

# Global Fixed Income Strategy

## Invesco Fixed Income

June 30, 2020



### Contents

- 1 Global Investors' Summit-Macro Overview
- 5 Interest Rate Outlook
- 6 Currency Outlook
- 7 Global Investment Themes
- 9 ESG in Fixed Income - From Niche to Mainstream
- 11 The Bottom Line: Fixed Income Liquidity - What Did We Learn From the Covid-19 Crisis?

### Contributors

**Turgut Kisinbay**  
Director Fixed Income Research

**James Ong**  
Director Derivative Portfolio Management

**Gareth Isaac**  
Head of Multi-Sector Portfolio Management

**Yi Hu**  
Head of Asia Credit Research

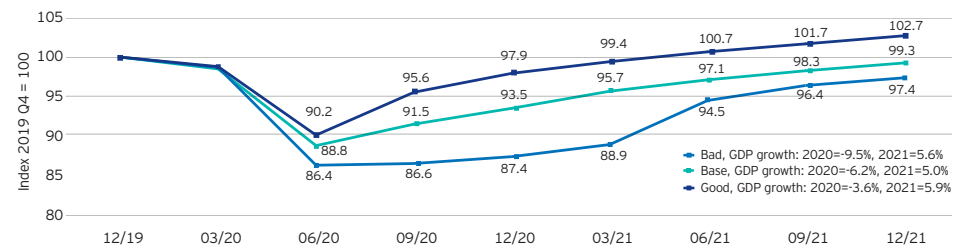
## Global Investors' Summit - Macro Overview

The June IFI Global Investors' Summit gathered virtually this year, bringing together IFI investors and analysts with our distribution partners and, for the first time, clients. We discussed our outlook for key economies and the major developments currently driving markets. Below are our key conclusions.

### US

At the beginning of the Covid-19 crisis, uncertainty about the economy, business and household behavior and the path of the virus prompted us to develop a three-scenario framework to forecast future growth trends. Newly available data show that actual outcomes are tracking most closely to our base case, which assumes a 6.2% year-over-year contraction in 2020 (Exhibit 1). Our base case assumes a recovery beginning in June, followed by improvement in the third quarter and onwards. The health assumption behind this forecast is that states are generally able to re-open their economies and a widespread second outbreak does not occur in the fall. The forecast takes into account the potential for contained local outbreaks, but assumes that we do not return to the lockdowns experienced in the first stage of the crisis in March and April.

### Exhibit 1: US Growth - Three Scenarios



Source: Invesco. Data as of June 15, 2020.

As the US economy opens, our base case assumes a sharp recovery as we reopen and emerge from the deepest economic contraction in recent memory. However, after the initial sharp recovery, we expect to see more difficulty returning to pre-crisis levels of activity, especially in the service sector. As shown in Exhibit 1, our base case does not expect a return to 2019 economic activity until the end of 2021.

In our bull case, we assume a better health response, some treatment options, and perhaps a vaccine on the horizon allowing for economic activity to resume to 2019 activity levels by the middle of next year. The bear case assumes second outbreaks that leave local economies unable to open up, putting the recovery much later into next year and, even if there is a vaccine at some point next year, keeping economic activity very subdued until then.

This document is for Qualified Investors in Switzerland, Professional Clients only in Dubai, Jersey, Guernsey, the Isle of Man, Ireland, Continental Europe (as defined in the important information at the end) and the UK; for Institutional Investors only in the United States and Australia; in New Zealand for wholesale investors (as defined in the Financial Markets Conduct Act); for Professional Investors in Hong Kong; for Qualified Institutional Investors in Japan; in Taiwan for Qualified Institutions/Sophisticated Investors; in Singapore for Institutional/Accredited Investors; for Qualified Institutional Investors and/or certain specific institutional investors in Thailand; in Canada, this document is restricted to Accredited Investors as defined under National Instrument 45-106. It is not intended for and should not be distributed to, or relied upon by, the public or retail investors. Please do not redistribute this document.

**Where are we now?**

To best track the US economy through the pandemic, we highlight the importance of new alternative forms of high frequency data in addition to standard economic information like unemployment and manufacturing data. Mobility data collected by Apple and Google, for example, suggest that the economy bottomed in mid-April and that we are generally following our base case scenario.

We believe the current recession differs from past recessions which have typically resulted from an overheating of the economy, overindebtedness and/or inflation. Because banks are now well-capitalized and we have seen a decade of private sector deleveraging, we are more optimistic about the prospects for recovery and growth as we emerge from the pandemic. The massive US fiscal stimulus on the order of 6%-7% of GDP, in addition to loan guarantees and a rapid and massive monetary policy response, also bode well for stabilization.

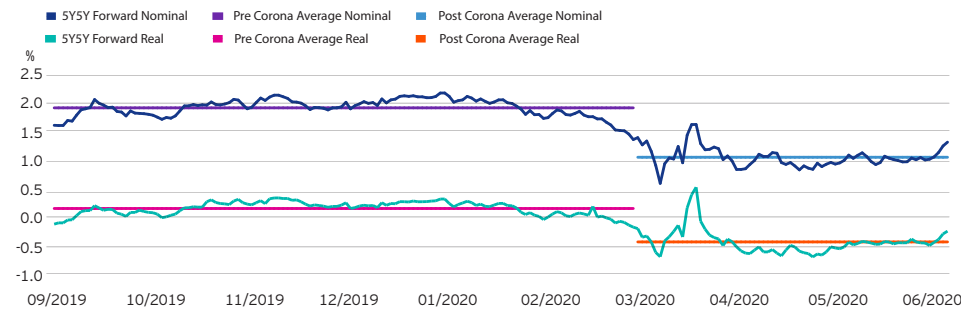
So far, the US Federal Reserve (Fed) has focused on repairing the financial markets and ensuring sufficient liquidity in the system, which we believe has been largely successful. In September, we expect a greater focus on the macro economy and an extension of quantitative easing. We expect USD100-USD150 billion in purchases a month with the duration of purchases linked to inflation and growth/unemployment outcomes. We do not expect interest rate hikes for at least two-to-three years.

**Interest rate outlook**

Uncertainty around macro fundamentals is high but longer-term forward interest rates provide an indication of market expectations. Five-year, five-year forwards currently indicate an 85 basis point decline in nominal rates and a 60 basis point decline in real rates as a result of the Covid-19 crisis (Exhibit 2). To determine a fair value for longer-term interest rates, we also consider the potential increase in Treasury supply required to finance Covid-19 related fiscal measures and the increased attractiveness of hedged assets to non-US investors as US interest rates have dropped to zero.

**Exhibit 2: US Rates: What Is Priced In?**

**Changes in Forwards**



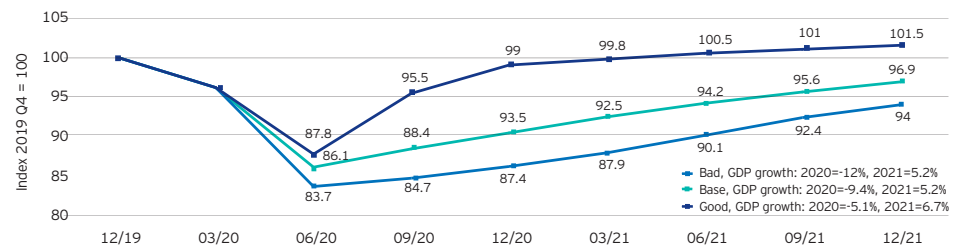
Source: Bloomberg L.P., data from Sept. 2, 2019 to June 5, 2020.

Under the macro base case and these technical considerations, we expect the trading range of the 10-year US Treasury yield to be 0.50% to 1.25% in the near-to-medium term. We favor the high-carry, high-roll parts of the yield curve, namely the five- to seven-year segment of the yield curve. We favor avoiding the long end of the yield curve unless valuations trade toward the cheaper end of our trading range. Of course, uncertainty over fundamentals is significant and if, for example, we end up closer to the bear case, the fair value of the 10-year yield would likely be much lower.

**Eurozone**

Our baseline growth scenario for Europe is a 9.4% contraction in economic activity in 2020, representing a deeper recession than the US and a later recovery. Europe was hit with the pandemic earlier than the US and some of its economies suffered more severe lockdowns. It enjoys less policy space overall and is more reliant than the US on exports and global growth, which are slowing.

**Exhibit 3: Eurozone Growth**

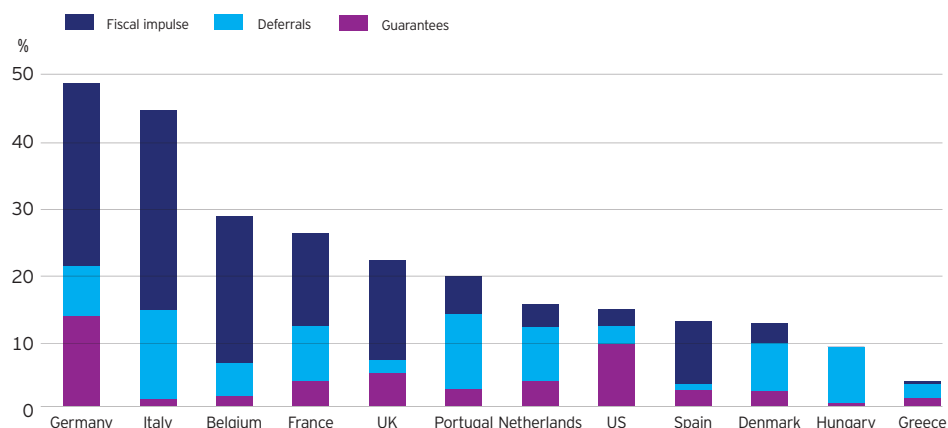


Source: Invesco, data as of June 15, 2020.

### Unique policy response

Relative to past crises, the euro area policy response to the pandemic has been substantial, at around 4% of GDP (Exhibit 4) and has been mobilized more quickly. Signs that Europe has considered moving toward greater fiscal integration have been encouraging. Three major policy responses include fiscal expansion by national governments, the European Central Bank (ECB) bond purchase program and the EUR750 billion European Union Recovery Plan that would channel investment to support people and businesses amid the pandemic. A key feature of the proposed Recovery Plan is EUR500 billion to be distributed as grants skewed toward the countries that have been most affected by the pandemic, irrespective of their budget contributions. In the case of the bond purchase program, the ECB over-delivered, surprising markets and sending a strong signal that ECB President Christine Lagarde, like her predecessor, Mario Draghi, is willing to do whatever it takes to stabilize the euro area.

#### Exhibit 4: European Policy Response Has Been Substantial



Source: Bruegel Data Sets, Invesco. Assessment as of June 5, 2020. Fiscal impulse refers to direct, discretionary fiscal spending (aside from automatic stabilizers). Deferrals refer to permitted delays in tax filings and payments and other public service fees. Guarantees refers to loan guarantees and related vehicles.

With eurozone inflation set to measure around 1.6% in 2020, below the ECB's inflation target of 2%, we would expect the ECB to do more in the way of policy in the coming months and quarters, especially as local governments face growing budget deficits. We expect the ECB sovereign bond purchase program to absorb most of the new government debt issuance and potential additional issuance through 2020 and 2021, allowing countries to run higher budget deficits over this period.

We believe the ECB's bond purchase program and the European Union's coordinated Recovery Plan are very positive steps forward, showing solidarity within Europe and a recognition that the richest states, such as Germany, which will likely rebound the quickest, should help other states that have not performed well. In terms of market implications, these measures should serve as a backstop for governments to be able to issue debt as needed to be able to support their economies. Peripheral and semi-core government bond spreads have rallied in recent weeks. We believe we have reached generally fair value levels while we wait to hear the final details of the European Recovery Plan. If the Plan size materializes at EUR750 billion and is designed as currently under discussion within the EU, we believe spreads could be pressured lower.

### China

China's recovery from the pandemic has been uneven across sectors. April data show that autos and the cosmetic sector are recovering nicely, possibly helped by the back-to-work process. So far, the 6.8% contraction in the first quarter and the recent recovery support our base case forecast of 2% growth in 2020, with industrial sectors rebounding and retail lagging.

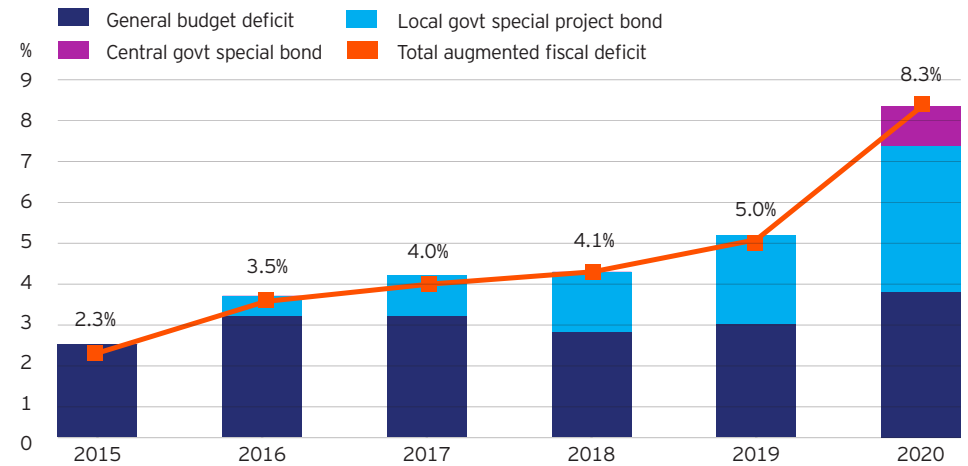
To achieve a 2% growth rate, we expect fiscal policy to play a more proactive role in the year ahead. During the National People's Congress (NPC) meeting, an augmented fiscal deficit was announced, including general and special central and local government bonds, in the amount of 8.3% of nominal GDP in 2020, compared to 5% in 2019 and 4.1% in 2018 (Exhibit 5). We expect infrastructure spending to be the area of focus in the 2020 fiscal year. Infrastructure investment is expected to increase by 10% in FY2020, versus a drop of 10% year-to-date (Exhibit 6).

1 Source: [https://www.climatebonds.net/files/reports/2019\\_annual\\_highlights-final.pdf](https://www.climatebonds.net/files/reports/2019_annual_highlights-final.pdf), Feb. 2020.

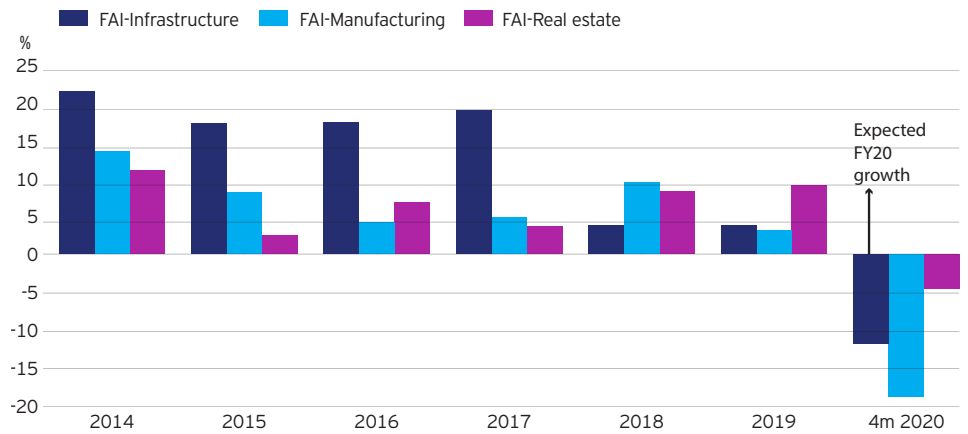
2 Source: <https://www.brecorder.com/2020/01/20/563003/green-bond-issuance-hit-record-255-billion-last-year/>, Jan. 20, 2020.

3 Green Bonds were included in accordance with the minimum size requirements of the ICE BofA Green Bond Index benchmark definition.

4 Sources: BofA Green Bond Index, ICE BofA Asian Corporate Bond Index, data from March 1, 2020 to April 30, 2020.

**Exhibit 5: China Augmented Fiscal Deficit (as % of GDP)**

Source: Citics, NBS, State Council, Invesco, data as of May 22, 2020.

**Exhibit 6: China Fixed Asset Investment Growth (% Change Year-Over-Year)**

Source: China NBS, Bloomberg L.P., Invesco, data as of May 22, 2020.

On the monetary side, the People's Bank of China (PBoC) has conducted a series of monetary easing measures this year in the form of rate cuts and open market operations. More notable, in our view, however, has been the emphasis on credit growth. Premier Li stated in the recent NPC meeting that total social financing growth will be significantly higher than in 2019. Credit growth has already picked up this year and we expect this trend to continue, supporting economic recovery and overall credit conditions. Investor concerns over government bond supply have led to some volatility in onshore government yields in recent months and there has been debate over the future course of monetary policy, including the possibility of yield curve control. A notable area of stability has been China's onshore credit market. The investment grade and high yield segments performed well during the crisis, with yields holding steady or falling, suggesting stable onshore credit conditions, compared to offshore yields, which spiked during the market selloff.

In early April, China released a set of reform guidelines focusing on land, labor, capital technology, and data, among other areas, to further improve productivity. New financial sector guidelines should ease international investors' access to Chinese bonds in China and also ease Chinese investors' access to overseas bond markets. Although further details are yet to be announced, it was encouraging to hear Premier Li emphasize that the more challenges China faces, the greater need to reform.

## Contributors

### Rob Waldner

Chief Strategist and Head of Macro Research

### James Ong

Director Derivative Portfolio Management

### Noelle Corum

Associate Portfolio Manager

### Gareth Isaac

Head of Multi-Sector Portfolio Management

### Yi Hu

Head of Asia Credit Research

### Michael Siviter

Senior Fixed Income Portfolio Manager

### Avi Hooper

Portfolio Manager

### Scott Case

Portfolio Manager

## Interest Rate Outlook

**US: Neutral.** US Treasury yields are likely to stay low for a significant period of time. The deflationary growth shock unleashed by the coronavirus has decreased the fair value yield of the 10-year US Treasury to near 1%, in our view. However, 10-year US Treasury yields are likely to trade below this level while the economy remains in the slow growth/low inflation regime caused by the virus. We expect the federal funds rate to stay near zero as well. US Treasury issuance in the long end may cause the yield curve to steepen in the 10 to 30-year portion of the curve. Undervalued inflation breakevens may benefit from Fed policy.

**Europe: Neutral.** The outlook for the European Union (EU) sovereign bond markets is a positive one. The European Central Bank's (ECB) announcement that it intends to increase the Pandemic Emergency Purchase Program (PEPP) by an additional EUR600 billion euro to EUR1.35 billion was taken as a sign of the ECB's commitment to maintain price stability in the region.<sup>1</sup> At the time of the announcement, the ECB also released its growth and inflation forecast out to 2022. Despite increased ECB support, inflation is still expected to remain below its 2% target, suggesting that we will see further increases to bond buying programs in the quarters and possibly years to come. Negative interest rates, a benevolent central bank and a meaningful recovery fund like the one that has been proposed by the EU should be supportive of both core rate and peripheral spreads in the coming months.

**China: Neutral.** Recent speeches by top PBoC officials surprised the market on the hawkish side. Market participants are closely watching how the PBoC will manage liquidity conditions as it issues special central government bonds and the calendar enters the second half of the year. The news of special bond issuance is expected to add pressure on bond market performance but if the amount issued causes market disruption, we think the PBoC will devise measures to smooth markets, including, but not limited to, window guidance and/or targeted reserve requirement ratio cuts. The current yield pick-up of China onshore rates versus developed market government bonds has reached a multi-year high. We believe this could present interesting opportunities for international investors.

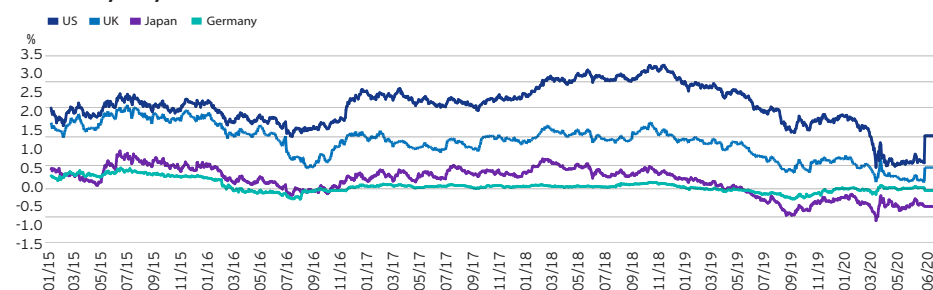
**Japan: Neutral.** Japanese government bond yields have been rangebound over the last month, with little change in BoJ policy or international yields to shift their direction. Going forward, increased supply from July onward due to additional fiscal stimulus, coupled with better global growth sentiment, should lead to some upward pressure on yields, especially at the long end of the yield curve. However, Japanese government bond yields did not really participate in the global bond rally over the last six months and hence have little room to sell-off, leaving real yields relatively attractive compared to global rates, in our view.

**UK: Underweight.** The fact that the Bank of England (BoE) has purchased significantly more than the increase in gilt supply since March has been the key dynamic pushing down gilt yields on an absolute and relative basis. As a consequence, the decision of the BoE to taper quantitative easing (QE) beginning in July should pressure gilt yields higher going forward, as UK and global growth gradually improve. Despite BoE comments that it is studying negative rates, the better growth outlook and reluctance of some Monetary Policy Committee members to even extend QE, suggests that the bar to cut rates is relatively high. We believe 10-year gilt yields are more likely to go higher from here.

**Canada: Overweight.** Canada has taken a more defensive approach to re-opening its economy to limit the virus spread. Subsequently, economic growth will likely be slow to rebound and inflation pressure will likely continue to remain subdued. Fiscal policy spending programs and monetary policy quantitative easing should provide stabilizing support until activity returns to normal. Against this backdrop, we expect demand for fixed income to remain strong, both domestically and from foreign investors.

**Australia: Underweight.** Current valuations leave little room for lower yields, given that the Reserve Bank of Australia (RBA) likely will not cut rates further and any growth weakness will probably be met with additional fiscal stimulus. Growth is recovering and financial conditions are easy, increasing the likelihood that the curve will re-steepen, given the absence of RBA purchases at current yield levels. However, it appears unlikely that 10-year rates will trade substantially above 1.2%, as the RBA is unlikely to revise its 0.25% target for the three-year bond in the near future.

### Global 10-year yields



Source: Bloomberg L.P., Jan. 2, 2015 to June 26, 2020. Past performance is not indicative of future results.

<sup>1</sup> Source: European Central Bank, June 4, 2020.

## Contributors

### Rob Waldner

Chief Strategist and Head of Macro Research

### James Ong

Director Derivative Portfolio Management

### Noelle Corum

Associate Portfolio Manager

### Gareth Isaac

Head of Multi-Sector Portfolio Management

### Yi Hu

Head of Asia Credit Research

### Michael Siviter

Senior Fixed Income Portfolio Manager

### Avi Hooper

Portfolio Manager

### Scott Case

Portfolio Manager

## Currency Outlook

**USD: Neutral.** We remain neutral the US dollar versus emerging and developed market currencies. The US dollar will likely benefit from a global flight to quality if the “second wave” of the pandemic worsens. Over the longer term, we expect the US dollar to soften versus emerging and developed market currencies, driven by compression in interest rate differentials and low real interest rates.

**EUR: Neutral.** We expect the euro to be rangebound while we wait and see whether the European economy can reopen in a meaningful manner. Over the longer term, we expect a weaker outlook for the US dollar, which should benefit the euro. On a cross market basis, we expect the euro to outperform sterling against the backdrop of an impending Brexit.

**RMB: Neutral.** The renminbi-US dollar exchange rate has been hovering around 7.05-7.10 in recent weeks on the back of a weaker US dollar versus major currencies and the relative lack of headlines related to US-China relations.<sup>1</sup> As China has swiftly contained the coronavirus outbreak with a significantly reduced number of new cases, we see room for China's assets, including the renminbi to outperform. In the medium term, we see room for the renminbi to trade down to 6.7-6.8; however, in the near term, it may continue to trade in the range of 6.90-7.15, given the uncertainty over developments in the US-China relationship and global market sentiment.

**JPY: Overweight.** The yen has appreciated modestly versus the US dollar but depreciated against the euro over the last month, reflecting better sentiment about European fiscal and monetary coordination. Going forward, better global growth sentiment and higher G10 bond yields could be a headwind for the yen. However, reduced Japanese capital outflows, US dollar funding demand and an increased incentive to currency hedge foreign investments, especially US dollar assets, will likely support the yen, particularly if risk sentiment turns negative. At current valuations, we believe the yen is therefore an attractive hedge for risk assets.

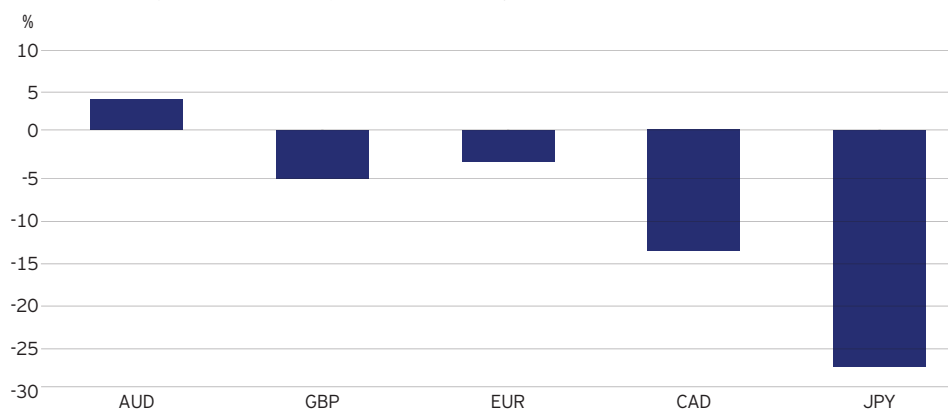
**GBP: Underweight.** Brexit negotiations are now entering a critical period, with the EU setting Oct. 31 as a deadline for reaching an agreement and Boris Johnson setting July 31 as a soft deadline for progress. Although a limited free trade agreement covering goods appears to be the most likely outcome, the market does not appear to be pricing a significant risk premium for a No Deal outcome. Furthermore, it is probably underappreciated that such a free trade agreement will likely not be much better than a No Deal exit, as it will not cover services and still involves considerable red tape for goods trade, due to the requirement for customs declarations and proof of origin documentation.

Away from Brexit, the UK economy appears unlikely to be an outperformer, with the lockdown proceeding relatively slowly and slower progress being made in suppressing Covid-19 than some European peers. In addition, the UK's twin deficits (fiscal and current account) make it unlikely that sterling will rally substantially, especially in a world where capital flows might be more constrained and risk premia on UK assets do not appear unusually high.

**CAD: Neutral.** We expect the Canadian dollar to trade sideways in the near term. The global economy is expected to remain weak, which is pressuring Canadian export prices, but domestic demand has likewise collapsed, removing previous pressure on the external account. Relative yield differentials continue to attract inflows from global investors, providing a positive portfolio flow impact. Over the longer term, we believe Canada remains an attractive destination for business investment, which could be a future catalyst for the currency's direction.

**AUD: Neutral.** The Australian dollar trade-weighted index has appreciated by 4% in the last month.<sup>2</sup> It has now completely retraced the Covid-19 crisis selloff and sits at the same level as in late Dec. 2019. Although the move appears fundamentally justified by the rebound in Australia's terms of trade, beta to global risk sentiment, hawkish RBA and relative growth outperformance during the Covid-19 crisis, these tailwinds are now largely reflected in the price, in our view. In addition, positioning is now also more neutral, likely limiting further gains.

### Valuations of Major Currencies Compared to Purchasing Power Parity (PPP)



Source: Bloomberg L.P., Jan. 2, 2015 to June 26, 2020. Past performance is not indicative of future results.

<sup>1</sup> Source: Bloomberg L.P., June 1, 2020 to June 25, 2020.

<sup>2</sup> Source: Bloomberg L.P., May 25, 2020 to June 25, 2020.

This section highlights the key themes driving Invesco Fixed Income's global credit research process and views. Themes are updated based on evolving trends and expectations.

#### Contributors

##### Michael Hyman

CIO Global Investment Grade and Emerging Markets

##### Joe Portera

CIO High Yield and Multi-Sector Credit

##### Mario Clemente

Head of Structured Investments

## Global Investment Themes

### Asset class themes

**Investment grade (IG): Selectively and opportunistically adding risk where we stand to benefit from (i) Fed bond purchasing programs driving (ii) continued strong technical demand from global investors, in spite of (iii) record levels of new issue supply and (iv) material uncertainty of the degree of fundamental weakness stemming from the Covid-related macro slowdown.**

#### Rationale

Global economic activity has rebounded slightly from historically depressed levels following broad-based economic restrictions aimed at curbing the spread of Covid-19. Though the fundamental outlook remains a major uncertainty, investor focus has shifted to corporate liquidity positioning to weather the current downturn. In response to broad-based macro weakness, governments and central banks are providing unprecedented levels of monetary and fiscal stimulus that has both (i) absorbed the initial impact to risk assets yet (ii) continues to delay and somewhat obfuscate the fundamental deterioration to corporate operating performance and balance sheets. The Fed's bond purchasing programs announced on March 23 thawed an otherwise frozen new issue market in US corporates, paving the way for historic levels of issuance in April and May. While this issuance has alleviated pressure on both (i) corporate liquidity and (ii) the broader financial system, corporate leverage will undoubtedly rise, and fundamentals will likely remain materially weaker as companies work through Covid-related impacts over the ensuing quarters.

Offsetting record levels of new issuance and fundamental uncertainty, technical demand remains strong. The Fed announced an aggregate \$750 billion of targeted bond purchases spread across its Primary and Secondary programs. These programs are a clear message that the Fed has both the willingness and ability to support the orderly functioning of corporate bond markets as it pertains to the importance of a stable financial system. The Fed's announcement of bond market activities has resulted in massive inflows of capital into the corporate bond market and supported material spread tightening from levels not seen since the global financial crisis.

Having already eclipsed full-year 2019 levels, we expect the cadence of new bond issuance in the second half of 2020 to revert to a more normalized level. However, with the Fed continuing purchases in the secondary market and fund flows remaining a tailwind, the technical environment should remain supportive of overall corporate spreads and remains the core pillar of our constructive near-term outlook for US IG spread targets.

The outlook for corporate fundamentals continues to evolve, especially in sectors more exposed to Covid-related economic restrictions. With the Fed's support, the new issuance market has allowed even the most challenged sectors to raise liquidity, reducing pressure on the banking system and providing cover for a degree of patience from ratings agencies. However, downgrades to high yield continue to be a major concern for ratings sensitive investors. Accordingly spread dispersion within the index and among names most at risk of downgrade continues to persist, underscoring the necessity to remain selective in sector and security allocation.

Similarly in Europe, we feel technicals will remain the prevailing driver of European IG credit spread direction in the near-term. As such, our outlook is positive with (i) the ECB increasing its Pandemic Emergency Purchasing Programme ('PEPP') by a further EUR600 billion to a total of EUR1.35 trillion; the ECB are buying EUR10 billion of corporate bonds per month which equates to just over 1% of the eligible index, (ii) inflows into the asset class continue as investors 'follow the central banks' and (iii) we expect supply in the second half of 2020 to slow sequentially as the recent wave of liquidity-driven issuance tapers off.<sup>1</sup>

We also expect corporate fundamentals for European issuers to deteriorate as a result of Covid-related impacts, with the greatest pressure on industrial and cyclical firms alongside the leisure and travel industries. However, it is clear that companies are moving back toward 'early credit cycle' dynamics. This should be positive for bondholders as/when the macroeconomic backdrop improves and free cash flow generation is diverted to debt paydown at the expense of dividends and share buybacks. Bank balance sheets are much stronger versus 2008/2009, although loan loss provisioning will likely increase as the small and medium sized enterprise market feels the greatest pressure on funding lines. Dispersion within the asset class remains key and we would expect the next leg of any rally to be driven by further beta compression, continuing to favor subordinated financial paper issued by fundamentally strong 'core' European banks alongside selective corporate hybrid issuers.

#### IFI strategy

We prefer to selectively and opportunistically maintain overweight US and European IG credit exposure as global central bank support remains in place to combat a challenged near-term outlook for corporate fundamentals. While valuations have tightened materially following the announcement of fiscal and monetary policy support, an improving fundamental outlook could be buoyed by a supportive technical market backdrop. Key market drivers we are monitoring include 1) the potential for a moderation in new issue cadence (aka a slowing of supply) during the second half of the year, 2) recovering corporate fundamentals as global economies re-open, 3) continued market support from policy makers and 4) global management of the coronavirus which has direct impacts on consumer demand and behavior.

**US residential mortgage backed securities (US RMBS): Housing has been resilient though risks remain, creating value in higher quality RMBS**

#### Rationale

The recovery in housing fundamentals since the depths of the Covid-19 pandemic has been swift, though the ultimate impact remains uncertain. We believe that tight housing supply and resilient demand driven by low mortgage rates will limit downside in home prices. Meanwhile, strong underwriting, high levels of borrower

equity, and generous borrower relief programs should keep loan losses contained. US RMBS market technicals also recovered quickly following an intense but brief period of forced selling. Investor demand has outstripped primary and secondary market supply in recent weeks, driving credit spreads significantly tighter.

#### **IFI strategy**

We believe that higher rated classes in Fannie Mae and Freddie Mac credit risk transfer securities (CRT) are more attractive at current levels relative to lower rated classes given the recent outperformance of deeper credits. We also prefer investment grade classes from new issue Non-Qualified Mortgage Senior MBS transactions over similarly rated seasoned CRT securities. Finally, we believe senior classes from securitizations of newly originated prime mortgage loans offer a compelling alternative to Agency MBS at current valuations.

#### **US commercial mortgage backed securities (US CMBS): Market selloff and Fed intervention create opportunity in senior CMBS**

##### **Rationale**

We believe risk premiums have overshot in the recent Covid-19 related market sell-off, creating opportunities to capitalize on attractive risk-adjusted returns in senior non-agency CMBS.

The Covid-19 pandemic and related decline in economic activity has negatively impacted commercial real estate. Lodging and retail property markets have been the most impacted due to travel restrictions and a slowdown in retail activity. Looking ahead, we expect many tenants to continue to forego rent payments or seek relief.

Despite our expectations for fundamental weakness, we believe bonds at the top, or near the top, of the capital structure offer attractive value as they've been impacted by a lack of liquidity just as much as by heightened concerns regarding Covid-19. We believe the Fed's Term Asset-Backed Securities Loan Facility (TALF), along with improved economic activity, will likely eventually assist in creating renewed investor interest in these bonds.

##### **IFI strategy**

We believe attractive valuations, combined with Fed support and the substantial subordination available in CMBS, have helped to create attractive opportunities in senior CMBS.

#### **Sector themes**

##### **The US consumer: Monitoring the impact of Covid-19, fiscal policy**

##### **Rationale**

The consumer has transitioned from tailwind to headwind in the past few months as many services have shut down or reduced capacity to slow the spread of Covid-19. Travel, dining, personal care, entertainment, auto, and discretionary retail have all fallen materially, resulting in millions of layoffs and resulting economic hardships. While a recovery is inevitable, it will likely be slow and tenuous until a vaccine is approved or more effective treatment is discovered.

##### **IFI strategy**

We are focused on companies that are either positioned to continue to generate profits through the pandemic or have a balance sheet strong enough to ensure survival until demand recovers sufficiently to restore profitability. We still see value in homebuilding/home improvement, auto part retailers and travel focused on leisure.

##### **Commodities: Pandemic caused significant demand disruption, however, a rebound in economic activity and supportive government policies provide near term support.**

##### **Rationale**

Demand for commodities has weakened following the onset of the global Covid-19 pandemic, driven by declining manufacturing activities and oil inventory build-ups following the rapid and unanticipated contraction in global demand. However, after significant price declines in March and April, investor sentiment around commodities seems to have partially stabilized as prices have strengthened in recent weeks, reflecting (i) a strong rebound in China's industrial activities, (ii) the global implementation of supportive fiscal and monetary stimulus measures, and (iii) Covid-19 related supply disruptions and curtailments.

Issuers' shareholder-friendly capital allocation policies, including large dividend pay-outs and share repurchase programs, have rapidly shifted amid the pandemic toward balance sheet protection measures to protect credit profiles and credit ratings. However, lingering uncertainties about supply and demand for major commodities remain significant, given the unprecedented level of (i) demand disruption during the pandemic and (ii) consequent level of monetary and fiscal support to economies around the globe.

Geopolitical risk seems to have temporarily subsided somewhat, as the pandemic remains a key focus of political leaders and policymakers around the globe. However, political tension between China and the US, Iran's growing influence in the Middle East, and OPEC+'s energy policy will likely continue to influence commodity markets.

##### **IFI strategy**

We favor iron ore miners in the short term, as Brazilian supply disruption supports price increases. We are underweight the relatively rich Russian commodity complex, favor integrated Indian energy companies, some selective high beta emerging exploration and production companies which are free cash flow breakeven above USD40 per barrel and some South American metal miners.

We also remain constructive on hybrid issuances of European energy majors, certain US exploration and production companies with low-cost shale assets and US midstream companies focused on cost of capital optimization and active deleveraging to stabilize or maintain investment grade ratings. Finally, we favor South African gold miners that will quickly de-lever their balance sheets on near-record gold prices and weaker local currencies.



This section highlights the key themes driving Invesco Fixed Income's global credit research process and views. Themes are updated based on evolving trends and expectations.

#### Contributors

##### Robert Neilson

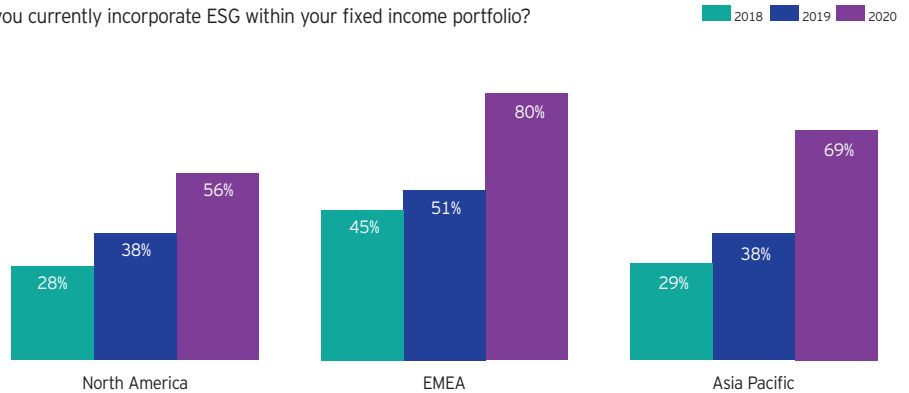
Head of EMEA Product Strategy and Solutions

## ESG in Fixed Income - From Niche to Mainstream

The Invesco 2020 Global Fixed Income Study provides hard evidence that a sea change has taken place over the last 18 months with respect to ESG in fixed income. The survey polled 159 fixed income professionals worldwide, accounting for around USD20 trillion of assets.<sup>1</sup> The Study shows significant and universal increases from 2019 to 2020 in terms of incorporation of ESG in fixed income (Exhibit 1).

#### Exhibit 1: Incorporate ESG in Fixed Income (% Citations, Global)

Do you currently incorporate ESG within your fixed income portfolio?

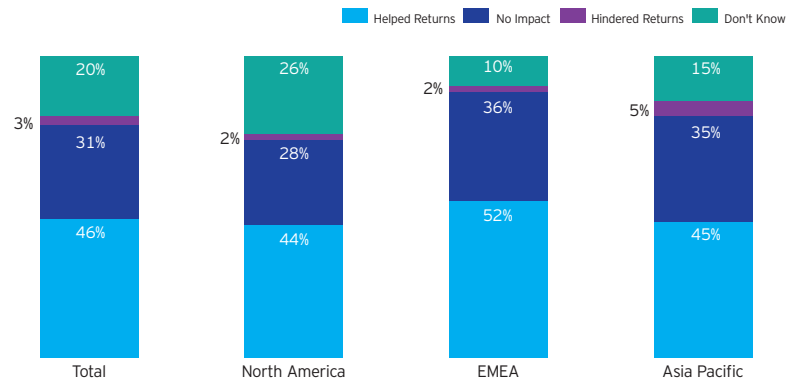


Source: Invesco Global Fixes Income Study, May 2020. EMEA is Europe, Middle East, Africa. Sample size: 2018=79, 2019=107, 2020=147.

A driving force has been, first and foremost, a sense of social responsibility. But a secondary driver that emerged from the 2020 Study is a sense that ESG could be return-enhancing and could have credit risk management elements to it as well. The Study found that, compared to 2019, there was no longer a view that adopting ESG in fixed income would necessarily hinder performance in portfolios. On the contrary, a majority of firms responded that they believed ESG had no impact relative to non-ESG based approaches, or actually helped returns. This was true across the major geographic regions (Exhibit 2).

#### Exhibit 2: ESG Is Now Broadly Viewed as Enhancing Rather Than Hindering Investment Returns

Has embedding ESG principals into your fixed income portfolio had any impact on returns?



Source: Invesco Global Fixes Income Study, May 2020. EMEA is Europe, Middle East, Africa. Sample size: Total=112, North America=43, EMEA=48, Asia Pacific=21.

In contrast to the 2019 Study which found that most investors had chosen not to purchase ESG-specific instruments, the 2020 Study showed that about half of the investors surveyed had invested in ESG-specific products or securities, and about 80% were intending to increase their allocations in the future.<sup>1</sup>

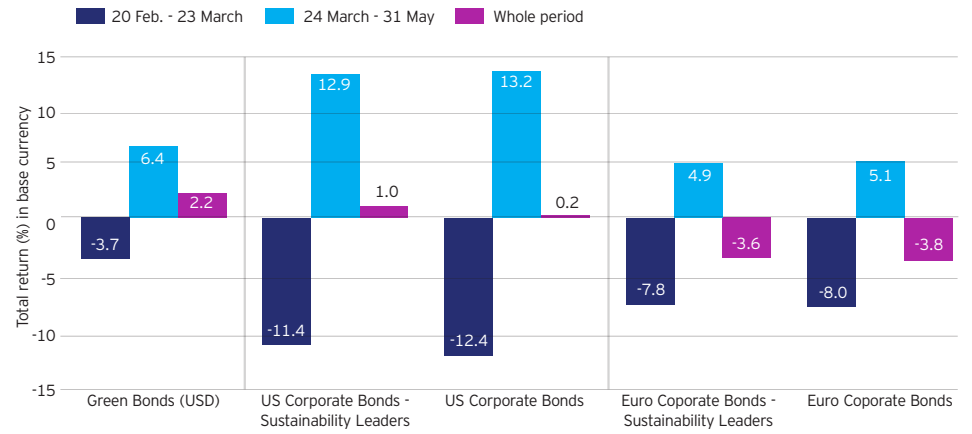
#### Green Bonds may offer resilience during market stress

Green Bonds are the leading vehicle for firms and clients seeking to implement exposure to ESG-specific securities. In terms of performance, how has this asset class done? More specifically, how has it performed through the Covid-19 crisis? We looked at the period from Feb. 20, when spreads began to widen, through March 23, when spreads eventually peaked, and then the recovery period through the end of May.

During the market selloff, we observed that Green Bonds demonstrated a smaller downside compared to other markets (Exhibit 3). There are structural reasons behind this result. Green Bonds tend to have a slightly higher credit quality bias, are shorter in tenor and are typically more weighted towards financials and utilities, the areas of the market that performed less poorly during the Covid-19 crisis. Conversely, they are not exposed to the energy and mining sectors, which were among the worst performing part of the market. On the other hand, the upside captured by Green Bonds as markets recovered was much less. Net-net, we believe this represents a positive overall picture for sustainable strategies through the crisis period.

<sup>1</sup> Source: Invesco Global Fixed Income Study, May 2020.

**Exhibit 3: ESG-Focused Indices Outperformed During the Pandemic Selloff But Compositional Differences May Explain This**



Source: Bloomberg Barclays, May 31, 2020. Feb. 2020 signifies the start of the spread widening period with index spreads peaking on March 23, 2020. Reference indices are the Bloomberg Barclays MSCI US Corporate Sustainability Index, Bloomberg Barclays US Aggregate Corporate Index, Barclays MSCI Euro Corporate Sustainability Index and the Bloomberg Barclays Euro Aggregate Corporate Index. **Past performance is not indicative of future results.**

## Contributors



**Laurie Brignac**  
CIO and Head of Global Liquidity



**Matt Brill**  
Head of US Investment Grade

## The Bottom Line

## Fixed Income Liquidity – What Did We Learn From the Covid-19 Crisis?

The Invesco 2020 Global Fixed Income Study and the conversations with 159 global investors late last year offered a common view that we were late in the economic cycle. Almost half of respondents felt that we were less than a year from the next downturn with credit spreads at extremely tight levels. Investors were concerned about liquidity but the survey also showed that, over the past two years, institutions have increased allocations to less liquid fixed income in their search for yield. The Study showed a 50% growth in assets allocated to real estate debt, bank loans, direct lending, high yield and emerging markets over the previous two years.<sup>1</sup> Then the pandemic arrived, and liquidity became challenged. We speak with Invesco Fixed Income portfolio managers Laurie Brignac and Matt Brill about their experiences managing liquidity during the March selloff.

### **Q: Were the markets any better prepared for a liquidity shock compared to 2008?**

**Laurie:** I think it's important to recognize how much reform went into effect after the 2008 global financial crisis. Many new regulations were put into place to make our financial system and banks more stable and able to withstand another financial crisis. This was really the first crisis that tested these new reforms. We think the regulators did a terrific job addressing problems quickly. But post-2008, the plumbing in the financial system has changed quite a bit, and that was part of the problem we faced in March. However, the authorities were also very effective in building on the programs of 2008 and changing them to make them work in 2020.

### **Q: One way to reduce the amount of liquidity needed in a crisis is to be prepared as much as possible. Many investors may have been allocating to less liquid assets. Can you tell us about your preparation as it became evident that the pandemic would have a significant impact?**

**Matt:** We have always favored keeping some excess liquidity for periods of volatility. One thing we aim to do is avoid being a forced seller. We believe if you can avoid being a forced seller, you can survive a crisis much more successfully.

So, we maintained a certain amount of US Treasuries and even high-quality corporates at our disposal, since the ability to sell them is better during periods of market stress. We also worked closely with our clients once volatility started to pick up. We asked them about their liquidity needs and the likelihood that they would withdraw a significant portion of their portfolios. As we became more comfortable with their plans, we were more confident that we didn't need to keep increasing liquidity. It was crucial staying in touch with clients and understanding the volume of withdrawals that we might be facing.

### **Q: Can you tell us how you prepare in general to maintain sufficient liquidity to withstand crises?**

**Laurie:** One of the reforms that went into effect after the global financial crisis was that the US Securities and Exchange Commission, for the first time, laid out minimum levels of liquidity that money market funds must hold. We are required to hold 10% of our portfolio in daily liquidity and no less than 30% in weekly liquidity. As money market funds, we are always going to have abundant liquidity naturally built into portfolios. But to Matt's point, discussions with clients are also critical. These are their funds, not our funds, so we always want to ensure that we have enough natural maturities to meet any redemptions they might have.

### **Q: In raising liquidity, how did you quickly distinguish between companies you needed to exit amid the market stress and companies that remained fundamentally strong?**

**Matt:** The first stage of our response centered on reducing beta and improving liquidity in our portfolios to guard against spread widening or potential outflows. The second stage centered around the potential for rating downgrades and major bond price declines. To guard against that, we relied on our credit research capabilities. We have a watch list at Invesco Fixed Income that includes every bond or company that we believe could be downgraded from investment grade to high yield. Our goal is to place issuers on this watch list well in advance of any credit trouble.

### **Q: Laurie, you had the opposite problem of a wall of cash hitting money market funds at the same time that short-term rates were plummeting. How, were you able to deploy these inflows, and in such a short period of time?**

**Laurie:** When you get inflows of over USD1 trillion in a matter of weeks, there is likely going to be a supply-demand mismatch in the front end of the curve.<sup>2</sup> Recall that in early March, the Fed was actively buying short-term US Treasuries, trying to inject more reserves into the market. Then with the outbreak of the crisis, a huge volume of money flowed into government money market funds in the span of two or three weeks. It created a massive imbalance with too many people chasing too few assets.

As a result, for the first time ever, we saw pervasive negative yields in the US Treasury bill market. Negative yields can occur occasionally, for example, at quarter-end, on one- and two-week bills, but they are typically temporary and isolated. Again, the authorities were very proactive. We provided feedback on the need to issue more US Treasury bills and the US Treasury was very responsive. We have seen US Treasury bills outstanding increase by over USD2 trillion since the end of February, so that was a welcome relief.<sup>3</sup> We are now seeing more normal rates at the front end of the curve.

<sup>1</sup> Source: Invesco 2020 Global Fixed Income Study, May 2020.

<sup>2</sup> Source: ICI data, Government money market flows from Feb. 29, 2020 to April 15, 2020

<sup>3</sup> Source: Sifma, data from Feb. 29, 2020 to May 31, 2020.

<sup>4</sup> Source: Invesco, Bloomberg L.P., data from March 31, 2020 to June 15, 2020.

**Q: Have you been able to take advantage of primary issuance and how has that gone?**

**Matt:** Our philosophy is that we want to turn one good trade into two. The first good trade raises liquidity, reduces the beta of the portfolio and avoids potential credit downgrades. But the second trade actually puts the money to work, since, over time, having too much liquidity can hurt returns. Liquidity is a help during stressed times, but we need to figure out when to get back into the market.

At a certain point, our clients gave us comfort that we no longer needed to maintain excessive liquidity. The best way to put it to work, in our view, was through the new issue market with large concessions. In the past few months, we have seen the largest amount of corporate issuance in US history in the investment grade market.<sup>4</sup> We favored the highest quality bonds at first, especially as the Fed announced that it would buy corporate bonds. In addition, liquidity for companies is important. Companies now enjoy much more liquidity thanks to government support, increasing their chances of survival. From that standpoint, we feel comfortable investing in the companies that we think are going to weather this downturn.

**Q: Can you share one thing you've learned through this crisis, in terms of liquidity?**

**Laurie:** Something we think is critical is the relationships we have with our counterparties. In terms of best execution and day-to-day operations, there is a natural prioritization. Obviously, we are fiduciaries first and foremost, but at the same time, we aim to be a good partner with traders and dealers and other market intermediaries. We think that is one of our strengths as a platform, and it definitely bore out in March.

**Matt:** Three key takeaways for me are, first, don't be a forced seller, second, be in front of individual credits and ahead of the market with strong fundamental research, and third, utilize the liquidity that is generated - in other words, turn one good trade into two. We believe we have passed the worst of the liquidity crisis. Obviously, we remain cautious and believe we will likely see volatile days ahead. But our belief is that we do not need excessive liquidity at the current time and that it is important to put the money to work to take advantage of this opportunity.

**Please read the Investment risk section at the end of this publication.**

## Invesco fixed income

---

### Team contributors

Senior Editor - Ann Ginsburg

---

#### Atlanta

**Rob Waldner**

Chief Strategist and Head of Macro Research

+1 404 439 4844

robert.waldner@invesco.com

**James Ong**

Director-Derivative Portfolio Management

+1 404 439 4762

james.ong@invesco.com

**Noelle Corum**

Associate Portfolio Manager

+1 404 439 4836

noelle.corum@invesco.com

**Avi Hooper**

Portfolio Manager

+1 404 439 4877

avi.hooper@invesco.com

**Scott Case**

Portfolio Manager

+1 404 439 4775

scott\_case@invesco.com

**Michael Hyman**

CIO, Global Investment Grade and Emerging Markets

+1 404 439 4827

michael.hyman@invesco.com

**Joseph Portera**

CIO, High Yield and Multi-Sector Credit

+1 404 439 4814

joseph.portera@invesco.com

**Mario Clemente**

Head of Structured Investments

+1 404 439 4614

mario.clemente@invesco.com

**Paul English**

Head of US IG Research

+1 404 439 4819

paul.english@invesco.com

**Laurie Brignac**

CIO, Head of Global Liquidity

+1 404 439 4799

laurie.brignac@invesco.com

**Matt Brill**

Head of US Investment Grade

+1 404 439 4829

matt.brill@invesco.com

**Ann Ginsburg**

Head of Thought Leadership, Fixed Income

+1 404 439 4860

ann.ginsburg@invesco.com

---

#### New York

**Turgut Kisinbay**

Director Fixed Income Research

+1 212 323 0460

turgut.kisinbay@invesco.com

---

## London

**Gareth Isaac**

Head of Multi-Sector Portfolio Management  
+44 20 7959 1699  
gareth.isaac@invesco.com

**Michael Siviter**

Senior Fixed Income Portfolio Manager  
+44 20 7034 3893  
michael.siviter@invesco.com

**Robert Neilson**

Head of EMEA Product Strategy and Solutions  
+44 20 3219 2705  
robert.neilson@invesco.com

---

## Hong Kong

**Yi Hu**

Head of Asia Credit Research  
+852 3128 6815  
yi.hu@invesco.com

**Recent IFI publications**

1. Asian Green Bonds May Offer Resilience Amid Market Volatility, June 22, 2020
2. China's Belt and Road Initiative in a Post-Pandemic World, June 15, 2020
3. US Municipals: A Tale of Two Markets and a Knight in Shining Armor, June 12, 2020
4. Negative Rates - Could It Happen in the US? June 11, 2020
5. Chinese Onshore Bonds: Understanding Policy Signals and Market Structure, June 5, 2020
6. Increasing Opportunity in Distressed Credit, May 15, 2020.
7. Market selloff and Fed Intervention Create Potential Opportunity in CMBS, May 8, 2020
8. Emerging Market Corporates: Maximizing Return in a Stressed Price Environment, May 5, 2020
9. Liquidity Event, Not a Credit Event - Yet, May 4, 2020
10. The Fed and ECB Stand Pat But Will Likely Shift To Longer-Term Stimulus in the Coming Months, May 4, 2020
11. Know Your Factors: A Case Study in Fixed Income Portfolio Analysis, April 27, 2020

### Investment risks

The value of investments and any income will fluctuate (this may partly be the result of exchange rate fluctuations) and investors may not get back the full amount invested. Past performance is not a guide to future returns.

Fixed-income investments are subject to credit risk of the issuer and the effects of changing interest rates. Interest rate risk refers to the risk that bond prices generally fall as interest rates rise and vice versa. An issuer may be unable to meet interest and/or principal payments, thereby causing its instruments to decrease in value and lowering the issuer's credit rating.

### Important information

**This document is for Qualified Investors in Switzerland, Professional Clients only in Dubai, Jersey, Guernsey, Isle of Man, Ireland, Continental Europe (as defined below) and the UK; for Institutional Investors only in the United States and Australia; in New Zealand for wholesale investors (as defined in the Financial Markets Conduct Act); for Professional Investors in Hong Kong; for Qualified Institutional Investors in Japan; in Taiwan for Qualified Institutions/Sophisticated Investors; in Singapore for Institutional/Accredited Investors; for Qualified Institutional Investors and/or certain specific institutional investors in Thailand; in Canada, this document is restricted to Accredited Investors as defined under National Instrument 45-106. It is not intended for and should not be distributed to, or relied upon by, the public or retail investors. Please do not redistribute this document.**

For the distribution of this document, Continental Europe is defined as Austria, Belgium, Denmark, Finland, France, Germany, Greece, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain and Sweden. This does not constitute a recommendation of any investment strategy or product for a particular investor. Investors should consult a financial professional before making any investment decisions.

This overview contains general information only and does not take into account individual objectives, taxation position or financial needs. Nor does this constitute a recommendation of the suitability of any investment strategy or product for a particular investor. Investors should consult a financial professional before making any investment decisions. It is not an offer to buy or sell or a solicitation of an offer to buy or sell any security or instrument or to participate in any trading strategy to any person in any jurisdiction in which such an offer or solicitation is not authorized or to any person to whom it would be unlawful to market such an offer or solicitation. It does not form part of any prospectus. While great care has been taken to ensure that the information contained herein is accurate, no responsibility can be accepted for any errors, mistakes or omissions or for any action taken in reliance thereon.

The opinions expressed are that of Invesco Fixed Income and may differ from the opinions of other Invesco investment professionals. Opinions are based upon current market conditions, and are subject to change without notice.

As with all investments, there are associated inherent risks. Please obtain and review all financial material carefully before investing. Asset management services are provided by Invesco in accordance with appropriate local legislation and regulations.

This material may contain statements that are not purely historical in nature but are "forward-looking statements." These include, among other things, projections, forecasts, estimates of income, yield or return or future performance targets. These forward-looking statements are based upon certain assumptions, some of which are described herein. Actual events are difficult to predict and may substantially differ from those assumed. All forward-looking statements included herein are based on information available on the date hereof and Invesco assumes no duty to update any forward-looking statement. Accordingly, there can be no assurance that estimated returns or projections can be realized, that forward-looking statements will materialize or that actual returns or results will not be materially lower than those presented.

By accepting this document, you consent to communicate with us in English, unless you inform us otherwise. All information is sourced from Invesco, unless otherwise stated.

All data as of June 8, 2020 unless otherwise stated. All data is USD, unless otherwise stated.

### Restrictions on distribution

#### Australia

This document has been prepared only for those persons to whom Invesco has provided it. It should not be relied upon by anyone else. Information contained in this document may not have been prepared or tailored for an Australian audience and does not constitute an offer of a financial product in Australia. You may only reproduce, circulate and use this document (or any part of it) with the consent of Invesco.

The information in this document has been prepared without taking into account any investor's investment objectives, financial situation or particular needs. Before acting on the information the investor should consider its appropriateness having regard to their investment objectives, financial situation and needs.

You should note that this information:

- may contain references to dollar amounts which are not Australian dollars;
- may contain financial information which is not prepared in accordance with Australian law or practices;
- may not address risks associated with investment in foreign currency denominated investments; and
- does not address Australian tax issues

Issued in **Australia** by Invesco Australia Limited (ABN 48 001 693 232), Level 26, 333 Collins Street, Melbourne, Victoria, 3000, Australia which holds an Australian Financial Services License number 239916.

### Canada

This document is restricted to accredited investors as defined under National Instrument 45-106. All material presented is compiled from sources believed to be reliable and current, but accuracy cannot be guaranteed. This is not to be construed as an offer to buy or sell any financial instruments and should not be relied upon as the sole factor in an investment making decision. As with all investments there are associated inherent risks. Please obtain and review all financial material carefully before investing. Issued in Canada by Invesco Canada Ltd., 5140 Yonge Street, Suite 800, Toronto, Ontario, M2N 6X7.

Further information is available using the contact details shown:

- Issued in **Belgium, Denmark, Finland, France, Greece, Italy, Netherlands, Spain, Sweden, Luxembourg, Norway and Portugal** by Invesco Asset Management SA, 16-18, rue de Londres, 75009 Paris, France. Authorised and regulated by the Autorité des marchés financiers in France.
- Issued in Dubai by Invesco Asset Management Limited. PO Box 506599, DIFC Precinct Building No 4, Level 3, Office 305, Dubai, UAE. Regulated by the Dubai Financial Services Authority.
- Issued in **Austria and Germany** by Invesco Asset Management Deutschland GmbH, An der Welle 5, 60322 Frankfurt am Main, Germany.
- Issued in **Switzerland** by Invesco Asset Management (Schweiz) AG, Talacker 34, 8001 Zurich, Switzerland.
- Issued in **Ireland, the Isle of Man, Jersey, Guernsey** and the **United Kingdom** by Invesco Asset Management Limited which is authorised and regulated by the Financial Conduct Authority. Invesco Asset Management Ltd, Perpetual Park, Perpetual Park Drive, Henley-on-Thames, RG9 1HH, UK.

### Hong Kong

This document is provided to professional investors (as defined in the Securities and Futures Ordinance and the Securities and Futures (Professional Investor) Rules) only in Hong Kong. It is not intended for and should not be distributed to, or relied upon, by the members of public or the retail investors. Issued in Hong Kong by Invesco Hong Kong Limited 景順投資管理有限公司, 41/F, Champion Tower, Three Garden Road, Central, Hong Kong.

### Japan

This document is only intended for use with Qualified Institutional Investors in Japan. It is not intended for and should not be distributed to, or relied upon, by members of the public or retail investors. Issued in Japan by Invesco Asset Management (Japan) Limited, Roppongi Hills Mori Tower 14F, 6-10-1 Roppongi, Minato-ku, Tokyo 106-6114; Registration Number: The Director-General of Kanto Local Finance Bureau (Kin-sho) 306; Member of the Investment Trusts Association, Japan and the Japan Investment Advisers Association.

### New Zealand

This document is issued in New Zealand only to wholesale investors (as defined in the Financial Markets Conduct Act). This document has been prepared only for those persons to whom it has been provided by Invesco. Information contained in this document may not have been prepared or tailored for a New Zealand audience. This document does not constitute and should not be construed as an offer of, invitation or proposal to make an offer for, recommendation to apply for, an opinion or guidance on interests to members of the public in New Zealand. Any requests for information from persons who are members of the public in New Zealand will not be accepted. Issued in New Zealand by Invesco Australia Limited (ABN 48 001 693 232), Level 26, 333 Collins Street, Melbourne, Victoria, 3000, Australia, which holds an Australian Financial Services Licence number 239916.

### Singapore

This document may not be circulated or distributed, whether directly or indirectly, to persons in Singapore other than (i) to an institutional investor under Section 304 of the Securities and Futures Act (the "SFA"), (ii) to a relevant person pursuant to Section 305(1), or any person pursuant to Section 305(2), and in accordance with the conditions specified in Section 305 of the SFA, or (iii) otherwise pursuant to, and in accordance with the conditions of, any other applicable provision of the SFA. This document is for the sole use of the recipient on an institutional offer basis and/ or accredited investors and cannot be distributed within Singapore by way of a public offer, public advertisement or in any other means of public marketing. Issued in Singapore by Invesco Asset Management Singapore Ltd, 9 Raffles Place, #18-01 Republic Plaza, Singapore 048619.

### Taiwan

This material is distributed to you in your capacity as Qualified Institutions/Sophisticated Investors. It is not intended for and should not be distributed to, or relied upon, by members of the public or retail investors. Issued in Taiwan by Invesco Taiwan Limited, 22F, No.1, Songzhi Road, Taipei 11047, Taiwan (0800- 045-066). Invesco Taiwan Limited is operated and managed independently.

### United States

Issued in the United States by Invesco Advisers, Inc., Two Peachtree Pointe, 1555 Peachtree Street, N.E., Suite 1800, Atlanta, Georgia, 30309.