Global Macro Strategy

Invesco Fixed Income

October 31, 2020



Contents

- Headwinds ahead but "goldilocks" global backdrop supports EM
- 5 Interest rate outlook
- 6 Currency outlook
- **7** Global investment themes
- **9** COVID-19's impact on the US real estate sector
- The bottom line: Sustainability bonds: Good apples versus bad eggs what determines the "greenium" and is it worth it?

Contributor

Meral Karasulu

Director of Fixed Income Research

Headwinds ahead but "goldilocks" global backdrop supports EM

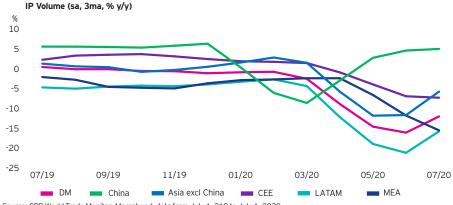
The global impact of COVID-19 has been unprecedented. Emerging market (EM) economies felt the shock through several channels - initially, though an historic outflow of capital and collapse of commodity prices and then through the real impact as the spread of the virus led to lockdowns, demand destruction and a drastic decline in global trade. As we draft this, infection rates are declining but remain uncomfortably high for several EMs, and concerns of a second wave, especially in Europe, are making headlines. Uncertainty over the US political transition and the trajectory of the virus remain top of mind. Nevertheless, we think the worst is over and EM economies are on the path to recovery.

First and foremost, the global cycle is entering a "goldilocks" phase. Global recovery from the COVID-19 shock will likely support external demand, including for commodities that are essential for several EMs. Inflation in advanced economies is expected to remain below targets, allowing G3 central banks to maintain their unprecedented accommodative stance for an extended period. We think this global backdrop is supportive for risk and EM assets in general, especially once US political uncertainty is in the rear-view mirror and additional fiscal support arrives, which we think will keep the US dollar subdued for longer. In addition, we expect a viable vaccine to become available sometime in 2021, which would likely boost sentiment and recharge the global recovery.

Industrial production has led EM recovery

With full lockdowns behind us, all EM economies are on a path to recovery, although with varying speeds across regions, countries and sectors. The speed of recovery across regions and individual countries reflects many factors, mainly the differentiated timeline of lockdowns and speed of re-openings as well as the extent of policy support. However, in all EMs, industrial production (Figure 1) has led the recovery, after physical restrictions on activity were lifted in Q2.

Figure 1: Industrial production in EM (volume, seasonally adjusted, 3-month moving average, year-over-year % change)

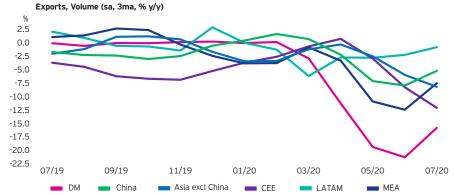


Source: CPB World Trade Monitor, Macrobond, data from July 1, 219 to July 1, 2020.

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.

As production has begun to normalize, we have also seen global trade and EM exports pick up (Figure 2) and Purchasing Managers' Index (PMI) Manufacturing New Orders (Figure 3) are now in expansionary territory, pointing to further recovery ahead. Services and private consumption have lagged production, scarred by a sharp decline in employment and continued disruption to activity in many service subsectors, including tourism, which is a significant contributor to growth and employment in several EMs (Figure 4).

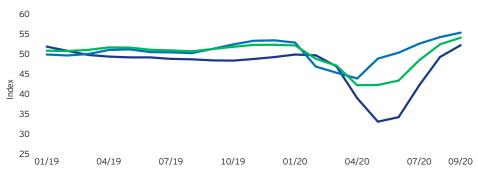
Figure 2: EM exports have picked up with global trade



Source: CPB World Trade Monitor, Macrobond, data from July 1, 2019 to July 1, 2020.

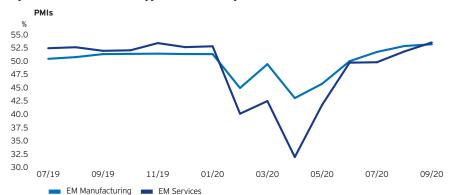
Figure 3: Manufacturing PMI data suggest recovery ahead

Manufacturing PMI New Orders



Source: Markit, Macrobond, data from Jan. 1, 2019 to Sep. 1, 2020.

Figure 4: EM services have lagged manufacturing

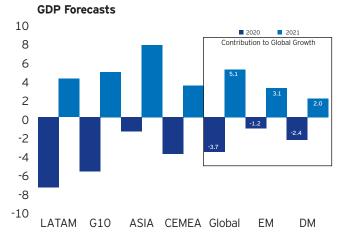


Source: Markit, Macrobond, data from July 1, 2019 to Sep. 1, 2020.

We expect gradual EM recovery to continue

We have updated our June forecasts to reflect better than expected Q2 growth numbers in some large EMs, our improved outlook for developed market (DM) growth and the maintenance of accommodative policies globally (which should keep financial conditions easy) and our expectation that no additional full lockdowns are likely in any large EM, although some temporary localized restrictions may be reinstated (Figure 5).

Figure 5: Invesco global growth forecasts

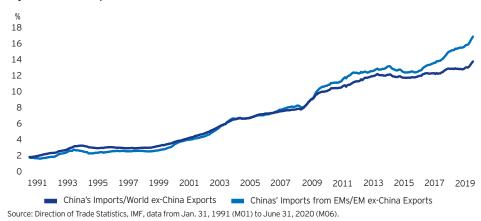


Source: Invesco Global Debt Team forecasts, Oct. 31, 2020.

China stands out in the recovery

China stands out globally as "first-in-first-out" of the crisis. Activity normalized in Q2 and the level of GDP climbed back to pre-COVID levels in Q3. This was achieved, not only by a country-wide campaign to reign in the spread of the virus that allowed faster normalization of activity post-lockdown, but with significant policy support, primarily via government investment spending and the significant expansion of – mostly directed – credit, despite limited policy rate cuts. The external sector continues to surprise on the upside. Exports, initially driven by medical equipment and China's substitution for other Asian supply centers during their lockdowns, are now broadening to other sectors with global recovery. Although, the service sector still lags, we expect the shift from an infrastructure-led recovery to a consumption-based one to lift the annual growth rate to about 2% in 2020, in line with our June forecast. With China's imports from EM (Figure 6) now significantly higher than before, we expect China's recovery to remain a major support for EMs.

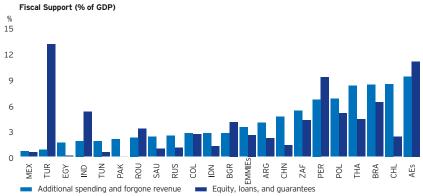
Figure 6: China's imports from EMs vs. world



Positive EM growth outlook for 2021

As the recovery continues in 2021, we expect EM fiscal and monetary policies to remain accommodative. We have already seen over 6 percentage points in rate cuts across EMs this year¹ and sizable fiscal support, estimated to be about 6% of EM GDP (Figure 7).

Figure 7: EM fiscal support as % of GDP



Source: IMF Fiscal Monitor, Oct. 2020. AEs: Advanced Economies; EMMIEs: Emerging markets and middle income economies

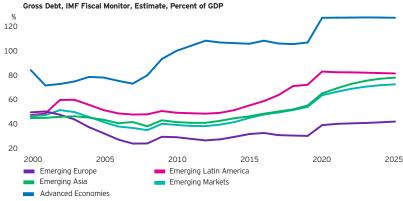
With large output gaps, we do not expect demand-led inflation pressures in EM, with a few exceptions where food prices and local supply bottlenecks due to the pandemic have pressured inflation temporarily. This should allow accommodative EM monetary policies to remain in place throughout 2021.

An exception is Turkey, where macro imbalances and pressures on the exchange rate are expected to finally bring about an appropriate policy response - i.e. hiking rates - although, without a credible policy the currency remains vulnerable. In some EMs, such as Korea and Thailand, where effective lower bounds have been reached, we expect pressure for unconventional policies to remain in 2021, while those EMs that have already embarked on quantitative easing through government bond purchases are likely to remain active in markets to support additional supply pressures when needed.

EMs face challenges ahead

There are significant headwinds ahead for EMs. Once the initial global bounce subsides, we believe the way individual EMs handle these headwinds will be important differentiators. First, given EMs' unprecedented growth contraction and their more limited fiscal policy space compared to DMs, the debt overhang for some EMs will be important to watch, in our view. More policy support will likely be needed in 2021 (and likely in 2022) as output levels are expected to remain below pre-COVID levels for many EM economies, continuing to pressure fiscal balances. The International Monetary Fund estimates that EM debt will increase by 10 percentage points of GDP in 2020 compared to 2019 (Figure 8).

Figure 8: Gross debt as percent of GDP (IMF estmates)



Source: IMF Fiscal Monitor, October 2020.

However, with yields at historic lows, the ability of EMs to carry debt is improved, although long-term debt consolidation will likely remain on investors' radar screens as they determine risk appetites, especially for EMs with already high debt burdens, such as South Africa, Brazil and India. Nevertheless, we consider the debt increase to be a justified and necessary condition to limit permanent destruction of productive capacity and ultimately the fiscal revenue base. Without it, we believe the growth recovery would likely be delayed and permanent scarring would likely be worse, leading to even higher debt burdens. Furthermore, the projected debt increase is half of the 20 percentage point of GDP increase forecasted for advanced economies (Figure 9). With global interest rates expected to stay at historically low levels, we expect the real yield advantage to keep EM debt attractive.

Second, although we expect at least one viable vaccine in early 2021, the availability and delivery to vast swaths of the EM population is likely to lag that in DMs. This could taper domestic recovery speeds, depending on the reach of the vaccine within various countries, and a full recovery in global travel and tourism, which is important for many EMs.

Looking beyond 2021

Beyond 2021, there is substantial uncertainty about the effect of the COVID-19 shock on medium-term growth. For several EMs where the informal sector represents an important share of the economy-usually a sign of agility-the ability to bounce back swiftly could be impaired by a lack of access to policy support and formal credit markets, permanently destroying some economic ecosystems, especially for small and medium-sized enterprises. These could be rebuilt but would likely take time and resources. On the other hand, increasing income inequality, already high before the pandemic, is likely to suppress the consumption power of large segments of the global EM population until wage growth recovers, which is likely to be a multi-year process. This puts the gains from the reduction in poverty over the last several decades at risk and will likely require continued fiscal policy support to reverse the trend and maintain social stability, limiting budgetary room for investment spending.

Chinese policy shift could also impact EMs

In the medium term, China's shift to a new "dual circulation policy" is likely to affect EMs. We interpret this new policy not as a desire to decouple from the global economy but to continue China's opening process, increasing domestic value added, especially in high technology products, while shifting from an investment-led to a consumption-based growth model. Notwithstanding significant uncertainty over geopolitical tensions and how these policies might be implemented, we think it is reasonable to expect some reshuffling of supply chains in the process and a gradual compositional change in China's imports from the rest of the world. We think the potential reshuffling of supply chains will be in the form of some reallocation of new foreign direct investment to other EMs, rather than a move out of China, where an increasing domestic consumption base will continue to attract investment. A more consumption-driven and higher-tech China, especially against the backdrop of its increasing wage differentials to many low-income EMs and its aging population, is likely to benefit EM manufacturers in lower value-added consumer products. On the other hand, commodity producers may feel the impact of lower demand from China, especially given China's drive to reduce its carbon emissions over the next decade.

Notwithstanding these medium-term challenges, we think 2021 is the year for EMs to make a comeback, supported by the global goldilocks backdrop.

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 Portfolio Manager

Avi Hooper

Portfolio Manager

Scott Case

Portfolio Manager

Interest rate outlook

US: Neutral. US Treasury yields offer little in the way of risk/reward as yields are likely to stay low for a significant length of time. 10-year US Treasuries are likely to trade below our fair value estimate (1%) while the economy remains in the slow growth/low inflation regime caused by the coronavirus. The Fed's policy is expected to remain accommodative for some time - it recently shifted toward an average inflation targeting regime and committed to the zero bound for interest rates until inflation is forecast to be moderately above its 2% target. This suggests that, while overall rates will remain low, real US interest rates may continue to rally. The Treasury curve may steepen, especially in the 30-year part of the curve as supply increases.

Europe: Neutral. The European sovereign bond market remains in suspended animation despite the recent resurgence of COVID-19 in the region and the gradual but relentless return of lockdowns across many countries. Despite the expected impact on growth due to these measures and the resulting deterioration in sovereign balance sheets, the ECB has stood firm and promised to support the bond markets through an increased scope and scale of its bond purchase programs. Against this strong technical backdrop, sovereign bonds, including those of the mostly highly indebted countries, will likely continue to be well supported, despite high budget deficits and poor debt sustainability profiles.

China: Neutral. Onshore government bond moves have continued to be led by onshore equity market performance, supply pressure, interbank liquidity conditions and international investor demand. Monetary operations have shown some flexibility, but the year-end effect may still pressure front-end funding levels. Stock market performance and US-China news headlines may continue to drive near-term bond market performance. However, the upside to yields on rates bonds may be limited by strong buying interest from international investors when yields reach certain attractive levels.

Japan: Neutral. After selling off in September amid heavy supply, Japanese government bond (JGB) yields have stabilized in October, outperforming US Treasuries but underperforming German bunds. The Bank of Japan's reluctance to increase its quantitative easing operations has limited the scope for lower yields in the face of relatively heavy supply, in our view. However, lower yields, especially in Europe, are making JGBs look relatively attractive to domestic investors and foreigners who have increased currency-hedged purchases. We expect these off-setting forces to keep yields relatively range bound going forward.

UK: Neutral. Gilts do not look particularly attractive on an outright basis, in our view, but their recent underperformance versus German bunds looks excessive, as the Bank of England (BoE) still has scope to cut rates and is likely to increase quantitative easing in the near term, potentially resulting in net negative supply in the Nov.-Jan. period.

Canada: Neutral. The Canadian economy continues to recover, despite impairment across several areas of the service sector. Government support programs have been generous and are expected to continue well into 2021. As we enter the winter months with new COVID-19 cases on the rise, we expect consumption to slow. Valuations look rich, in our view, but ongoing investor demand and Bank of Canada quantitative easing will likely keep yields range bound. The upcoming Dec. 1 coupons and subsequent index extension will likely support the market into year end. The steepness of the yield curve could offer tactical opportunities to extend duration.

Australia: Neutral. Australian rates have outperformed US Treasuries over the last month, helped by speculation about possible Reserve Bank of Australia easing at the November meeting. Although the market is correct to price some probability of additional RBA easing, we believe current pricing appears fair, limiting the scope for additional outperformance driven by the domestic monetary policy outlook. Nevertheless, unlike US Treasuries, Australian government bonds will likely see a reduction of supply into 2021, which should limit underperformance on an outright or relative basis.

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 Portfolio Manager

Avi Hooper

Portfolio Manager

Scott Case

Portfolio Manager

Currency outlook

USD: Underweight. We expect the US dollar to depreciate broadly versus other currencies. We expect US monetary policy to reduce US real yields below levels experienced in other countries over the long term. The Fed's new average inflation regime is aimed at keeping rates lower for longer until the economy is strong enough to support an average inflation rate of 2%. The Fed has committed to keeping interest rates at the zero bound until inflation is forecast to be moderately above 2%. Lower US yields will likely encourage investors to look elsewhere, ultimately reducing demand for the US dollar and causing it to depreciate.

EUR: Neutral. The outlook for the euro is dependent on that of the US dollar, in our view. The recent appreciation of the euro stumbled against a recovery in the US dollar and, while we expect the fundamentals in the euro area economy to remain under pressure well into 2021, we believe the euro would benefit from a more broad US dollar decline.

RMB: Neutral. We continue to see a favorable fundamental backdrop for the renminbi but think the USD/RMB exchange rate may consolidate at the current level for a period of time. Both China's current account and portfolio flows have been supportive of renminbi performance. As China has swiftly contained the coronavirus outbreak and the economy has strongly rebounded, we see room for Chinese assets, including the renminbi, to continue to perform well in the medium term.

JPY: Overweight. The Japanese yen was relatively range bound versus both the US dollar and the euro in October, despite strong risk sentiment and higher US Treasury yields, both of which tend to correlate with yen weakness. The relative resilience of the yen might reflect a more favorable flow dynamic, as Japanese portfolio outflows have slowed and the current account surplus has increased and as exports recover from their slump.

GBP: Neutral. The recent tone of UK-EU Brexit negotiations suggests that both sides are moving toward a compromise on the main outstanding issues of state aid, fishing rights and governance. This should allow for agreement on a zero tariffs/zero quotas free trade deal covering goods. Although, this should avoid the shock of a No Deal outcome, it will likely be inferior to the UK's prior trade regime as an EU member. The key question going forward, in our view, will be whether this "skinny" trade deal can be a stepping stone for a more comprehensive set of agreements covering services.

CAD: Neutral. We expect the Canadian dollar to be range bound versus the US dollar in the near term. The US election has created uncertainty for Canada's largest trading partner. The outcome will likely have an impact on the two countries' relationship and may have implications for tariffs. In Canada, rising commodity prices and a slowing domestic economy should improve the external balance. Growing fiscal deficits are expected to be more manageable in Canada and could lead to outperformance next year, but for now, we remain neutral on the outlook.

AUD: Neutral. The Australian dollar should remain supported by Australia's strong balance of payments position, but a lack of carry and a mixed global risk environment will probably limit its near-term upside.

Michael Hyman

CIO Global Investment Grade and Emerging Markets

Joe Portera

CIO High Yield and Multi-Sector Credit

Mario Clemente

Head of Structured Investments

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.

Global investment themes

Asset class themes

Investment grade (IG): We have shifted to neutral positioning as duration-adjusted credit valuation screens less cheap and market technicals soften on greater-than-expected refinancing and tender-driven supply.

Rationale

We have downshifted our position to neutral as duration-adjusted credit valuation screens less cheap and market technicals have softened in recent months on greater-than-expected refinancing and tender-driven supply. The market continues to remain supported by the Fed's bond purchasing program and healthy demand from global investors. However, uncertainty remains about (i) fundamental weakness stemming from the COVID-19-related macroeconomic slowdown, (ii) the US November election outcome and (iii) the potential need for further politically sensitive fiscal stimulus.

The economic rebound has persisted through a difficult summer spike in COVID-19 cases, with increased business and school re-openings. However, economic shutdowns in Europe and growing cases in younger populations call into question the ongoing pace of global economic re-opening. Governments and central banks continue to provide unprecedented levels of monetary and fiscal stimulus that have (i) absorbed the initial impact on risk assets and (ii) continued to delay and somewhat cloud the fundamental deterioration in both (a) corporate operating performance and (b) corporate balance sheets. The Fed's bond purchasing programs announced on March 23 thawed an otherwise frozen US IG new issue market, paving the way for historic levels of issuance since April. While this issuance has alleviated pressure on both corporate liquidity and the broader financial system, corporate leverage will undoubtedly rise, and fundamentals will likely remain materially weaker as companies navigate COVID-19-related impacts over the next several quarters.

Offsetting record levels of new issuance and fundamental uncertainty is technical demand, which remains quite strong. The Fed's targeted bond purchases, spread across primary and secondary market programs, sent a clear message that it is both willing and able to support the orderly functioning of corporate bond markets and that they are an important part of an overall stable financial system. The Fed's announcement of bond market activities has resulted in massive capital inflows into the corporate bond market and supported spread tightening from levels not seen since the global financial crisis.

Having already eclipsed full-year 2019 levels, we have expected the cadence of new bond issuance in the second half of 2020 to revert to a more normalized level. However, a favorable interest rate environment continues supporting new issuance activity aimed at (i) refinancing and (ii) opportunistic tendering, though net supply is expected to moderate during the fourth quarter which should be supportive for the USIG technical backdrop.

The outlook for corporate fundamentals continues to evolve, especially in sectors more exposed to COVID-19-related economic restrictions. With the Fed's support, the new issuance market has allowed even the most challenged sectors to raise liquidity and address near-term maturities, reducing pressure on the banking system and providing 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, underscoring the necessity of remaining vigilant in both sector allocation and security selection.

In Europe, we continue to expect market technicals to remain the prevailing driver of European IG credit spreads in the near term. As such, our outlook is positive, given the significant backstop that the ECB is providing to the market through its quantitative easing program. While new supply should pick up after the seasonally quiet summer months, we do not expect a return to the H1-2020 levels, as corporates have already created significant liquidity reserves. Additionally, the tender and refinancing activity seen in the US is not being repeated in Europe, given that negative European risk-free rates and lower "all in" financing costs for issuers have been a feature of this market for some time. Furthermore, the "survive" rather than "thrive" mentality and bondholder-friendly nature of European corporates provides a fundamentally supportive backdrop for European credit, in our view. The main concern is fragmentation risk, but the agreement of the Euro Recovery Fund is a positive development which reduces these concerns.

While European IG valuations have recovered significantly from the COVID-19 sell-off, we see a good level of dispersion within this. We favor subordinated parts of the IG capital structure in issuers and sectors that we feel will be relatively protected from the fundamental headwinds of the virus. In a global negative real yield environment, we expect these parts of the market to continue to compress, as investors hunt for "high quality" returns.

IFI strategy

We remain neutrally positioned in US and Asia IG, while remaining selective and opportunistic in European IG credit. Global central bank support remains in place to combat further challenging scenarios for corporate fundamentals, suggesting a healthy degree of near-term downside protection for global IG credit, in our view.

Credit valuations, particularly when adjusted for a near all-time high duration in the US, have tightened following the announcement of fiscal and monetary policy support measures and provide a growing headwind when evaluating risk-adjusted valuation. Key market drivers we are monitoring include (i) the potential for a moderation in the new issue cadence (i.e., a slowing of supply) during the fourth quarter, (ii) the upcoming US presidential election, (iii) recovering corporate fundamentals as global economies experience normalizing levels of economic activity, (iv) continued market support from policymakers and (v) global management of the

coronavirus, which has direct impacts on consumer demand and confidence. In Europe, dispersion within the asset class remains key, and we would expect the next stage of any potential rally to be driven by further beta compression, supporting our preference for subordinated financial paper issued by fundamentally strong "core" European banks and selected corporate hybrid issuers.

US asset-backed securities (US ABS): Collateral performance risk has increased, positive technical trends support the market

Rationale

Collateral performance trends since the pandemic began have been better than expected as federal employment benefits and lender payment deferrals have been supportive. Credit performance risk has increased, however, as many of these programs have lapsed and it remains to be seen when, or if, a new stimulus package will be passed by Congress. Despite our expectations of near-term fundamental weakness, we believe there are several opportunities to add benchmark and non-benchmark ABS, given robust structures and credit enhancement. In addition, technical trends remain favorable in both the primary and secondary markets, given positive market sentiment for higher quality ABS.

IFI strategy

We continue to focus on higher rated bonds within the capital structure, given our weaker views on near-term fundamentals. While esoteric ABS new issue supply has increased on positive technical momentum, we have been very selective when adding. In the secondary market, given historically low dealer inventories, we also find it difficult to add sizable positions in the names we like. Despite the strong rally in spreads, many ABS remain attractive to generic corporates, in our view, except bank credit card and prime auto loan ABS. Select esoteric ABS, such as aircraft, remain under pressure.

Kevin Collins

Head of Commercial Credit

David Lyle

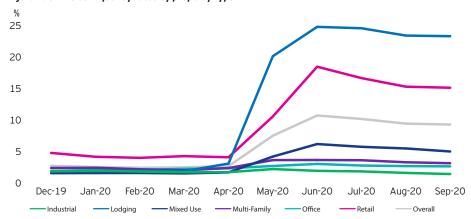
Head of Residential Credit

COVID-19's impact on the US real estate sector

COVID-19's impact on US commercial real estate

COVID-19 has had an immediate impact on commercial real estate fundamentals across various property types. The lodging and retail sectors have been the most negatively affected due to travel restrictions and the rise of e-commerce, as shown by the elevated commercial mortgage-backed securities (CMBS) commercial loan delinquencies in Figure 1.

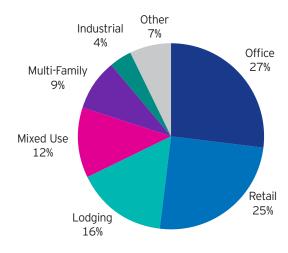
Figure 1: CMBS delinquency rates by property type



Source: Trepp, data as of Sept. 2020.

On the other hand, many industrial warehouse properties have benefited from growing online shopping, as online retailers demand more space to assist in their fulfillment processes. Despite increased vacancy rates among some multi-family properties located in central business districts, most have performed reasonably well as renters have been aided by recent government support and generous forbearance practices. Similarly, delinquencies among loans secured by office properties have remained relatively low as they benefit from long-term tenant leases.

Figure 2: CMBS universe by property type (outstanding balance)



Source: Trepp, data as of Sept. 2020.

Will COVID-19 impact office property fundamentals?

Market participants are questioning whether COVID-19 will have a lasting impact on US office properties. Specifically, will long-term trends in work-from-home practices dampen the demand for office space and eventually place downward pressure on rental rates and property valuations? In the near-term, we expect many employers to delay long-term space decisions as they gain greater clarity on the economy and the lasting impacts of COVID-19. As a result, we expect many corporate tenants to avoid entering into lease terms that extend for several years. Existing long-term leases will likely make it difficult to implement abrupt changes but we anticipate a continued increase in the amount of space available for sublet across several major cities. Furthermore, we expect office property owners to increase concessions, such as free rental periods, to encourage tenants to sign new leases.

Trend toward more remote work will likely outlive the virus

Over the longer term, we expect the amount of remote work to decline sharply once COVID-19 concerns abate, but we do not anticipate a complete reversal. Early surveys indicate that employees desire greater flexibility regarding their physical work location and numerous employers have announced their willingness to accommodate greater levels of "work-from-home". Although we think it is too early to make concrete predictions, we generally expect more frequent remote work to be implemented via a hybrid model - i.e. a combination of work-from-home and work-from-office - which may result in modest declines in office occupancy rates and incremental downward pressure on rents.

At this early juncture, unprecedented declines in rents seem unlikely, given that employers seek office space to maintain culture, foster collaboration and mentor new team members. Office footprints must also be large enough to accommodate the peak number of employees that could potentially work from the office on a particular day. This will likely make it difficult for tenants to significantly reduce the amount of space needed and we believe that companies that adopt full "work-from-home" regimes will be very limited. Finally, post COVID-19, we expect the trend toward greater office density (Figure 3) to reverse, which should partially offset demand. Employers seeking to maintain their cultures and encourage workers to come to the office may be more likely to provide larger common areas and private offices.

280
270
260
250
240
230
210
200
21 Q3 Q1 Q

Figure 3: Office space per US worker (in square feet)

Source: CoStar, data from March 31, 1991 to March 31, 2020.

We think office property market underperformers will include those markets with a high proportion of technology companies and older buildings that require significant capital expenditure to accommodate post-COVID-19 health technologies. We expect properties located in central business districts to eventually outperform, as employees seek to collaborate in key hubs around the world.

US housing market a bright spot

The housing market is among the strongest sectors of the US economy. It has helped fuel the overall economic recovery since the early days of the pandemic. Low mortgage rates and a desire for more space have driven strong demand, which has led to new cycle highs in home sales. Consequently, the listed inventory of homes has reached historic lows. Tight supply has boosted homebuilder confidence and driven steady home price appreciation.

However, while the housing market is healthy at the national level, regional variations have emerged. Cities with greater affordability and lower population density, like Phoenix, Arizona and Charlotte, North Carolina, are outperforming, while more expensive metro areas with highly mobile workforces, like New York and San Francisco, have lagged. Markets that rely heavily on the hospitality sector, like Las Vegas and Orlando, Florida, remain especially exposed to the pandemic and its uncertain duration.

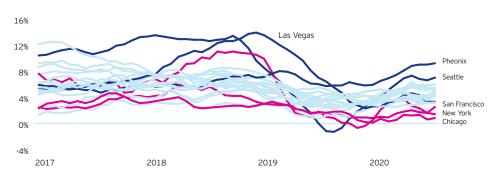


Figure 4: Dense cities with low affordability have seen the lowest home price appreciation rates (year-over-year)

Source: S&P CoreLogic Case-Shiller, data from Jan. 31, 2017 to July 31, 2020.

Although the economic environment is supportive of US housing activity and home prices, significant challenges remain. Borrowers have suffered widespread job losses and delinquency rates have spiked. Lender forbearance programs have provided much needed relief to millions of struggling homeowners, but many may be ultimately forced to sell their homes or face foreclosure. Fortunately, lending standards have been relatively conservative in this cycle, and the combination of down payments and embedded home price appreciation mean that homeowner equity is substantial in most cases. Finally, credit requirements for new loans have tightened in response to economic uncertainty, reducing the scope of potential demand from non-prime buyers and limiting opportunities for existing non-prime borrowers to extract equity or refinance into a lower rate.

Conclusion

We believe COVID-19 will have a lasting impact on US real estate. In commercial real estate, despite long-term leases, US office properties will likely eventually face muted office demand. US housing will also likely face pandemic-related challenges, but is relatively better positioned than commercial real estate, in our view. Despite headwinds caused by COVID-19, we believe there are opportunities to capture increased risk premiums implied by senior non-Agency CMBS and residential mortgage-backed securities. As fundamental performance potentially diverges across property types and geographic regions, we believe security selection has become increasingly important. With a seasoned investment team and robust research capabilities, Invesco Fixed Income seeks to identify attractive income opportunities and anticipate incremental credit spread tightening through disciplined security selection and timely sector allocation.



Sam Morton Head of European Investment Grade Research

The bottom line

Sustainability bonds: Good apples versus bad eggs - what determines the "greenium" and is it worth it?

We speak with Sam Morton, Head of European Investment Grade Research, about sustainability bonds, a growing segment of the fixed income market. Sam explains the importance of carefully analyzing an issuer's sustainability bond program when assessing the price premium, or "greenium", often attached to sustainability bonds when making investment decisions.

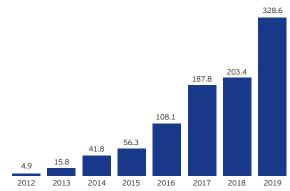
Q: Can you provide the definition of a sustainability bond?

Sustainability bonds are defined by the International Capital Market Association as bonds where the proceeds will be exclusively applied to finance, or re-finance, a combination of both green and social projects.

Q: How prevalent are sustainability bonds?

There was a big pick-up in sustainability bond issuance in September when several issuers brought inaugural deals. Following the European Commission's Sep. 16 announcement that it intends to issue an additional €225 billion of sustainability bonds to help fund the response to the pandemic (more than issued by the whole market in 2017 or 2018), we believe the growth of this segment is set to continue.

Figure 1: Growth of sustainability bond issuance (USD billion)



Source: BloombergNEF, Invesco. Data from Dec. 31, 2012 to Dec. 31, 2019.

Q: Does the Invesco Fixed Income (IFI) credit research team apply a specific approach when analyzing sustainability bonds?

This evolving asset class poses several new questions to fixed income analysts and portfolio managers and requires a broader analytical toolkit than traditional new-issue or Environmental-Social-Governance (ESG) analysis. In recent months, we have seen a "greenium" emerge (a price differential between sustainability and non-sustainability bonds from the same issuer) that we believe can be explained by several factors. We do not believe that the "greenium" is consistent across all sustainability bonds, which means that an active and research-intensive approach is required to differentiate bonds with good ESG credentials from those that could disappoint.

Q: What drives the "greenium" and how do you think about it?

September's pick-up in sustainability bond issuance sparked renewed debate within IFI and among fixed income market participants in general about how much investors should be prepared to pay for sustainability bonds. Default risk (thankfully low in global investment grade) and recovery rates should be identical for an issuer across sustainability and non-sustainability bonds, suggesting zero fundamental differential. But we believe there are several other factors that come into play. Along with the many usual drivers of new issue concession, such as deal size, issuer rating, rarity, sector, market risk appetite. etc., we believe that an issuer's sustainability bond program must also be assessed. Our usual integrated ESG analysis (evaluating an issuer's environmental, social and governance characteristics versus sector peers to derive an overall rating with a trend) does not fully address sustainability bonds because of the way these bonds target specific projects.

Q: Can you give an example?

We might compare bonds from a highly-rated ESG issuer that issues a low-quality sustainability bond to a low-rated ESG issuer that issues a high-quality sustainability bond (though we think this would be unlikely). In this case, we would assess each issuer's sustainability bond program. To assist with this assessment, we have developed, in collaboration with our Global ESG team, the IFI Sustainability and Green Bond Framework. This scorecard approach looks at factors such as the use of proceeds, the management of proceeds, and reporting and external verification, to assess the alignment of the sustainability bonds with the United Nations Sustainable Development Goals (UN SDG). All else being equal, we believe that a "greenium" is justified when the proceeds will be applied to projects that are aligned with UN SDGs.

¹ International Capital Markets Association, Sustainability Bonds Guidelines, June 2018.

Q: How do you think IFI's approach compares to the broader market?

We regularly use this output to help us make investment decisions. But we believe, in general, many investors do not appropriately differentiate between sustainability bonds with high and low alignment to UN SDGs. Indeed, we believe that most investors effectively treat all sustainability bonds as homogenous. This is perhaps understandable, given that bonds are typically marketed as either "green" or "non-green". But we believe that a failure to fully assess a company's sustainability bond program and its ongoing compliance is a risk. Even if investors are not differentiating today, we believe that increased differentiation among sustainability bonds is inevitable in the medium-term, so it makes sense to avoid "minimum alignment" bonds, in our view.

Q: How would you sum up IFI's overall investment philosophy when it comes to sustainability bonds?

The need to assess the many standard drivers of new issue concessions mentioned above, plus the quality of an issuer's sustainability bond framework, means that we as investors cannot adopt a "one size fits all approach" when assessing the appropriate "greenium" for a sustainability bond. We consider "green" versus "non-green" differentials to be misleading and believe that each sustainability bond should be judged on its own merits.

IFI closely monitors ESG risks across our portfolios and especially in the sustainability bond space. We believe having a well-resourced and experienced credit team is important for assessing the issues raised here. As we make investment decisions, IFI seeks to ensure that credit spreads adequately reflect downside risks, including those related to ESG factors, and, where this is not the case, that "at-risk" names are avoided.

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

Kevin Collins

Head of Commercial Credit +1 404 439 2877 kevin.collins@invesco.com

David Lyle

Head of Residential Credit +1 404 439 4648 david.lyle@invesco.com

Ann Ginsburg

Head of Thought Leadership, Fixed Income +1 404 439 4860 ann.qinsburg@invesco.com

New York

Meral Karasulu

Director of Fixed Income Research +1 212 323 4653 meral.karasulu@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

Sam Morton

Head of European Investment Grade Credit Research +44 20 3219 2727 sam.morton@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 October 31, 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 \$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.