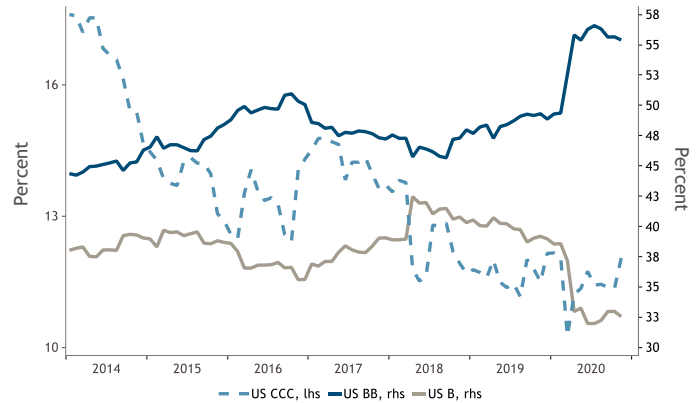
Source: Bloomberg Barclays negative yielding outstanding, in USD, as of December 13<sup>th</sup>, 2020.

In our view the search for yield will be all the more important, and 2021 is not a year to remain uninvested. Part of the risk increase will be through cyclical asset classes like equities, but given current elevated valuations, balancing this with a credit portfolio makes sense. With more than US\$18 tn of fixed income assets trading at negative yield,<sup>6</sup> the options are to go very long in duration or absorb high credit risk. Given the tight spread in IG, building income or carry strategies will channel more liquidity in the High Yield segment, in our view.

To enhance portfolio yield, there are little options left but to go very long in duration or to absorb higher credit risk. Flows in 2020 very much favoured aggregate strategies and IG credit due to cyclical risk aversion. Given economic recovery on track next year and the tight spread in IG, building income or carry strategies will likely channel more liquidity in the HY segment, in our view.

It is interesting to note that the US HY market has seen the share of BB jumping from 48% to 55% of the total US HY outstanding,<sup>7</sup> as a combination of fallen angels and new issuance. An additional feature of 2020 new issuance has been the remarkable rise in secured debt in the HY space, mostly in this BB segment.<sup>8</sup> It is also a smart way to rotate portfolios to sectors hardly affected by the pandemic, where secured bonds are being issued. The outstanding pool of such a debt structure is large and liquid enough to attract investors. We believe that this provides an opportunity for IG/crossover buyers to improve carry from low yielding IG bonds while still maintaining some credit risk protection that secured debt offers.

**Fig. 10: The share of BB has jumped to 55% of US HY market outstanding amid fallen angels and busy primary market**



Source: Macrobond, ICE BAML indices, as of December 15<sup>th</sup>, 2020. US High Yield Market and sub rating components (H0A0, H0A1, H0A2, H0A3 respectively all ratings, BB, B, CCC rated companies)

### Valuations: From Tight to ... Tighter

The year-end rally after the confirmation of the vaccine availability and efficacy were confirmed has been phenomenal. Credit spreads have compressed almost back to January levels. In yields terms, US HY touched new historic lows, while Euro and EM HY yields are little distance away from 2018 lows.<sup>9</sup>

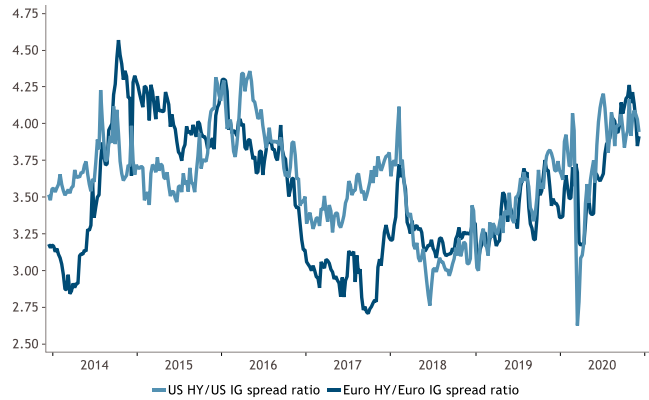
Short term quantitative measures (Z-score 6 months) are pointing to spreads entering expensive territory after the speed of the compression in the last quarter, but, in our view, longer term horizon provides potential for further compression of spreads in 2021.

When assessing the potential for each credit asset class to perform next year, total returns prospects for IG are very closely linked to yield direction, particularly in the US. The massive new issuance in 2020 has accelerated the increase in the average duration in US IG market, to beyond 8 years.<sup>10</sup> While all rating categories have seen an increase in duration, the BBB segment, now representing more than 50% of the US IG market, saw its average duration lengthening by more than half of a year over the past 12 months.<sup>11</sup>

*“Credit spreads have compressed almost back to January levels”*

The argument is less striking in the Euro market, with the average duration of the IG market rising by 0.3 years only in 2020 up to 5.3 years.<sup>12</sup> In addition, the ECB Corporate Purchase programme is a positive argument in favour of Euro IG versus US IG. We would expect the ECB to purchase an average of EUR 6 to 7 bn of corporate bonds monthly in 2021.<sup>13</sup> With net supply in EUR IG of approximately EUR 160 bn in 2021, of which EUR 100 bn in non-financials, ECB purchases could remove up to EUR 72-84 bn, leaving very little non-financials supply to absorb by private investors.<sup>14</sup>

**Fig. 11: Further compression potential between HY and IG spreads**



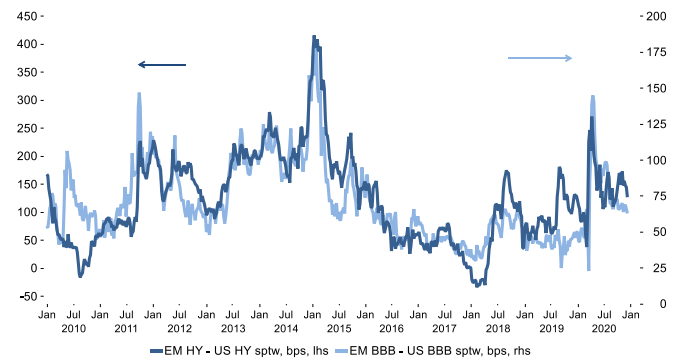
Source: Macrobond, ICE BAML indices, HOAO, COAO, HECO, ER00 as of December 11<sup>th</sup>, 2020. Weekly data.

The case for HY spread compression is very much linked to technical factors mentioned above regarding supply/demand. A key differentiator in 2021, we believe, is the higher risk tolerance in a multi asset credit portfolio, which shifts the allocation for more carry and less duration risk. Given the tight spreads in IG, a potential risk-adjusted return option goes through increasing the HY weighting and seeks to capture the step-up in yield with lower interest rates duration.

Investors may have legitimate questions about entry points at current valuations. We think, however, that further compression is possible, especially in relative value across credit quality. The recent rally has seen US HY performance outpacing US IG, but when considering the ratio of HY to IG, it still reflects levels seen in times of tension such as 2015 and we believe the compression trade has further to go. The first months of 2021 may look like the recovery seen in 2016, when the compression lasted several months in a falling yield environment. A similar observation is easily made on the Euro HY/IG market but with additional motivation to shift allocation to higher yielding assets: 45% of the Euro IG is yielding below zero at mid-December 2020!<sup>15</sup>

*“We think further compression is possible, especially in relative value across credit quality”*

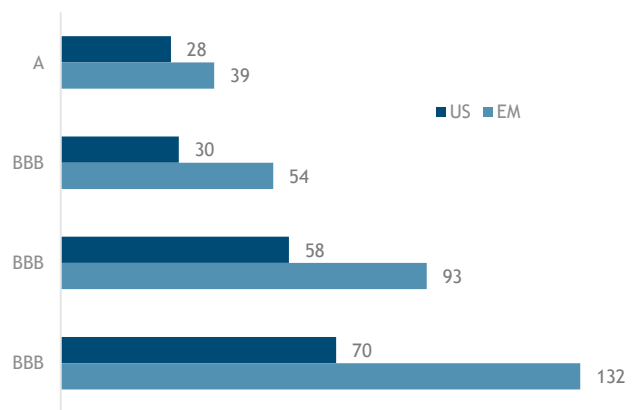
**Fig. 12: Emerging corporate spreads can offer value compared to US spreads**



Source: Macrobond, ICE BAML indices, HOAO, COAO, HECO, ER00 as of December 11<sup>th</sup>, 2020. Weekly data.

The emerging market (EM) premium has remained elevated in 2020 despite the rally since March 2020, and we believe is an opportunity to improve entry points into credit markets versus US or Euro domestic markets. Covid-19 was not an emerging crisis and did not trigger extra external financing issues. This allows emerging economies to recover at same or faster pace than developed economies. The current premium in EM spreads, IG as HY, has further compression potential in this context, and episodes such as 2010 or 2016/2017 demonstrates the capacity of these credit markets to outperform in global economic normalisation phases with no external financing risk. Relative to the US domestic market, the spread per turn of leverage is significantly higher for Emerging corporate debt and provides some margin regarding the point of entry in tight valuations otherwise. A weak USD regime offers a complacent environment for such trades in our view.

**Fig. 13: Emerging Corporate credit premium not fairly priced yet (Spread per turn of leverage, bps/X)**

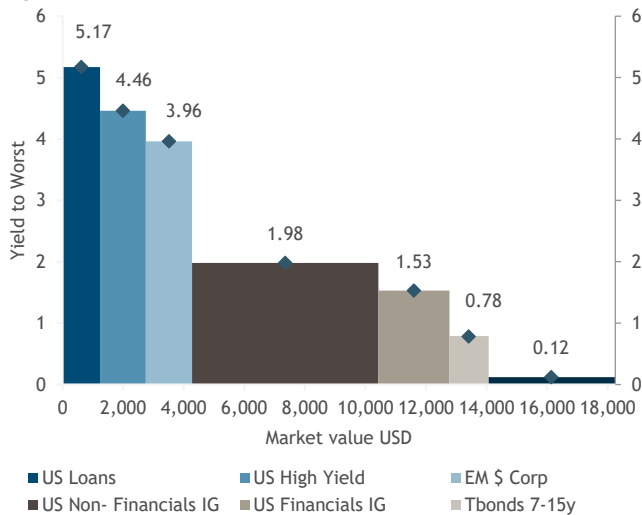


Source: Bank of America EM Corporate Credit Chartbook, as at end of November 2020.

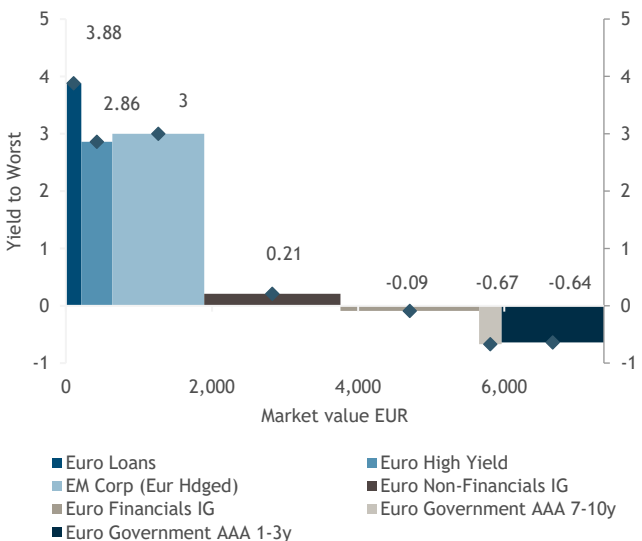
The last few months' rally in credit markets benefited bonds more than leveraged loans. The probable preference for liquidity put bonds on the first risk-taking wagon, with more convexity and catch-up potential. With close to 70%<sup>16</sup> of the HY market trading at call price or above, the search for yield of next year may consider the leveraged loans market as an attractive carry opportunity.

With a discount margin of close to 5% for US leveraged loans, 4.6% for European Loans, combined with a pull-to-par of potentially 2% to 3% for the US market and 1.5% for Euro market<sup>17</sup>, the return perspective in a carry environment for 2021 looks meaningfully more attractive than other segments of the High Yield markets. In our view two technical factors would strengthen the valuation argument. In both the USD and Euro market, CLO printing is expected to accelerate in 2021, after some slowing down in 2020.<sup>18</sup> Retail investors in the US have deserted the asset class for a couple of years, but we believe these flows could return in 2021 given the level of carry.

**Figs. 14 and 15: Yield per Corporate credit and Treasuries sub-segments**



Source: Credit Suisse Leveraged Loans Index USD, Western European Leveraged Loans Index non-USD denominated, ICE BAML indices, H0A0, HEC0, EMNF, CFOX, CF00, EN00, EF00, G402, G102, EG14, EG11, as of December 15<sup>th</sup>, 2020.



Source: Credit Suisse Leveraged Loans Index USD, Western European Leveraged Loans Index non-USD denominated, ICE BAML indices, H0A0, HEC0, EMNF, CFOX, CF00, EN00, EF00, G402, G102, EG14, EG11, as of December 15<sup>th</sup>, 2020.

*“We believe technical factors will support credit markets”*

**Conclusion**

The vaccines deployment acted as a “reset button” for credit markets, which can build a more stable perspective in the medium term. We are cognizant that some hurdles still exist in the short-term that will require a careful investment approach to navigate remaining volatility over the next couple of quarters. We believe, however, that technical factors will support credit markets, and will lead to further compression of credit spreads in the first half of 2021. In an environment where levels of yields have fallen back to very low levels in a formidable post-pandemic rally, we view the absolute need for yield as the most powerful engine for channelling risk-averse money of 2020 into high yielding assets. We need to walk in with eyes wide open when it comes to valuations, but we can be confident on further meaningful compression of spreads, before it becomes increasingly uncomfortable not to see interruption of such a trend.



- <sup>1</sup> IMF Fiscal Monitor, October 2020.
- <sup>2</sup> FOMC Members projections on Fed Fund rates, December 16<sup>th</sup>, 2020, European Central Banks President Lagarde press conference and ECB forecasts as of December 10<sup>th</sup>, 2020.
- <sup>3</sup> December ECB Staff economic projections released on December 10<sup>th</sup>, 2020.
- <sup>4</sup> Goldman Sachs, 2021 Global Credit Outlook: “Same direction, different magnitude” as of November 18<sup>th</sup>, 2020
- <sup>5</sup> Left-tail risks on a normally distributed curve
- <sup>6</sup> Bloomberg Barclays Negative Yielding Outstanding Index as of December 11<sup>th</sup>, 2020.
- <sup>7</sup> ICE BAML Indices, H0A0, H0A1 for BB between December 31<sup>st</sup>, 2019 and December 14<sup>th</sup>, 2020.
- <sup>8</sup> HY Yield Credit Chartbook, BofA, as of December 2<sup>nd</sup>, 2020.
- <sup>9</sup> ICE Bofa, US High Yield Index H0A0, HEC0 Euro High Yield Constrained index, EMHY Emerging Markets Liquid Corporate Plus Index.
- <sup>10</sup> ICE BofA COA0 US corporate Index, ICE BofA COA4 US BBB Corporate Index.
- <sup>11</sup> ICE BofA COA0 US corporate Index, ICE BofA COA4 US BBB Corporate Index.
- <sup>12</sup> ICE BAML Indices, Euro IG market ER00 index, as of December 14<sup>th</sup>, 2020.
- <sup>13</sup> JPMorgan European Credit Outlook & Strategy 2021: A Life less Extraordinary, as of November 17<sup>th</sup>, 2020.
- <sup>14</sup> JPMorgan 2021 Euro credit outlook.
- <sup>15</sup> HY Yield Credit Chartbook, BofA, as of December 2<sup>nd</sup>, 2020.
- <sup>16</sup> BofA High Yield Credit Chartbook as of December 2<sup>nd</sup>, 2020.
- <sup>17</sup> Credit Suisse Leverage Loans Index USD, as of December 11<sup>th</sup>, 2020.
- <sup>18</sup> Credit Suisse Credit strategy Daily (November recap) December 4<sup>th</sup>, 2020.

## Important Information

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## Index Descriptions

You cannot invest directly in an index, which also does not take into account trading commissions or costs. The volatility of indices may be materially different from the volatility performance of an account or fund.

**Bloomberg Barclays Global Aggregate Negative Yielding Debt Index** - The Bloomberg Barclays Global Aggregate Negative Yielding Debt Index measures the performance of approximately 2500 securities which currently carry negative yields. The index is unhedged and currently has an estimated market value of 11 trillion dollars in USD.

**H0A0** - The ICE BofA ML US High Yield Index tracks the performance of US dollar denominated below investment grade corporate debt publicly issued in the US domestic market. Qualifying securities must have a below investment grade rating (based on an average of Moody's, S&P and Fitch), at least 18 months to final maturity at the time of issuance, at least one year remaining term to final maturity as of the rebalancing date, a fixed coupon schedule and a minimum amount outstanding of \$250 million.

**H0A1** - The ICE BofA ML BB US High Yield Index is a subset of the ICE BofA ML US High Yield Index (H0A0) including all securities rated BB1 through BB3, inclusive.

**H0A2** - The ICE BofA ML single-B US High Yield Index is a subset of the ICE BofA ML US High Yield Index (H0A0) including all securities rated B1 through B3, inclusive.

**H0A3** - The ICE BofA ML CCC & Lower US High Yield Index is a subset of the ICE BofA ML US High Yield Index (H0A0) including all securities rated CCC1 or lower.

**C0A0** - The ICE BofA ML US Corporate Index tracks the performance of US dollar denominated investment grade corporate debt publicly issued in the US domestic market. Qualifying securities must have an investment grade rating (based on an average of Moody's, S&P and Fitch), at least 18 months to final maturity at the time of issuance, at least one year remaining term to final maturity as of the rebalancing date, a fixed coupon schedule and a minimum amount outstanding of \$250 million.

**C0A4** - The ICE BofA ML BBB US Corporate Index is a subset of the ICE BofA ML US Corporate Index (C0A0) including all securities rated BBB1 through BBB3, inclusive.

**CSELLI** - CS Leveraged Loan Index - The CS Leveraged Loan Index is designed to mirror the investable universe of US dollar denominated leveraged loan market. The index is rebalanced monthly on the last business day of the month instead of daily. Qualifying loans must have a minimum outstanding balance of \$100 million for all facilities except TL A facilities (TL A facilities need a minimum outstanding balance of \$1 billion), issuers domiciled in developed countries, at least one-year long tenor, be rated "5B" or lower, fully funded and priced by a third party vendor at month-end.

**ER00** - The ICE BofA ML Euro Corporate Index tracks the performance of EUR denominated investment grade corporate debt publicly issued in the eurobond or Euro member domestic markets. Qualifying securities must have an investment grade rating (based on an average of Moody's, S&P and Fitch), at least 18 months to final maturity at the time of issuance, at least one year remaining term to final maturity, a fixed coupon schedule and a minimum amount outstanding of EUR 250 million.

**HEC0** - The ICE BofA ML Euro High Yield Constrained Index contains all securities in the ICE BofA ML Euro High Yield Index (HE00) but caps issuance exposure at 3%.

**EM2R** - The ICE BofA ML BBB US Emerging Markets Liquid Corporate Plus Index is a subset of the ICE BofA ML US Emerging Markets Liquid Corporate Plus Index (EMCL) including all securities rated BBB1 through BBB3, inclusive.

EMNF - ICE BofA Non-Financial us Emerging Markets Liquid Corporate Plus Index is a subset of The ICE BofA US Emerging Markets Liquid Corporate Plus Index excluding all Financial securities as well as debt of corporate issuers designated as government owned or controlled by ICE BofA emerging markets credit research.

CF0X - ICE BofA US Non-Financial Index tracks the performance of non-financial US dollar denominated investment grade corporate debt publicly issued in the US domestic market.

CF00 - ICE BofA US Financial Index is a subset of ICE BofA US Corporate Index including all securities of Financial issuers.

EN00 - The ICE BofA ML Euro Non-Financial Index tracks the performance of non-financial EUR denominated investment grade corporate debt publicly issued in the Eurobond or Euro member domestic markets. Qualifying securities must have an investment grade rating (based on an average of Moody's, S&P and Fitch), at least 18 months to final maturity at the time of issuance, at least one year remaining term to final maturity as of the rebalancing date, a fixed coupon schedule and a minimum amount outstanding of EUR 250 million

EF00 - ICE BofA Euro Financial Corporate & Pfandbrief Index tracks the performance of EUR denominated investment grade pfandbrief and non-pfandbrief financial corporate debt publicly issued in the Eurobond or Euro member domestic markets.

G402 - The ICE BofA ML 7-10 Year US Treasury Index is a subset of the ICE BofA ML US Treasury Index (GOQ0) including all securities with a remaining term to final maturity greater than or equal to 7 years and less than 10 years.

G102 - ICE BofA 1-3 Year US Treasury Index is a subset of ICE BofA US Treasury Index including all securities with a remaining term to final maturity less than 3 years.

EG14 - ICE BofA 7-10 Year AAA Euro Government Index is a subset of ICE BofA Euro Government Index including all securities with a remaining term to final maturity greater than or equal to 7 years and less than 10 years and rated AAA.

EG11 - ICE BofA 1-3 Year AAA Euro Government Index is a subset of ICE BofA Euro Government Index including all securities with a remaining term to final maturity less than 3 years and rated AAA.