

QUARTERLY OUTLOOK

JULY 2021

COVID Bond Bull Market: The Next Phase Begins

Thoughts from our Chief Investment Strategist

Are We Out of the Woods Yet?

Thoughts from our Chief Economist

Fixed Income Overview

In many ways, the speed of the global economic recovery is as breathtaking as the downturn. It's a pace that has already led to an array of divergences.

Perhaps most notably, the bond market recovery persists in the face of surging growth and inflation. In our Bond Market Outlook section, [Robert Tipp, CFA, Chief Investment Strategist and Head of Global Bonds](#), suggests that rather than an anomaly, this timing is typical of the markets' forward-looking nature.

One of the global economic divergences pertains to monetary policy, as [Nathan Sheets, PhD, Chief Economist and Head of Global Macroeconomic Research](#), explains. Several EM central banks continue to tighten policy, while the developed market central banks largely stand pat.

The tangible effects of this speed and divergence is apparent in our Sector Outlooks as our portfolio managers indicate how conditions are creating opportunities—and accompanying risks—throughout the global markets.

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- [Fed Tapering: Can We Talk?](#)
- [EMs' Post-Pandemic Fiscal Adjustment: The Revenue Side](#)
- [Personal Perspective on the Implications of India's Outbreak](#)
- [The Jump in U.S. Inflation is Here. This is Where it May Head](#)

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The peak in yields is likely behind us and easing concerns over accelerating inflation should bring long-end rates down further, limiting the potential increases in other global DM rate complexes. Meanwhile, we'll watch for further volatility in the front end as the market comes to terms with a Fed that is going to be patient with its rate liftoff.

[Agency MBS](#) | 9

Underweight MBS as we start Q3 with a preference away from 30-year 2% issues, which remain heavily supported by the Fed. We also remain focused on specified pools vs. TBAs, and we favor the 20-year sector as well.

[Securitized Credit](#) | 10

Positive on high-quality, senior securitized tranches and select subordinated issues of single asset/single borrower CMBS, ABS, and non-agency credit risk transfer RMBS. We remain cautious of mezzanine risk given current valuations in CLOs and conduit CMBS.

[Investment Grade Corporate Bonds](#) | 11

Modestly positive given supportive central bank policies, favorable credit fundamentals, and strong technicals. Favor U.S. money center banks as well as select BBB-rated issues, cyclical credits, and fallen angels/crossovers.

[Global Leveraged Finance](#) | 12

Relatively balanced over the short term given how much spreads have tightened, but backdrop remains favorable given low defaults, improving fundamentals, and demand for spread product. We believe actively managed credit selection will be a differentiating factor between managers.

[Emerging Market Debt](#) | 12

Differentiation will be key. Hard currency sovereigns and corporates should outperform, and we see scope for both higher yield and high-quality issuers to stand out. The outlook for local bonds and EMFX is more mixed; much is priced into local bonds, and there are attractive opportunities in select curves. EMFX offers select value given our growth and USD outlook, but it may take longer to play out.

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Constructive based on supportive technicals and a generally favorable credit profile for municipal credits.

▼ SECTOR VIEWS ▼

COVID Bond Bull Market: The Next Phase Begins

After taking a beating in the first quarter, the bond market punched back and rebounded in the second quarter (see Figure 1). Did the bond fundamentals turn positive? Hardly. The global economy roared back as inflation soared beyond already heightened consensus expectations. Bond investors feared the worst: a world of central bankers falling behind the curve, unleashing a pernicious shift to high inflation.

Figure 1: Back So Soon?

Individual FI Sectors	Q2 2021	YTD	2020	2019	2018	2017
U.S. Long IG Corporates	6.64	-2.44	13.94	23.9	-7.24	12.09
Long U.S. Treasuries	6.46	-7.92	17.7	14.8	-1.84	8.53
EM Debt Hard Currency	4.06	-0.67	5.26	15.04	-4.26	10.26
U.S. IG Corporate Bonds	3.55	-1.27	9.89	14.5	-2.51	6.42
U.S. High Yield Bonds	2.77	3.7	6.2	14.4	-2.26	7.48
EM Currencies	2.02	-0.60	1.73	5.2	-3.33	11.54
CMBS	1.87	-0.50	8.11	8.29	0.78	3.35
U.S. Treasuries	1.75	-2.58	8	6.86	0.86	2.31
European High Yield Bonds	1.46	3.02	2.9	11.4	-3.35	6.79
U.S. Leveraged Loans	1.44	3.48	2.8	8.17	1.14	4.09
Municipal Bonds	1.42	1.06	5.21	7.54	1.28	5.45
European Leveraged Loans	1.15	2.97	2.4	4.38	1.25	3.72
EM Local (Hedged)	0.77	-2.92	6.07	9.14	0.75	3.68
Mortgage-Backed (Agency)	0.44	-0.74	3.87	6.35	0.99	2.47
European IG Corporate	0.29	-0.39	2.77	6.24	-1.25	2.41
Multi-Sector	Q2 2021	YTD	YTD	2019	2018	2017
U.S. Aggregate	1.83	-1.60	7.51	8.72	0.01	3.54
Global Agg. (Unhedged)	1.31	-3.21	9.2	6.84	-1.2	7.39
Global Agg. Hedged	0.98	-1.52	5.58	8.22	1.76	3.04
Yen Aggregate	0.25	-0.14	-0.8	1.64	0.93	0.18
Euro Aggregate (Unhedged)	-0.40	-2.28	4.05	5.98	0.41	0.68
Other Sectors	Q2 2021	YTD	YTD	2019	2018	2017
S&P 500 Index	8.55	15.25	18.4	32.6	-4.4	21.26
3-Month LIBOR	0.05	0.11	0.74	2.4	2.23	1.22
U.S. Dollar	-0.85	2.78	-6.69	1.35	4.9	-7.85

Past performance is not a guarantee or a reliable indicator of future results. See Notice for important disclosures and full index names. All investments involve risk, including possible loss of capital. Sources: Bloomberg Barclays except EMD (J.P. Morgan), HY (ICE BofAML), Bank Loans (Credit Suisse). European returns are unhedged in euros unless otherwise indicated. Performance is for representative indices as of June 30, 2021. An investment cannot be made directly in an index.

But Apparently, the Rates Were Just Too Darn High

Yet, the DM bond markets turned for the better, seemingly in the face of fundamentals. Why? In our view, the cresting of rates is mostly the result of markets curbing their long-term expectations

for growth and inflation. Yes, both may remain elevated over the next few quarters, but over the long haul, secular fundamentals, such as aging demographics and burgeoning debt loads, seem destined to bring back the moderate growth and below target inflation that plagued the world's DM central bankers prior to COVID. And relative to the long-term fundamentals? Well, apparently the rates were just too darn high.

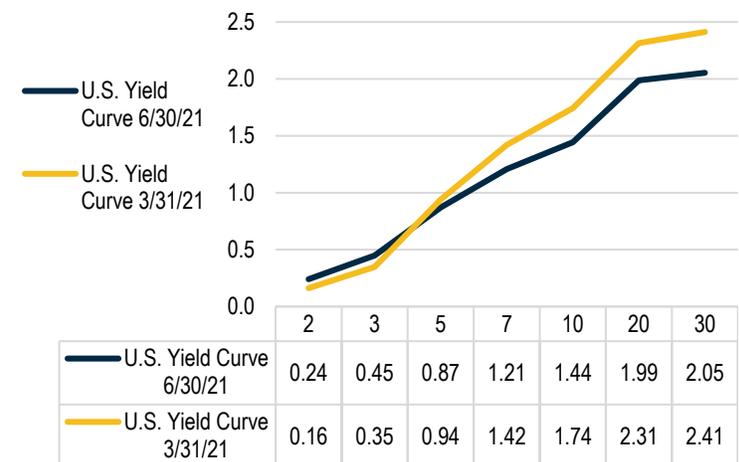
And Because Investors Live in the Future...

That may sound overly simplistic, but, then again, markets are forward looking. Take last year as an example. Credit products and stocks rebounded aggressively in March as the crisis raged, fully three months ahead of the initial evidence of the nascent economic recovery—e.g., rising payrolls and retail sales—which didn't emerge until June. The current analog is that yields may have topped and the bull market may have resumed, despite months of raging growth and inflation that probably lie ahead.

Bond Market Vigilantes? Heck, it's the Fed!

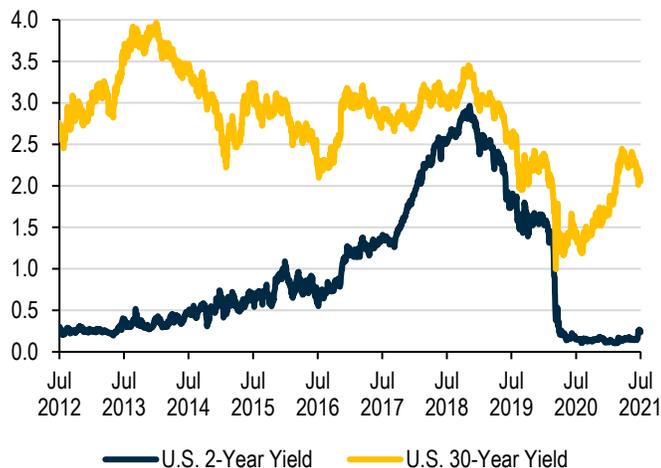
One surprising development, however, was the market impact from the Fed's turn towards tapering and pushing up its dot plot at the FOMC's June meeting. Did the fear of tapering and a steeper, faster track to a higher Fed funds rate push up the yield curve, like the taper tantrum of 2013? No, long rates continued to decline, despite an increase in short Treasury yields as investors assumed a more hawkish Fed will simply mean a lower path for rates in the long run. A firmer economic outlook, perhaps ironically, also gives the Fed and other central banks more freedom to control inflation.

Figure 2: The Fed Vigilantes Flatten the Curve



Source: Bloomberg June 2021

Bond Market Outlook

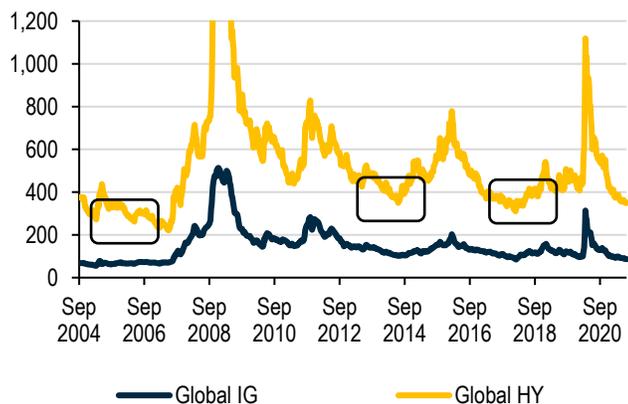


Source: Bloomberg June 2021

Any More Boost from Credit?

Credit spreads have tightened substantially since the COVID wiles, bringing many sectors to the vicinity of all-time tightness. While this clearly limits the upside going forward, our central scenario is that spread products generally continue to outperform. Fundamentals remain supportive and the overall environment of low interest rates will keep investors moving out the risk spectrum in search of higher yields. Therefore, the sectors with the highest risk and widest spreads — and the most potential for spread narrowing — are likely to continue to post the highest returns. (Figure 3).

Figure 3: Our Central Scenarios See Spreads Grinding Tighter with the Higher-Yielding, Higher-Risk Sectors, e.g. High Yield, Offering More Risk and More Potential for Further Tightening and Outperformance



Source: PGIM Fixed Income and Bloomberg June 2021

But Don't Count on Smooth Sailing

So, as of now, our supposition of a resumption of the bond bull market appears to be underway, but with the caveat that the outlook remains uncharted. With the economic and policy outlooks

subject to gross revisions and the market environment varying in terms of liquidity and risk appetite, the potential—if not likelihood—of volatility around our central scenarios is high. Growth and inflation in one month could appear threateningly high only to drop off the next month, thanks to the chaotic mix of high demand, shortages, lockdowns, etc., leading us to expect intermittent bouts of volatility along the way, especially during the summer and fall, which are seasons infamous for their share of market panics. So, we'll stay tuned for underlying changes in secular trends, but will otherwise focus on the tactical challenges and opportunities in the coming months.

Bottom Line: For the bond bull market, the game already seems to be back on with a rotation from credit to duration underway. Whether we've seen the top in rates—which is our best guess—or may yet see a twin peak later, forward rates continue to appear too high, suggesting duration is likely to contribute to bond market return over the quarters ahead. Additionally, supportive credit trends and a search for yield look set to fuel further credit sector outperformance, while volatility will likely present opportunities to add risk.

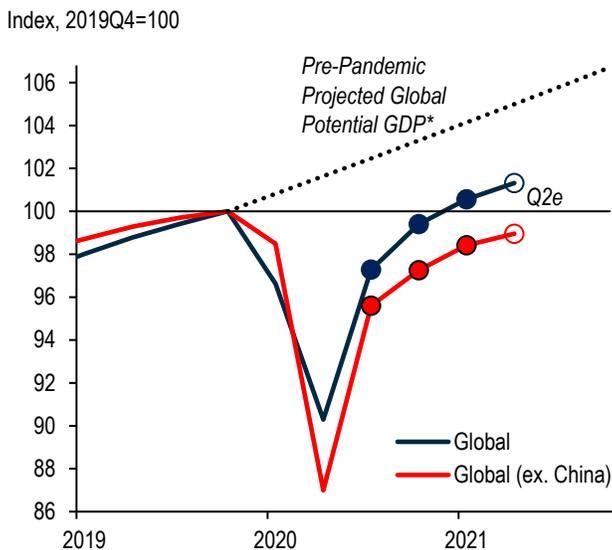
Are We Out of the Woods Yet?

The strong global rebound from the depths of the pandemic continued through the second quarter, supported by surging growth in the United States, Europe, and some emerging market economies. But the quarter also included reminders that the virus remains a threat. India and Brazil saw renewed COVID outbreaks and consequent contractions in economic activity, with a particularly sharp drop in India's GDP.

In level terms, we estimate that aggregate global GDP was slightly above pre-pandemic readings during the first half of the year. Excluding the Chinese economy, which has significantly outpaced the rest of the world, global GDP remains roughly 1 percent below — but is rapidly approaching — its pre-pandemic level.

Considerable variations in country performances are starting to emerge, as China, the U.S., and Australia look to regain their pre-COVID levels of GDP. Among the emerging markets, some countries—e.g., Indonesia and Korea—are back above pre-pandemic levels, while other countries, e.g., India, South Africa, Brazil, and Mexico, have struggled to shake off the pandemic's downdrafts.

Figure 1: Global GDP

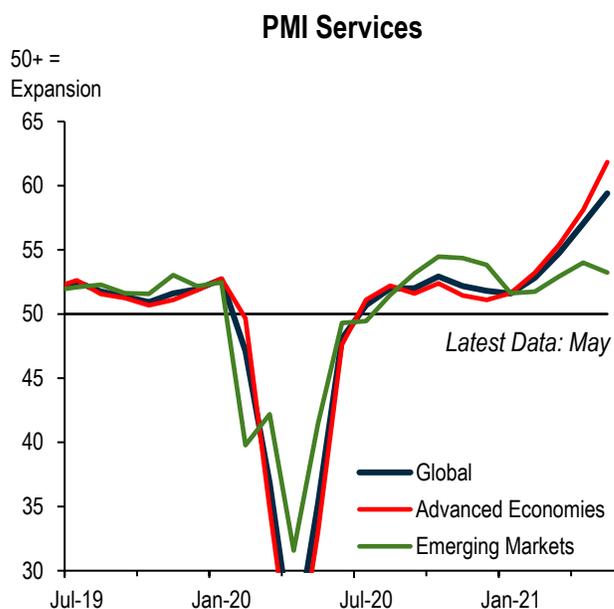
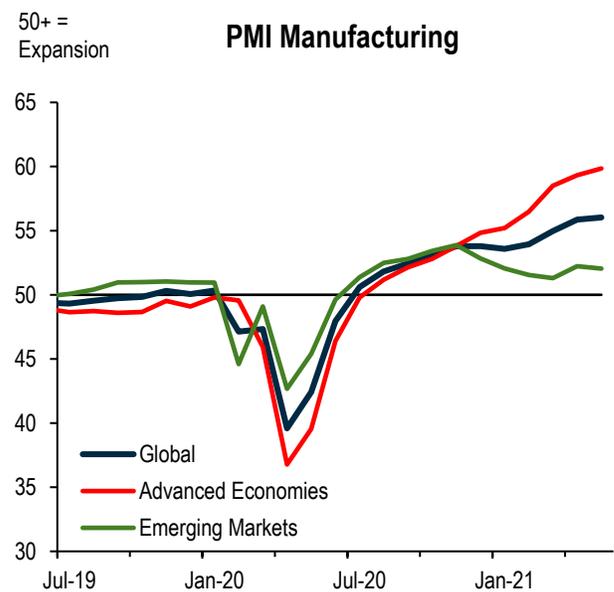


Source: Haver Analytics

Looking forward, global data are signaling a broadening of the recovery. As highlighted in Figure 2, mobility indicators have moved markedly upward over the past six weeks. The euro area has seen a large jump, likely the fruits of its rapidly advancing vaccination campaign, and India is now showing a solid rebound from its recent decline. Mobility in the United Kingdom rose sharply through the spring, but it has given back a bit of ground in recent weeks as concerns about the Delta variant have taken hold.

Further, PMIs for both global manufacturing and services are now rising well above 50, which points to a strengthening recovery. That said, these aggregate data mask the marked divergences between the developed markets (DMs), where PMIs are accelerating, and the emerging markets (EMs), where activities remain at a lower level and moving sideways. The behavior of global retail sales broadly echoes these points -- our global measure has now moved well above trend, but consumer spending in the EMs is lagging the DMs.

Figure 2: The Upward Moves in Manufacturing, Services PMIs



Source: Haver Analytics

In sum, the global recovery is likely to deepen and expand during the second half of this year, with growth in Europe and Japan

Q3 2021 Global Macroeconomic Outlook

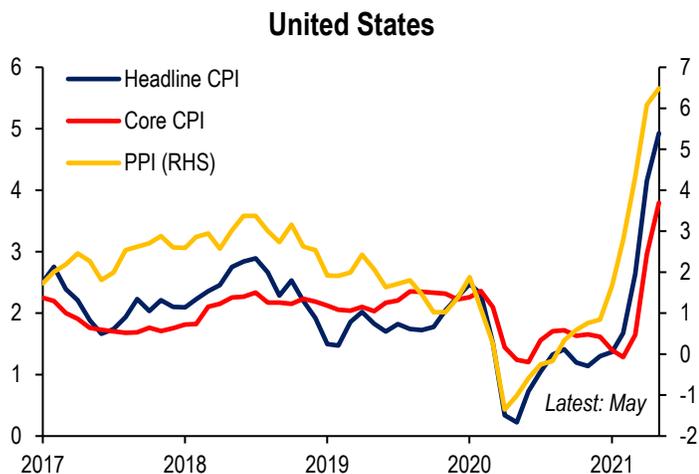
gaining steam and the U.S. rebound showing further strength. Despite the lingering softness in some emerging markets, we see recovery increasingly taking hold toward the end of this year and into 2022.

Much of the weaker aggregate performance to date in EM no doubt reflects the still-heavy effects of the pandemic in these countries, due to a lack of vaccine supply as well as more limited policy space (both monetary and fiscal) to provide economic support. But emerging markets should see the availability of doses increase sharply as higher vaccine production and plateauing demand from DMs free up vaccine availability. In line with this, we expect that EM vaccination campaigns will pick up speed through the end of this year and the first half of next year, which should also support a strengthening of economic activity in these countries.

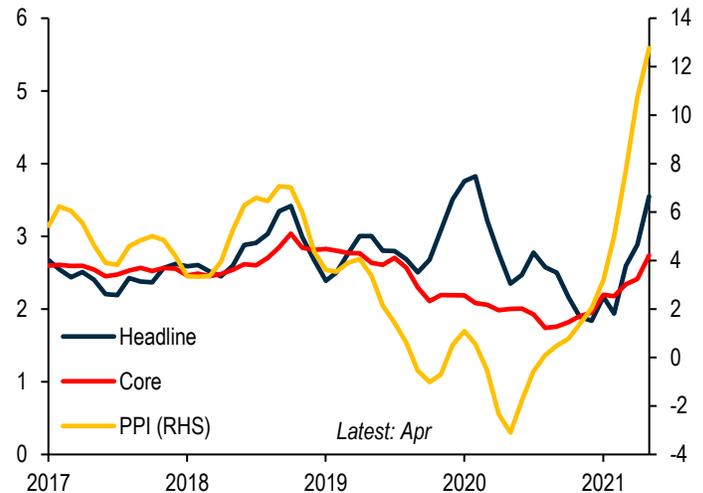
While we continue to monitor the effects of the pandemic closely, particularly the possibility of a variant that evades the vaccines, the behavior of inflation is increasingly coming to the fore as a principal risk to the global economy and markets. Such concerns have been fueled by roaring U.S. CPI readings in recent months and reinforced by producer price increases, which are nearly as hot, in countries around the world.

As highlighted in Figure 3, the U.S. has seen a marked acceleration of inflation. Part of this increase comes from so-called “base effects,” but the lion’s share of the gains has reflected surprisingly vigorous price increases. Used car prices and other vehicle prices have been particularly significant contributors to the observed increases. The rest of the world has seen a parallel increase in PPI readings, but the step up in consumer prices, particularly for core goods, has been less pronounced. We conjecture that the U.S. outperformance reflects the recent strength of domestic demand, fueled in part by the sizable fiscal stimulus.

Figure 3: U.S. and Global Inflation (12-month, %)



Global (ex. United States)



Source: Haver Analytics

What’s clear is that in the process of recovery and returning to “normal,” the global tradables sector is facing some intense shortages and disruptions. These outages have been particularly acute for semiconductors, especially for those used in auto production, but they also manifest in supply chains and commodities markets more broadly. As a result, global manufacturing PMI data show a historically severe lengthening of supplier delivery times and a corresponding increase in production backlogs.

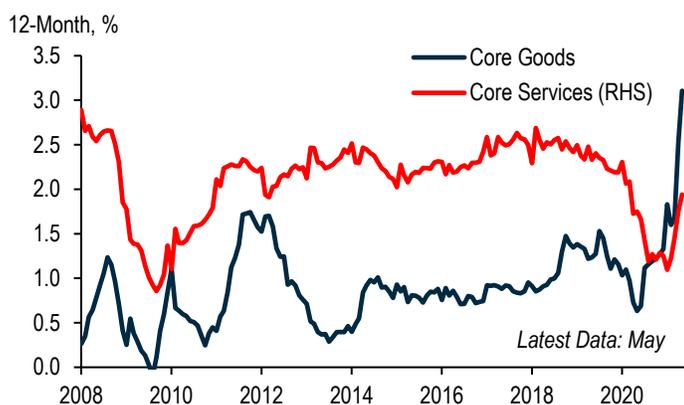
Our expectation is that such imbalances will diminish as the year progresses. The boom in spending associated with the release of pent-up demand and the return to more “normal” conditions will gradually abate. In parallel, the production side of the economy should gradually catch up: Glitches in supply chains will be resolved, production schedules will be figured out, and workers will return to employment. In some of the hardest-hit sectors, the recent surge in prices should help reinforce this adjustment by restraining demand (or prompting substitution to other goods) and incentivizing increased production.

A second inflationary force afoot is a normalization of services prices. Through the depths of the pandemic, demand for many services collapsed. In tandem, inflation rates for these services—such as airfares and hotel rooms—fell sharply, with some sectors posting outright price declines. The recent U.S. inflation data have shown a marked bounce back in these categories, but to date such evidence has generally been less pronounced in other parts of the world.

Figure 4 offers a snapshot and a summary of these dynamics. In recent months, global core goods inflation has soared to a multi-year high of well above 3%, compared with 1 to 1.5% before the pandemic. Services price inflation, in contrast, fell sharply during the pandemic but has now started to claw its way back. Our sense is that it still has quite a way to go.

Q3 2021 Global Macroeconomic Outlook

Figure 4: Global Core CPI Inflation



Source: Haver Analytics

Taken together, these developments suggest that inflation will likely continue to run somewhat hot in the months ahead. But we expect inflation to slowly abate toward the end of this year and early next year. As these pressures are resolved, we see global inflation moving back to a pace similar to pre-pandemic levels over time. By our reckoning, the structural factors that drove soft inflation performance during much of the past decade—aging demographics, high debt levels and deleveraging, and disinflationary technological advances—remain firmly in place and may even have grown stronger.

That said, recent inflation readings have admittedly surprised us on the upside. We had anticipated an episode of higher inflation, but we didn't expect to see the effects quite so soon or to be so vigorous. We are accordingly sensitive to the risk that we might continue to be surprised by inflation—it may take longer for inflation to come back down or, in any event, medium-term inflation may be somewhat higher than we anticipate.

Central banks, in turn, face the unenviable challenge of guiding their economies through these competing dynamics. To date, DM central banks have felt comfortable looking through the conflicting signals and have kept rates on hold. That said, the Federal Reserve seems to have recently shifted to more of a “risk management” approach. While maintaining a baseline view that the current bout of inflation will be “transitory,” the Fed at its June meeting recognized that the upside risks to inflation have increased. Accordingly, discussions regarding the timing of tapering are now on the table, and the Fed is signaling hikes by 2023, with some members of the FOMC advocating for a move in 2022. Even so, as a broad statement, we expect DM monetary policy to remain highly stimulative through at least this year and much of next year.

The challenges for EM central banks are, if anything, even more acute. Like the DMs, some are also observing signs of sharply higher producer prices passing through into core consumer prices. But they may not have the luxury of looking through the upsurge in inflation given many of these central banks are still building their institutional credibility. Indeed, six EM central banks, including

Russia, Brazil, and Mexico, have increased rates in recent months, and we see a number of others hiking rates during the coming year. **Thus, an increasing divergence between DM and EM central banks, as countries battle through the inflation upsurge, is likely to be a key feature of the global outlook.**

Our baseline outlook gives reasons for optimism—over the coming year, we see the global expansion broadening on an expanding vaccination effort and inflation pressures gradually abating. But the cross currents of the lingering pandemic, persistent inflation risks, and signs of divergence across countries mean that, even now, it's not clear that we're really out of the woods.

Developed Market Rates

For much of Q2, the U.S. rates complex was relatively calm as the consistency of policy accommodation led to heavily consolidated positioning, and well-defined yield ranges were rarely tested. This tranquility was disrupted near the end of the quarter by the Fed's apparent pivot to a willingness to tighten policy rates sooner. The rapid change in narrative forced a swift market repricing and led to a substantial flattening across the Treasury yield curve.

Concurrent with the flattening, market pricing for the first Fed hike was brought forward by almost six months to Q3 2022. **This dynamic market environment offers a tremendous opportunity to add value to our portfolios. We believe that while the Fed may ultimately taper bond purchases later this year, the pricing of rate hikes in the next 18 months will ultimately prove aggressive.** Meanwhile, the rise in inflation expectations has led to a substantial rally in five-year Treasury inflation-protected securities over the past year to unjustified levels. We believe that real yields remain too low, especially in the context of periods, such as 2013's taper tantrum.

At the back of the curve, nominal yields subsided alongside real yields late in Q2, while TIPS-implied breakevens remained stubbornly high. We believe breakevens will be the source of the next leg of the flattening, with the 10-year breakeven potentially declining as many as 80 bps to 1.6%.

Across the Atlantic, German bund yields will likely stay subdued as long as U.S. rates avoids another selloff. In the U.K., we think breakevens in inflation securities remains artificially elevated. The Bank of Canada has become the most hawkish of all DM central banks, boldly moving forward with tapering in April and showing less willingness to maintain a high level of policy accommodation amid the country's housing boom.

Outlook: The peak in yields is likely behind us, and easing concerns over accelerating inflation should bring long-end rates down further, limiting the potential increases in other global DM rate complexes. We'll watch for further volatility in the front end as the market comes to terms with a Fed that will likely be patient with its rate liftoff.

Agency MBS

The Fed's anticipated tapering of its MBS purchases as well as a recent change in leadership at the Federal Housing Finance Agency (FHFA) will be prominent sector themes through the second half of the year and beyond.

At this point, we expect the Fed will maintain its agency MBS purchases and reinvestments in Q3, but we anticipate that it may make changes as soon as Q4 or early 2022. While we anticipate that the Fed's progression towards tapering will be slow and gradual, we may see more OAS widening on an actual tapering

announcement. That said, lower prices and wider spreads may incentivize banks to add exposure into year end.

Broker/dealers increased their net supply estimates as Q2 progressed. We anticipate that supply could also increase following the appointment of Sandra Thompson as the new acting Director of the FHFA. We expect Thompson may reverse several policies under the prior administration that were pointed toward ending GSE conservatorship—e.g. a removal of the market refinance delivery fee, an increase in cash window origination, or a removal of GSE caps on investor/second homes.

However, some market factors, such as high home prices and constrained supply, could limit some of the increased supply expectations. Furthermore, after soaring in Q1, MBS primary rates declined back to the middle of the recent range, and we do not anticipate returning to the higher prepayment speeds of late 2020/early 2021.

While we currently expect dollar rolls to cheapen and the performance of specified pools, which appear compelling vs. agency CMBS, to improve, coupons away from current Fed purchases and origination may appear more attractive once Fed purchase activity slows.

Although MBS durations are more stable than earlier this year, additional rate/curve volatility could pose a challenge for MBS investors. TBAs have benefitted from the Fed absorbing much of the negative convexity, and tapering will subject MBS investors to worsening bond characteristics. When combined with the increased uncertainty around the policies governing Fannie Mae, Freddie Mac, and Ginnie Mae, headwinds across the sector may remain through the second half of the year.

Outlook: Underweight MBS with a preference away from 30-year 2% issues, which remain heavily supported by the Fed. We also remain focused on specified pools vs. TBAs, and we favor the 20-year sector as well.

Securitized Credit

Sector	Subsector	Spread Change (bps)	LIBOR OAS
		Q2	6/30/21
CMBS			
CMBS: Conduit AAA	First-pay 10-year	-5	65
CMBS: Conduit BBB-	BBB-	-82	268
CMBS: CMBX (OTR)	AAA	-3	45
CMBS: CMBX (2012 vintage)	AA	+64	271
CMBS: Agency Multifamily	Senior	-11	18
Non-Agency RMBS			
Legacy	RPL Senior		60
Legacy	'06/'07 Alt-A		120
GSE Risk-Sharing	M2		165

Q3 2021 Global Sector Outlook

CLOs			
CLO 2.0	AAA		
CLO 2.0	AA		
CLO 2.0	BBB		
ABS			
Unsecured Consumer Loan ABS	Seniors (One Main)		55
Unsecured Consumer Loan ABS	Class B (One Main)		75
Refi Private Student Loan	Seniors		55
Credit Card ABS	AAA Credit Card		7

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Strengthening fundamentals generally kept securitized spreads on a tightening trajectory in Q2 with the credit curve flattening. Nevertheless, broad disparities across subsectors based on the lingering effects of pandemic-related lockdowns persist, and we maintain a preference for senior securities throughout the sectors, while also seeing pockets of value in subordinated issues of select asset classes.

CMBS: In aggregate, commercial real estate prices have returned to their pre-pandemic levels, led by the industrial and apartment segments with the mall, lodging, and retail sub-sectors continuing to lag. Similarly, while overall delinquencies have declined from a peak of about 10% to 7%, hotel and retail delinquencies remain elevated at about 20% and 10%, respectively. We are closely monitoring the office sector as corporate return-to-work schedules evolve.

Our expectations for market technicals in the second half of 2021 have also evolved. We now anticipate private-label CMBS will increase 30-40% year-over-year with most of that supply coming in single-asset, single-borrower and CRE CLO transactions. Conversely, conduit supply is expected to remain flat at around \$30 billion through the remainder of the year, which we believe should support spreads on senior tranches—particularly those on long-duration fixed-coupon deals amid even more limited supply. Agency CMBS have benefitted from strong bank demand and Fed support for agency RMBS, but a change in that dynamic—particularly from the Fed—could contribute to some widening pressure on spreads. We were sellers of agency CMBS into strength in Q2.

First-pay, 10-year conduit spreads finished Q2 at a LIBOR OAS of 65 bps and, looking ahead, we believe they should be well-supported through the second half of the year amid limited supply.

Non-Agency RMBS: A confluence of factors including favorable demographics, tight inventories, low mortgage rates, and a global pandemic fueled a 13.2% appreciation in home prices over the past year. Home price appreciation has only been faster from October 2004 to December 2005—just prior to the financial crisis. While the similarity of the pace may raise concerns, we expect a normalization in home prices, but not a bust. Mortgage

delinquencies, which are primarily a result of pandemic payment forbearance programs, continue to decline, albeit at a slower pace. The market's focus now shifts to September, which is when forbearance plans are set to lapse. While many borrowers will exit forbearance stronger, others will need further assistance in the form of loan modifications. A strong housing market should provide options for borrowers who cannot afford new payments. In particular, we continue to like M2 and B1 tranches of credit risk transfer (CRT) securities and M1 tranches of mortgage insurance CRT securities. We also find value in negotiated trades to finance mortgage originators and servicers. Legacy non-agency RMBS still trade somewhat wide to pre-COVID levels; however, the asset class is losing liquidity as the tradeable float declines, and we generally do not find value in the sector amid a mix of idiosyncratic downside risk (e.g., calls, trustee malfeasance, etc.) and ongoing structural complexity.

UK RMBS richened versus European CLOs in Q2, which is a trend we expect to continue. We are also constructive on seasoned non-conforming and new origination specialist prime from strong sponsors.

CLOs: We expect heavy supply through the end of 2021 as numerous warehouses are still open and many callable deals are in the money for refinancing. The ongoing supply remains an impediment to near-term spread tightening, particularly at the top of the capital structure where we perceive the best risk-adjusted valuations. We continue to see favorable pricing power for AAA anchor investors as they can negotiate wider spreads, longer non-call periods, more par subordination, and/or original issue discounts.

Despite some marginal widening in mezzanine tranches amid the heavy supply, we expect mezzanine and equity demand will remain a positive, near-term catalyst for issuance as the search for yield continues, market liquidity remains elevated, and other markets grind tighter.

In European CLOs, it appears more deals, particularly resets, are being delayed given the relative spread widening, which could mitigate the pressure if supply decreases. However, our issuance forecast remains above consensus as we see more than 60 open warehouses. Therefore, we expect euro AAA primary spreads may settle in the mid-to-high 90 bps area in the near term—wider than where bonds are printing today—especially as the value of the coupon floor decreases as rates in Europe bear steepen. We believe the floor for AAA tranches is worth about +51 bps for shorter-tenor bonds and about +29 bps for longer tenors as these values continue to move along with rates (and weighted average life estimates).

ABS: Although we see supportive fundamentals in the ABS market, a strong technical environment driven by limited supply and an abundance of cash reduces the attractiveness of on-the-run ABS relative to other securitized products. This year's YTD gross new issuance of about \$112 billion is on pace with 2019 (\$109

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billion) and well ahead of 2020 due to the early pandemic-related shutdown, yet net supply is trending toward zero.

We remain constructive on higher-value ABS, such as select unsecured consumer loans, top-tier subprime auto, and prime auto credit risk transfer issues. Recent vintage collateral quality is high as most originators tightened underwriting to address managed portfolio performance during the pandemic. Additionally, structural protections are robust for recent vintage ABS trusts as they are designed to counter increased loss expectations. We expect both trends to gradually normalize towards pre-COVID standards as consumer fundamentals continue to improve.

We are mindful of heightened regulatory scrutiny of consumer credit providers and the judicial risks from a lack of clarity around valid-when-made and true lender issues.

Outlook: Positive on high-quality, senior securitized tranches and select subordinated issues of single asset/single borrower CMBS, ABS, and non-agency credit risk transfer RMBS. We remain cautious of mezzanine risk given current CLO and conduit CMBS valuations.

Investment Grade Corporate Bonds

	Total Return (%)		Spread Change (bps)		OAS (bps)
	Q2	YTD	Q2	YTD	6/30/21
U.S. Corps.	3.55	-1.27	-11	-16	83
European Corps	0.29	-0.39	-7	-9	80

Past performance is not a guarantee or a reliable indicator of future results. See Notice for important disclosures. All investments involve risk, including possible loss of capital. Represents data for the Bloomberg Barclays U.S. Corporate Bond Index and the Bloomberg Barclays European Corporate Bond Index (unhedged). Source: Bloomberg Barclays as of June 30, 2021. An investment cannot be made directly in an index.

Although U.S. and European IG spreads tightened to near historic levels in Q2, we believe favorable credit fundamentals, solid technicals, and accommodative monetary policies may provide room for additional tightening in select areas of the market, which supports our modestly positive view of the sector.

U.S. Corporate Bonds: While corporate fundamentals are generally in good standing amid solid liquidity and improved cashflows and profits, it's possible we've reached the peak in year-over-year profit growth. Leverage continues to improve, particularly within BBB-rated issuers as companies remain committed to paying down debt, which has led to some positive credit rating momentum. However, management confidence is growing and event risk from M&A remains prevalent with inquiry activity at record levels. M&A transactions could become more difficult following the appointment of Lina Khan as chairwoman of the Federal Trade Commission. Finally, higher-quality, A and AA-rated issuers may increase capital expenditures, debt-financed acquisitions, and share buybacks, with BBB-rated issuers following suit in 2022.

Technicals remain strong amid steady demand, which includes buying from overseas investors and pensions, and reduced net

issuance, particularly from long industrials. However, elevated bank issuance could generate supply-related headwinds going forward.

We favor spread compression trades in select BBB-rated and off-the-run credits, which may be approaching the lower end of their respective spread ranges. We also believe 20-year, off-the-run corporates should continue to outperform, and we see opportunities in fallen angels as well as crossover issues with the potential for numerous rating upgrades. We favor cyclical sectors, such as autos, energy, and chemicals, and are maintaining an overweight in pipelines as well as money center banks that are well capitalized and have become increasingly more attractive. We remain defensive on A-rated industrials.

We believe U.S. IG spreads will continue to trade in a narrow range in Q3. However, notable upside performance could be limited by the flatness of spread curves, inflation-related volatility, and/or the potential for higher U.S. corporate tax rates.

European Corporate Bonds: The performance of European IG spreads exceeded our expectations in Q2, yet we believe there is still room for moderate index tightening in Q3, led by further spread compression in BBBs and financials, respectively. However, we believe the extent of additional tightening is limited, particularly due to continued—albeit waning—COVID-related restrictions, potential supply-related pressure, and rate volatility associated with a transitory rise in euro area inflation.

We maintain moderately long spread duration relative to the European corporate index, and we prefer opportunities in credits that are not eligible for the ECB's asset purchase programs due to relatively attractive spreads and low credit risk—a preference which has driven our overweight to “reverse-yankee” euro-denominated bonds. We're also maintaining our overweight to banks.

Global Corporate Bonds: In global corporate portfolios, we continue to hold an agnostic view of USD vs. euro spreads as we believe there are still ample cross-currency opportunities with varying degrees of attractiveness. Portfolio risk remains at a reasonable level to benefit from spread compression trades. We also hold a slight overweight in spread duration (long exposure to the euro and USD and short exposure to the yen, Swiss franc, etc.). We also still favor U.S. money center banks and BBB-rated bonds. We continue to take advantage of price and yield dislocations between EUR and USD bonds of the same and/or similar issuers even as the spread dynamic between the two has reversed, with dollar-denominated IG spreads trading slightly tighter than their euro-denominated counterparts.

Outlook: Modestly positive given supportive central bank policies, favorable credit fundamentals, and strong technicals. Favor U.S. money center banks as well as select BBB-rated issues, cyclical credits, and fallen angels/crossovers.

Global Leveraged Finance

	Total Return (%)		Spread Change (bps)		OAS/DM (bps)
	Q2	YTD	Q2	YTD	6/30/21
U.S. High Yield	2.77	3.70	-32	-82	304
Euro High Yield	1.46	3.02	-17	-61	304
U.S. Leveraged Loans	1.44	3.48	-6	-43	443
Euro Leveraged Loans	1.15	2.97	-15	-49	410

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The second quarter was one of high-yield milestones. U.S. high yield spreads traded through their post-financial crisis tightness and yields reached a record low, while European high-yield spreads tightened through their pre-pandemic levels. Looking ahead, solid fundamentals and investors' ongoing search for yield should continue to support the sector through the second half of the year.

U.S. Leveraged Finance: We remain constructive on U.S. high yield given the fundamental backdrop of strong corporate earnings, stable Treasury yields, growing confidence that inflation will be transitory, and increased M&A activity will likely target more high-yield issuers.

Furthermore, many of the sector's weaker credits were purged by the brief, severe shutdowns, while an influx of fallen angels and equity sponsors' preference to fund lower-quality credits in the loan market contributed to a rising share of BB-rated bonds. Against that backdrop, we recently reduced our base-case default rate expectations to 0.9% over the next 12 months and to 1.0% over the following 12 months. Hence, our outlook sees another 30 bps of spread tightening over the next year. This optimism is tempered modestly by the remote tail risk of COVID mutation that sets back vaccination efforts, higher-than-expected inflation leading to an increasingly hawkish U.S. Fed, and/or a materially higher U.S. tax regime on corporations and higher-income individuals.

In terms of positioning, we believe BB-rated and higher-quality B-rated bonds are attractive on a relative-value basis. We are currently underweight BBs but are selectively adding exposure. We are maintaining an overweight in the housing, gaming, and automotive sectors. We are adding to our overweight in independent power producers and maintaining our underweight in retail.

U.S. leveraged loans also gained in Q2 as inflows into bank loan mutual funds and robust CLO formation provided a strong technical backdrop as investors sought floating rate assets as a potential hedge against rising interest rates. Meanwhile, institutional demand remains strong as investors seek out additional ways to earn spread. Strong technical, combined with an improved outlook and a decline in default rates, drove loan spreads tighter during the quarter. In addition to spread tightening, at 97.97, the average loan

price within the benchmark index ended the quarter 1.0% above the January 2020 highs.

Looking forward, CLO creation and refinancings remain robust and we expect this momentum to continue in Q3. Meanwhile, inflows into loan mutual funds will likely continue as investors seek hedges against potential increases in interest rates.

We currently favor the B segment of the market given the higher coupons and ongoing demand for CLOs. We continue to see risks in the retail, airline, energy, gaming & lodging, and leisure industries.

European Leveraged Finance: With European high yield spreads now through pre-pandemic levels and slowly approaching post-financial crisis tightness, the market feels more balanced in early Q3. On the positive side, we are confident macroeconomic data will continue to steadily improve as the major economies slowly re-open, thus we think default rates will remain low (below 1.5% for high yield and around 2.0% for loans in 2021). However, there are still many potential speed bumps ahead, whether they are COVID-related (e.g. vaccination rates or vaccine efficacy against new variants) or concerns around inflation and tapering. Hence, short-term market moves will be difficult to predict and active management remains crucial.

In terms of positioning, we are currently running slightly above market-level risk, with investments weighted towards the best relative-value opportunities given the evolving backdrop.

Outlook: Relatively balanced over the short term given the recent spread tightening, but the backdrop remains favorable given low defaults, improving fundamentals, and demand for spread product. We believe actively managed credit selection will be a differentiating factor between managers.

Emerging Markets Debt

	Total Return (%)		Spread / Yield Change (bps)		OAS (bps)/ Yield %
	Q2	YTD	Q2	YTD	6/30/21
EM Hard Currency	4.06	-0.67	-14	-12	340
EM Local (Hedged)	0.77	-2.92	-1	77	4.98
EMFX	2.02	-0.60	-2	122	N/A
EM Corps.	2.10	1.28	1	-31	296

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The EMD sector benefitted from renewed momentum in Q2 as long-duration, high-quality assets performed well amid the stabilization and consolidation in U.S. Treasury yields while high-beta, hard currency bonds (particularly those from commodity-sensitive issuers) outperformed, and local rates as well as EMFX recovered on a weaker U.S. dollar and a shifting focus to global growth. Looking ahead we see several factors—strong global

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growth, accommodative developed market monetary policy, ongoing fiscal stimulus, elevated commodity prices, IMF support (including special drawing rights) and inflows—that should continue to benefit the sector given its attractive relative value amid investors' ongoing search for yield. However, our bottom-up views remain critical as there is seemingly less willingness from the market to give issuers with negative surprises the benefit of the doubt. Dispersions of performance in spreads, rates and EMFX will persist going forward.

In terms of potential Fed action, EM debt has performed well in three of the last four episodes of tightening monetary policy in the U.S.—mid-2005 through mid-2006; the first half of 2009; and mid-2016 through 2018. While the period of underperformance was during the 2013 taper tantrum, today's current account balances, which are a vital aspect of resiliency in rising rate environments, are in solid surplus, while they were in deep deficits during the tantrum. Furthermore, credit spreads are significantly wider, local yields are meaningfully higher, inflation forecasts are much lower, and many EM central banks have already turned hawkish.

Risks to our view include a more dramatic slowdown in global growth (possibly driven by a Fed rate liftoff sooner than we expect), a hard economic landing in China, and a significant decline in commodity prices. These risks could negatively impact EMD given the higher debt levels and weaker fiscal dynamics. However, we think the probability of this tail risk is manageable.

Hard Currency Spreads: Hard currency debt remains our highest conviction asset class within EM. Despite the rise in global yields, investors will continue to search for yield in areas where they find relative value and acceptable risks as developed market yields remain so low. Outside of a few smaller issuers (e.g., Sri Lanka, Ethiopia, and Belize), we do not foresee any further defaults in the medium term, and the relative value versus other asset classes, such as U.S. high yield, remains attractive. We expect credit differentiation to continue in the second half of the year, both between high-quality (IG and the stronger BB) and high-beta issuers (weaker BB and below) as well as within the high-beta sector itself. Higher-quality issuers could trade through their all-time tightness given the low level of developed market yields, especially if they continue to consolidate.

Within higher-beta issuers, we see a lot of value in select issuers, such as Ukraine, Ivory Coast, Angola, Nigeria, Pakistan, Gabon, and quasi-sovereigns, including Pemex and Eskom. We believe that higher-beta issuers with adjusted policies that can reduce fiscal deficits and can grow this year will outperform, while weaker issuers with sustained fundamental damage without proper policy adjustments will likely underperform. Importantly, much of the recent issuance from frontier markets has come with a liability management component, which should help external debt maturities over the next few years.

The outlook for EM corporates is favorable, and we believe the recent benchmark index spread of 290 bps could compress

somewhat further. Fundamentals are strong with net leverage of 1.4x at end 2021 to be the lowest since 2011, and default expectations are anchored at around 2.5-3.0% for EM high yield corporates (which does not include the asset management sector in China or property developer Evergrande) and liquidity is ample. We like the B+/BB space in the 5-7 year maturities as the basis between EM high yield and investment grade corporates remains wide, and the spread to U.S. high yield is elevated given the strong performance of U.S. high yield so far this year. EM corporate gross supply of \$280B YTD is running ahead of full-year expectations of \$500-550 billion (2020 totaled \$497 billion) but YTD net supply of about \$60 billion is manageable, and inflows remain positive.

Local Rates: The outlook for local rates got muddier after the June FOMC meeting. While the front end in most markets is pricing pre-COVID policy rates, uncertainty around the timing of tapering and the Fed's apparent wavering of its flexible average inflation targeting (FAIT) framework require an extra risk premium, particularly in Latin America and Central and Eastern Europe, the Middle East, and Africa. Local markets are also vulnerable to currency depreciation if higher U.S. real yields lead to a stronger USD environment.

Our biggest overweights are in China and Indonesia. Inflation in these three countries is still within their central banks' target, and net issuance is either met by high offshore demand (China and South Africa) or by the central bank (Indonesia). South Africa, Russia, and Mexico are modest overweights due to attractive nominal and real yields. One notable change is a recent reduction in our conviction in Mexico. With elevated core inflation and a monetary policy linked to the U.S., the Mexican central bank faces a tough task convincing the market that it can remain on hold for rest of the year. As a result, we are keeping a flattener bias in Mexico. Lack of inflows into EM-ex China and capitulation by EM central banks on their dovish stances bodes well for the technical and fundamental picture, but volatility in the U.S. yield curve as well as elevated energy and food prices may remain a headwind in Q3.

EMFX: Given the uncertainty of the Fed's commitment to FAIT, the backdrop for FX will likely remain mixed. With real yields likely stable and the market in suspense about the 2024 dots (to be released at the September meeting), the broad dollar is unlikely to weaken.

Assuming the global recovery continues and EM gains momentum as expected, we think many of the outperformers will remain familiar. Specifically, the Brazilian real, Russian ruble, and Indian rupee are our largest overweights as the carry on each is set to increase as central banks hike rates and external balances are in solid shape. We also think there is opportunity in the Korean won, which has underperformed this year. We think this underperformance is unjustified in light of a central bank that will hike shortly, the country's current account surplus, and potentially improved equity flows. We continue to think the Colombian peso and the Peruvian sol will lag due to uncertainty around politics shifting towards the left, and we think the Turkish lira will also lag

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due to Erdogan's unorthodoxy. We are maintaining underweights in all three currencies for the time being.

In terms of the U.S. dollar, the recent strength is unlikely to be sustained. Assuming the global recovery continues and more EM and G10 central banks gain confidence in turning more constructive, Q4 will likely be better for EMFX than Q3. At that point, investors may have more details about the Fed's tapering and its 2024 dot, while more central banks turn constructive. We don't see a repeat of 2013 when the Fed turned hawkish while the rest of the world turned dovish as the global recovery lost footing and the USD posted sustained gains.

Technical: We expect corporate and sovereign issuance to remain heavy and meet solid demand. Inflows into EM bond funds remain ahead of prior years, and we believe they will continue for the foreseeable future as EM positioning is still well below pre-COVID levels. That said, we are watching sentiment and risk appetite in EMFX as it appears to be at the high end of the range, which could put pressure on currencies in a reversal. Historical returns are skewed to the downside in EMFX when sentiment reaches its most bullish levels.

Outlook: Differentiation will be key. Hard currency sovereigns and corporates should outperform, and we see scope for both higher yield and high-quality issuers to stand out. The outlook for local bonds and EMFX is more mixed; much is priced into local bonds, and there are attractive opportunities in select curves. EMFX offers select value given our growth and USD outlook, but it may take longer to play out.

Municipal Bonds

	Total Return (%)	
	Q2	YTD
High Grade	1.42	1.06
High Yield	3.93	6.13
Long Taxable Munis	5.57	0.52

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The supportive technical backdrop remained intact during Q2 as mutual fund inflows continued at a record pace and new issuance remained manageable. Gross supply totaled \$236B, a 10% increase year-over-year, and included \$66B of taxable municipal issuance, a 10% decline year-over-year. Year-to-date, municipal mutual fund flows total \$59.5B

While tax-exempt municipals generally performed in-line with Treasuries during Q2, year-to-date outperformance leaves the Municipal/Treasury ratios at 69% and 73% in 10 years and 30 years, respectively, compared to 78% and 85% at the start of 2021. Taxable municipals also benefited from favorable technicals, resulting in the long taxable municipal index tightening by 43 bps, outperforming both the long corporate and long credit indices.

The technical environment for tax-exempt municipals should continue to provide a favorable backdrop through the summer as net supply is forecast to be negative. In addition, the record pace of mutual fund inflows shows no sign of abating. Significant federal stimulus, along with the continued economic recovery, has bolstered the credit fundamentals for a wide variety of issuers across the municipal sectors. Outlooks for the majority of municipal sectors have been revised upward to stable or even positive in certain cases. We are seeing positive ratings actions for some key states based on solid revenue growth as the economy bounces back from the pandemic. Moody's recently upgraded the State of Illinois to Baa2 from Baa3 and shifted its outlook to positive on the State of New York (Aa2) from stable.

We expect lower rated investment grade credits to continue to outperform higher quality credits as investors seek additional yield. Any spread widening due to an uptick in supply toward quarter end or interest rate volatility is viewed as a buying opportunity. High grade taxable municipals should also benefit from manageable supply and continued interest from a broad group of investors who appreciate the favorable credit fundamentals of the asset class. We continue to believe that essential service revenue bond credits provide better insulation from downgrade risk than corporate bonds.

A bipartisan framework for an infrastructure package was reached at the end of Q2. One area of focus for the municipal market is the inclusion of direct-pay bonds similar to Build America Bonds. While details regarding the federal subsidy level are unknown, the current strength of the tax-exempt market would make it unlikely that an issuer would choose to issue a direct-pay taxable bond vs. a tax-exempt issuance. However, this would provide municipal issuers an important option during periods of dislocation.

While the outlook for state credits is positive based on federal stimulus and the economic recovery, unfunded pension liabilities and other post-employment benefit (OPEB) obligations remain a long-term credit concern for certain states and localities.

Outlook: Constructive based on supportive technicals and a generally favorable credit profile for municipal credits.

Important Information

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European Investment Grade Corporate Bonds: Bloomberg Barclays European Corporate Bond Index (unhedged): The Bloomberg Barclays Euro-Aggregate: Corporates bond Index is a rules-based benchmark measuring investment grade, EUR denominated, fixed rate, and corporate only. Only bonds with a maturity of 1 year and above are eligible.

U.S. High Yield Bonds: ICE BofAML U.S. High Yield Index: The ICE BofAML U.S. High Yield Index covers US dollar denominated below investment grade corporate debt publicly issued in the US domestic market. Qualifying securities must have a below investment grade rating (based on an average of Moody's, S&P and Fitch), at least 18 months to final maturity at the time of issuance, and at least one year remaining term to final maturity as of the rebalancing date.

Important Information

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U.S. Senior Secured Loans: Credit Suisse Leveraged Loan Index: The Credit Suisse Leveraged Loan Index is a representative, unmanaged index of tradable, U.S. dollar denominated floating rate senior secured loans and is designed to mirror the investable universe of the U.S. dollar denominated leveraged loan market. The Index return does not reflect the impact of principal repayments in the current month.

European Senior Secured Loans: Credit Suisse Western European Leveraged Loan Index: All Denominations EUR hedged. The Index is a representative, unmanaged index of tradable, floating rate senior secured loans designed to mirror the investable universe of the European leveraged loan market. The Index return does not reflect the impact of principal repayments in the current month.

Emerging Markets U.S.D Sovereign Debt: JP Morgan Emerging Markets Bond Index Global Diversified: The Emerging Markets Bond Index Global Diversified (EMBI Global) tracks total returns for U.S.D-denominated debt instruments issued by emerging market sovereign and quasi-sovereign entities: Brady bonds, loans, and Eurobonds. It limits the weights of those index countries with larger debt stocks by only including specified portions of these countries' eligible current face amounts of debt outstanding. To be deemed an emerging market by the EMBI Global Diversified Index, a country must be rated Baa1/BBB+ or below by Moody's/S&P rating agencies. Information has been obtained from sources believed to be reliable, but J.P. Morgan does not warrant its completeness or accuracy. The Index is used with permission. The Index may not be copied, used, or distributed without J.P. Morgan's prior written approval. Copyright 2020, J.P. Morgan Chase & Co. All rights reserved.

Emerging Markets Local Debt (unhedged): JPMorgan Government Bond Index-Emerging Markets Global Diversified Index: The Government Bond Index-Emerging Markets Global Diversified Index (GBI-EM Global) tracks total returns for local currency bonds issued by emerging market governments.

Emerging Markets Corporate Bonds: JP Morgan Corporate Emerging Markets Bond Index Broad Diversified: The CEMBI tracks total returns of U.S. dollar-denominated debt instruments issued by corporate entities in Emerging Markets countries.

Emerging Markets Currencies: JP Morgan Emerging Local Markets Index Plus: The JP Morgan Emerging Local Markets Index Plus (JPM ELMI+) tracks total returns for local currency-denominated money market instruments.

Municipal Bonds: Bloomberg Barclays Municipal Bond Indices: The index covers the U.S.D-denominated long-term tax-exempt bond market. The index has four main sectors: state and local general obligation bonds, revenue bonds, insured bonds, and pre-refunded bonds. The bonds must be fixed-rate or step ups, have a dated date after Dec. 13, 1990, and must be at least 1 year from their maturity date. Non-credit enhanced bonds (municipal debt without a guarantee) must be rated investment grade (Baa3/BBB-/BBB- or better) by the middle rating of Moody's, S&P, and Fitch.

U.S. Treasury Bonds: Bloomberg Barclays U.S. Treasury Bond Index: The Bloomberg Barclays U.S. Treasury Index measures U.S. dollar-denominated, fixed-rate, nominal debt issued by the U.S. Treasury. Treasury bills are excluded by the maturity constraint but are part of a separate Short Treasury Index.

Mortgage Backed Securities: Bloomberg Barclays U.S. MBS - Agency Fixed Rate Index: The Bloomberg Barclays U.S. Mortgage Backed Securities (MBS) Index tracks agency mortgage backed pass-through securities (both fixed-rate and hybrid ARM) guaranteed by Ginnie Mae (GNMA), Fannie Mae (FNMA), and Freddie Mac (FHLMC). The index is constructed by grouping individual TBA-deliverable MBS pools into aggregates or generics based on program, coupon and vintage.

Commercial Mortgage-Backed Securities: Bloomberg Barclays CMBS: ERISA Eligible Index: The index measures the performance of investment-grade commercial mortgage-backed securities, which are classes of securities that represent interests in pools of commercial mortgages. The index includes only CMBS that are Employee Retirement Income Security Act of 1974, which will deem ERISA eligible the certificates with the first priority of principal repayment, as long as certain conditions are met, including the requirement that the certificates be rated in one of the three highest rating categories by Fitch, Inc., Moody's Investors Services or Standard & Poor's.

U.S. Aggregate Bond Index: Bloomberg Barclays U.S. Aggregate Bond Index: The Bloomberg Barclays U.S. Aggregate Index covers the U.S.D-denominated, investment-grade, fixed-rate or step up, taxable bond market of SEC-registered securities and includes bonds from the Treasury, Government-Related, Corporate, MBS (agency fixed-rate and hybrid ARM passthroughs), ABS, and CMBS sectors. Securities included in the index must have at least 1 year until final maturity and be rated investment-grade (Baa3/ BBB-/BBB-) or better using the middle rating of Moody's, S&P, and Fitch.

The S&P 500® is widely regarded as the best single gauge of large-cap U.S. equities. There is over U.S.D 9.9 trillion indexed or benchmarked to the index, with indexed assets comprising approximately U.S.D 3.4 trillion of this total. The index includes 500 leading companies and captures approximately 80% coverage of available market capitalization.

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