PGIM FIXED INCOME

Q3 22
QUARTERLY OUTLOOK

Published July 2022

WHATS INSIDE?

Select a section to jump ahead.

	Total Returns (%)				
Individual FI Sectors	Q2 22	YTD	2021	2020	2019
EM Debt Hard Currency	-11.43	-20.31	-1.80	5.26	15.04
EM Local (Hedged)	-3.22	-11.09	-5.52	6.07	9.14
EM Currencies	-4.57	-9.84	-3.09	1.73	5.2
CMBS	-2.85	-8.28	-0.64	8.11	8.29
Municipal Bonds	-2.94	-8.98	1.52	5.21	7.54
U.S. Treasuries	-3.78	-9.14	-2.32	8.00	6.86
Mortgage-Backed (Agency)	-4.01	-8.78	-1.04	3.87	6.35
U.S. Leveraged Loans	-4.35	-4.45	5.40	2.8	8.17
European Leveraged Loans	-7.10	-7.62	4.87	2.4	4.38
U.S. IG Corporate Bonds	-7.26	-14.39	-1.04	9.89	14.5
European IG Corporate	-7.29	-11.88	-0.97	2.77	6.24
U.S. High Yield Bonds	-9.83	-14.19	5.36	6.2	14.4
European High Yield Bonds	-10.65	-14.34	3.32	2.9	11.4
Long U.S. Treasuries	-11.93	-21.25	-1.13	17.7	14.8
U.S. Long IG Corporates	-12.80	-22.75	-4.65	13.94	23.9
Multi-Sector					
Yen Aggregate	-1.34	-2.87	-2.85	-0.8	1.64
Global Agg. Hedged	-4.30	-9.06	-0.15	5.58	8.22
U.S. Aggregate	-4.69	-10.35	-1.39	7.51	8.72
Euro Aggregate (Unhedged)	-7.10	-12.13	-4.71	4.05	5.98
Global Agg. (Unhedged)	-8.26	-13.91	-1.54	9.2	6.84
Other Sectors					
U.S. Dollar (DXY Index)	6.48	9.4	6.37	-6.69	1.35
3-Month SOFR	1.44	2.08	0.03	-1.5	-0.85
S&P 500 Index	-16.1	-20.0	28.71	18.4	32.6

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 except EMD (J.P. Morgan), HY (ICE BofA), Bank Loans (Credit Suisse). European returns are unhedged in euros unless otherwise indicated. Performance is for representative indices as of June 30, 2022. An investment cannot be made directly in an index.

SECTION 1

KEY CONVICTIONS & INVESTMENT THEMES

01

KEY CONVICTIONS & INVESTMENT THEMES

1 **The Next Episode for Fixed Income.** After the markets' thorough drubbing in the first half, fixed income's next episode starts with a more balanced picture of elevated interest rates, wider credit spreads, and shorter durations. It's too soon to sound the all-clear on periods of jarring volatility (see below). Yet, from a long-term perspective, exposure to developed market duration is becoming more compelling after the broad repricing and with the looming moderation in global growth.

2 **Knowingly into the Unknown.** Global central banks know what they want to do about inflation. However, the market reaction in the first half indicates broad concern about the unknown consequences of how they get there. For example:

- the Fed's abandonment of forward guidance leaves it highly dependent on backward-looking data;
- the initial steps of the ECB's policy withdrawal have re-ignited fragmentation risk within the currency bloc;
- the UK shows that only marginal policy tightening is needed to curtail growth in the more fragile developed markets;
- the sharp depreciation in the Japanese yen demonstrates the difficultly of swimming against the global tide of tightening policies.

3 **Credit-Cycle Compression.** The new, fraught reality for global corporations is a function of a highly-compressed credit cycle. For many, bloated inventories, persistent supply chain disruptions, and squeezed margins point to a period of downward revisions in corporate earnings estimates.

4 **The Consistent Sector Theme.** With that backdrop, a consistent theme emerges throughout the following Sector Outlooks: the most attractive return opportunities across fixed income lie in accurate issue and credit selection, rather than broad market exposure with its exacerbated risks of illiquidity and potential credit stress.

PGIM FIXED INCOME

SECTION 2

BOND MARKET OUTLOOK

By Robert Tipp, CFA, Chief Investment Strategist and Head of Global Bonds

02

PHOENIX

Our title is a polite way of saying that the bond market just went up in flames, a decade of declining yields reversed in a matter of weeks (Figure 1). From a starting point of low yields, tight spreads, and high equity multiples, the shift in fundamentals — most notably, high inflation — drove a wholesale repricing of markets. Net result: first half returns for bonds and stocks haven't been this bad since, well, inflation and uncertainty were this high back in the 1970s (Figure 2).

Of course, the "Phoenix" title also implies a rebirth, but that's jumping ahead. Before we can get to the good part — and it's not clear the market is in a big rush to get to that part of the story — let's first look at the anatomy of the selloff and how the progression through the ashes is likely to play out.

Credit and Interest-Rate Cycles may be Parting Ways

During most of the first half there was largely a parallel reaction of widening spreads and rising interest rates. But late in Q2, the dynamic changed: spreads continued to widen, but yields dropped dramatically (Figure 3). What gives, and where to from here?

Credit: Weaker Until all the Risks Have Materialized?

In the final weeks of the quarter, economic releases revealed that higher interest rates and higher prices for goods and services were finally taking a toll on growth, with purchasing manager surveys, property sales, and consumer

Figure 1
The shift to high inflation drove yields to the highest levels in the past decade. (%)

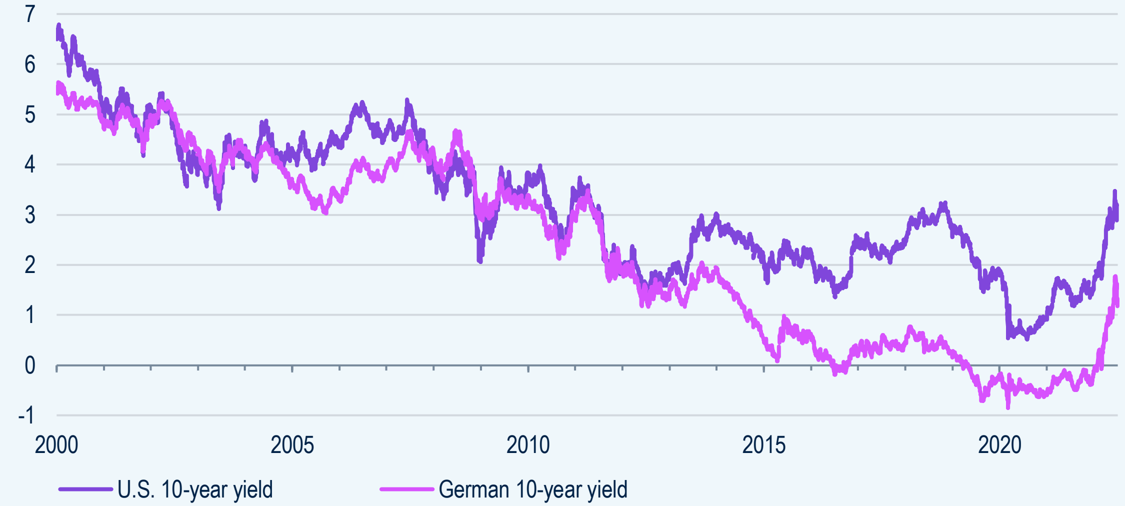
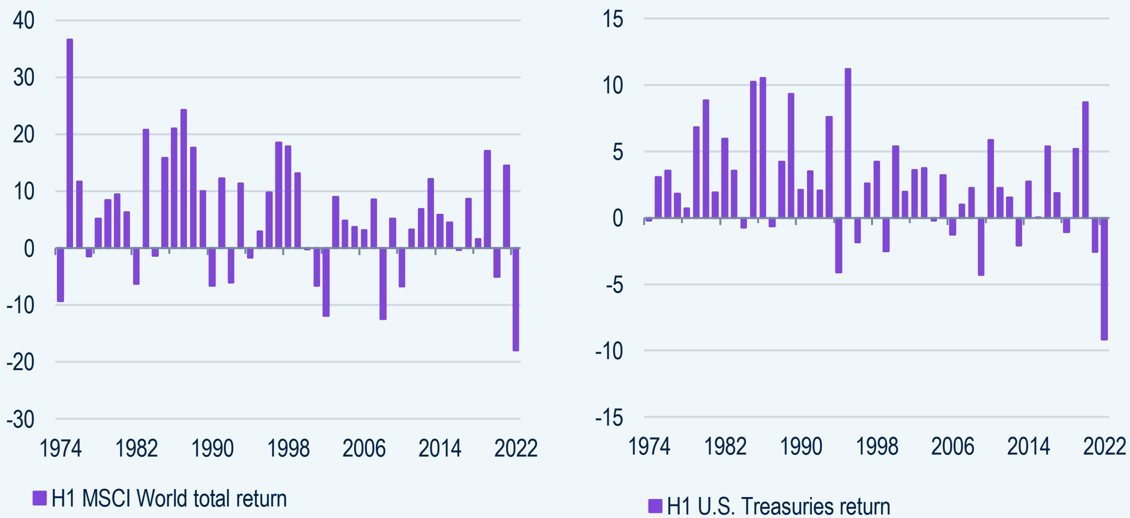


Figure 2
Record-H1 damages as stocks and bonds braced against a common threat: high inflation. (H1; %)



Source Figure 1: PGIM Fixed Income and Bloomberg; Figure 2: Barclays Research expectations all flagging badly. Markets began to brace for an economic hard landing.

Whereas in the good old days of low inflation, severe strains in financial conditions—a euphemism for tumbling markets like we are experiencing—regularly triggered central bank pivots from tightening to easing. But with the radically different backdrop of historic lows in unemployment and generational highs in inflation, central bankers are signaling—and markets are fearing—that things will be different this time. Namely, that central banks will be willing to accept more economic and market pain than they previously have over the last decade of low inflation. If they can avoid a recession, they will. But more than anything else, they want to get inflation under control.

As a result, even though fundamentals and issuer liquidity are arguably well braced for recession and we see spread widening as generating value in a number of sectors (as enumerated in the Sector Outlooks), we believe spreads may remain soft, moving towards pricing in a hard landing until most of the current bad news—e.g., cutoff of Russian gas supplies, cooling of the housing market etc.—have largely played out, which could happen over the summer, but alternatively could stretch out over a much longer time horizon.

European Variations...

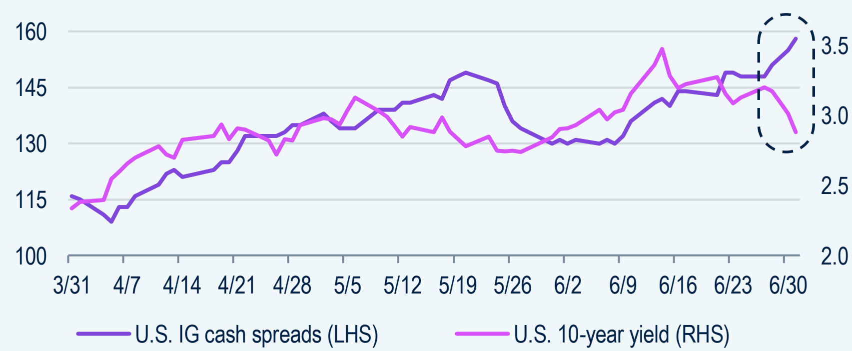
In the meantime, countries reliant on Russian exports — especially energy, such as Europe, and to a lesser extent Japan — will clearly face greater downside economic risk (see Economics section). On a relative basis, however, the ECB may take a less aggressive track in tightening policy than say the Fed as it views the euro zone economy as less over-stimulated than the U.S. and less vulnerable to a wage price spiral. Additionally, the ECB's recent spike in concerns about peripheral yield spreads may suggest a higher sensitivity to tightening financial conditions (see the next column on the euro zone). Bottom line, ECB policy may cushion the down cycle for European credit. So, while spreads may continue to widen, they may do so by less than otherwise expected given the comparatively fraught fundamental backdrop.

The ECB Signals its Intent to Contain Peripheral Spreads

Following the ECB's emergency meeting in mid-June, the Governing Council signaled discomfort with the widening in peripheral spreads (Figure 4). The timing was curious as the spread movements were consistent with typical co-movements among peripheral and corporate bond spreads. Nonetheless, so far, the announcement alone, which was light on details, has succeeded in tightening peripheral spreads even in the face of widening euro denominated corporate spreads. Longer term, will the ECB succeed in controlling spreads as it generally has since 2015 with its various asset purchase programs? Or will it fail to stem the tide—as was the case in 2011 with the more ad hoc Securities Markets Programme used during the initial years of the peripheral crisis? Since there is little to go on in terms of specifications for the program, it's too

Figure 3

After moving in tandem for much of Q2, spreads and rates diverged as growth indicators weakened. (March 31 through June 30, 2022) (LHS: bps; RHS: %)



Source: PGIM Fixed Income and Bloomberg

Figure 4

The ECB announces a peripheral spread backstop, and Italy's spreads snap tighter. (bps)

Source: PGIM Fixed Income and Bloomberg

early to form a judgement. However, at least so far, markets are biting down on the concept.

Interest Rates: Re-rated, Now Hitting a Weigh Station?

While at first blush the story of interest rates in the first half could be summarily described as incredibly bearish, that would miss two key features. First, the cause as we highlighted in our Q2 Outlook must be underscored once again: **for many DM economies the peak rates of growth coming into this year and the soaring levels of inflation are not just high—they are head and shoulders above anything witnessed over the last 30 years. The strong job growth and high inflation in Q1 triggered a wholesale repricing of market levels that persisted through May.**

The second noteworthy point is the high level of volatility as discussed in our DM rates section: not only were the quarter's net moves impressive, but they were all the more so given the incredible reversal of rates rising and falling in the final weeks of the quarter. Depending on the market and curve point, rates rose and then fell by 50-100 bps as forward-looking growth indicators finally flagged (Figure 5) and the U.S. PCE—the Fed's preferred gauge of inflation—printed at shockingly terrestrial levels. Additionally, the Fed narrative regarding financial conditions changed, acknowledging a significant tightening of financial conditions away from just the increase in rates. One key example was heard in Chairman Powell's June post-FOMC press conference: "Financial conditions overall have tightened significantly. That's what

Figure 5

Signs of a slowdown finally appeared, triggering an abrupt drop in rates in the final weeks of Q2. (Right graph: Index, 50+ = expansion)

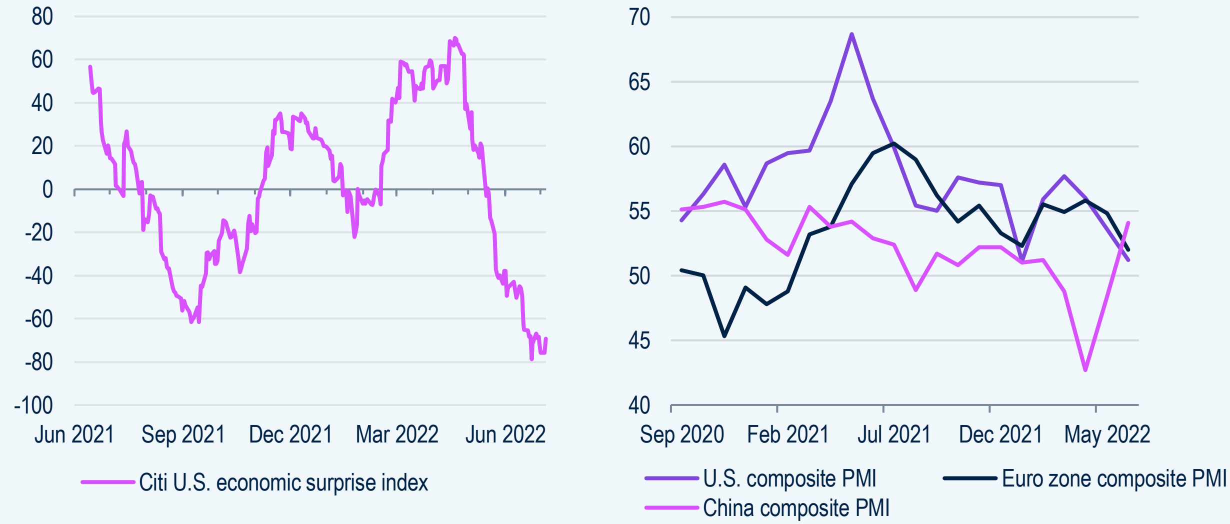
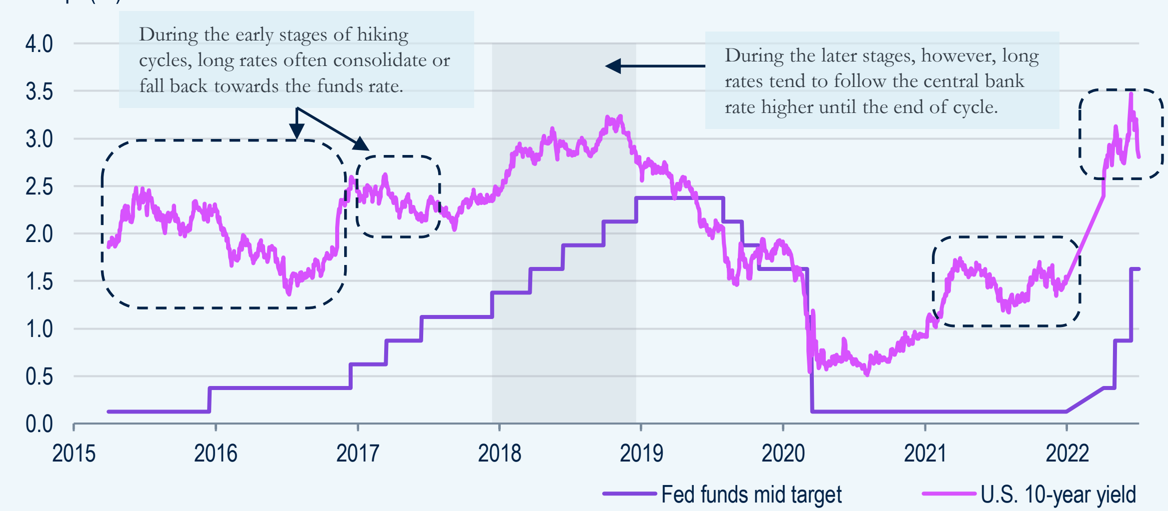


Figure 6

After a significant amount of hikes are priced in, long-term interest rates often consolidate as they wait for central banks to catch up. (%)



Source: PGIM Fixed Income and Bloomberg

we need." Uncertainty about policy and the economy mounted, and volatility rose as a result.

Interest Rates: Re-rated, Now Hitting a Weigh Station?

The quick reversal may also signal that the rates market has reached a plateau point. Most DM bond markets have priced in substantial rate hikes. By and large, this would be a natural point for yields to go range bound, waiting for either central banks to catch up with the curve, or for compelling evidence of a change in outlook that would necessitate new levels (Figure 6).

The Outliers, #1: The BoJ Hangs On

While similar paths of rising market rates in response to elevated inflation and central bank tightening have been the norm across both developed and emerging markets, there have been two important exceptions. First, the Bank of Japan sees the current cycle's high levels of growth and inflation in Japan as an opportunity to once and for all get actual inflation and inflation expectations closer to its target. In that pursuit, it has waged an incredible fight against a global tide of rising interest rates to maintain their +/- 25 bp trading range for the 10-year JGB, which as devolved into a de facto defense of a 25 bp yield cap. Ongoing salvos in this battle have not only included unlimited offers to buy 10-year JGB at 25 bps, but also ad hoc purchases on any and all points along the yield curve inconsistent with a 25 bp 10-year (Figure 7). With the yield gap between Japan and other markets rising, the yen has slid. While circumstances may dictate a different outcome, at this point, the BoJ looks set to continue on this path through the end of Governor Kuroda's term, after which the short rate may be adjusted just out of negative territory and the range for the 10-year yield adjusted to a higher—but still double-digit basis point—level.

The Outliers, #2: China Provides Diversification—Their Cycle Their Way

China's efforts to deal with moral hazard, inequality, and COVID have involved knocking down their tech national champions and property developers, locking down cities, as well as requiring renewed monetary stimulus and likely fiscal stimulus to boost its flagging expansion (again, see Economics section). The size of the Chinese economy along with its unique mixed model of market forces as well as command and control has brought something rare to the world's investment scene: a potential source of diversification. This has been alternately exemplified by Chinese equities over the last month, which rose significantly while all others fell (Figure 8). But perhaps more significantly, China's bond market has more or less bucked the global bear market trend over the last year and a half (Figure 9). In a world where high correlations are the norm across bond and stock markets, China may finally be an economy with unique policies and scale, leading to business and market cycles not totally correlated with the rest of the world. Over the long term, that should create cross country relative-value opportunities, while dampening

Figure 7
While the BoJ has so far succeeded in capping the 10-year JGB yield at 25 bps through repeated unlimited purchase operations, yields on other parts of the curve, especially longer tenors, have continued to creep higher.

Source: PGIM Fixed Income and Bloomberg

overall market volatility if and as the Chinese markets continue to grow rapidly and the cross-country correlation remains low.

Back to the Big Picture: Bond Rebirth?

With years of returns wiped out, real yields still incredibly low, and credit markets under threat of a hard landing, it wouldn't take much to whip up a little sense of despair about the state of the bond market. True, it is not clear when the trouble will be over. Looking intermediate to longer term, however, despair may be the wrong reaction: Could the current selloff in rates and spreads turn out to be a positive, like a mini-1980s reset? As implausible as that may seem at present, the fact is that the overarching trends of aging demographics, high debt burdens, and other factors that conspired for decades to push equilibrium interest rates down are more likely hibernating than reversing. And when they make their comeback after the reopening enthusiasm and supply chain problems have passed, inflation will likely be back at — or perhaps even below — targets once again and bonds well on their way to an extended period of solid returns. But before that happy ending, let's get through the tail end of the Russian gas saga and the bulk of the DM central bank rate hikes before popping any corks. And in the meantime, the best course will be to focus on the micro-alpha opportunities within and across sectors. Fortunately, as you'll read in the Outlooks that follow, they are hardly in short supply.

Figure 8

After falling in tandem with stocks everywhere during the first months of the year, Chinese equities have rallied against the global tide over the last two months as policy has turned more corporate / equity positive (indexed to 100).

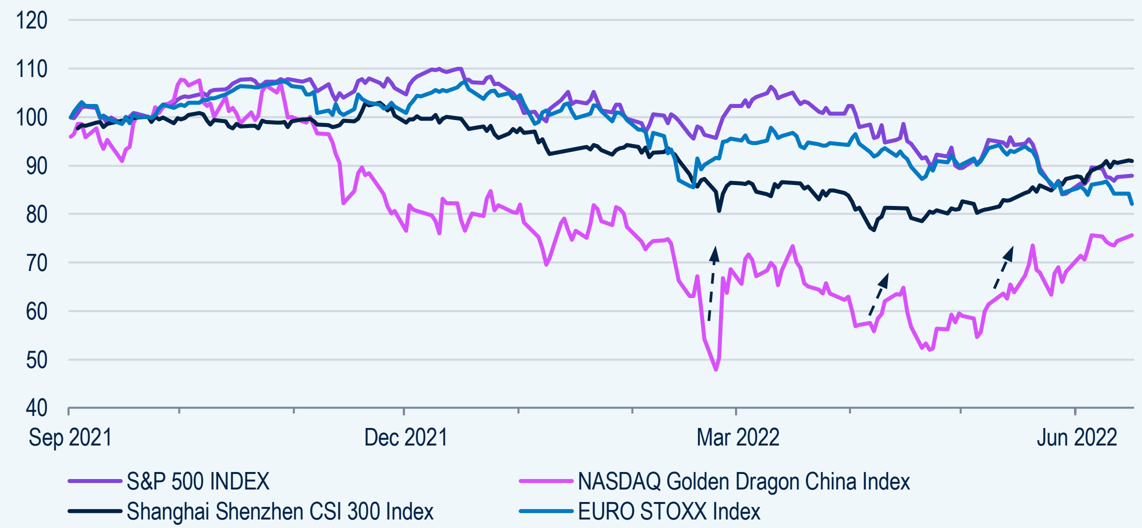
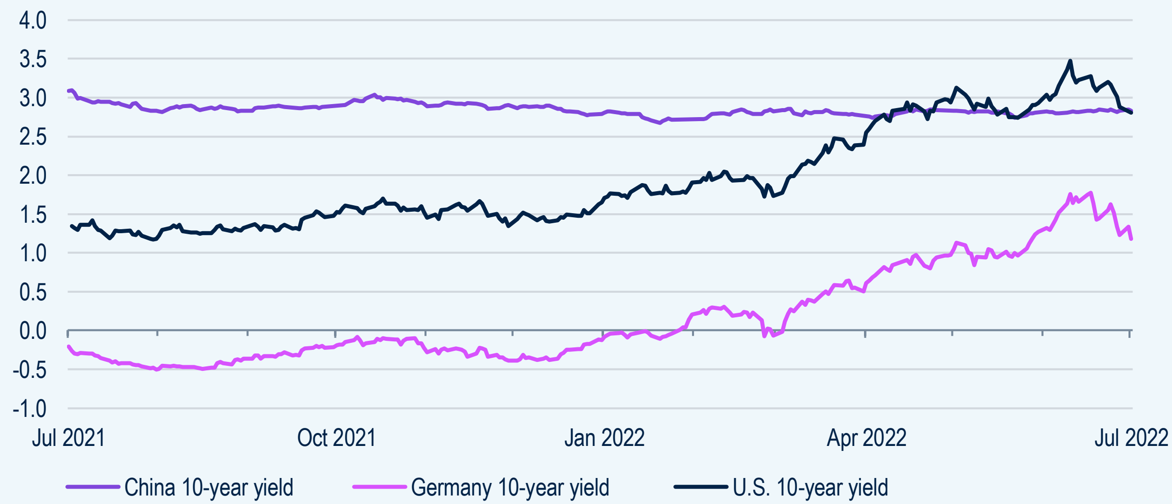


Figure 9

While most bond market yields surged this year, China's yields have remained in a subdued range.



Source: PGIM Fixed Income and Bloomberg

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BLOG POST

THE FED AND THE "BUY-THE-DIP" MENTALITY

We examine the "Fed put", the evolution of the Fed's reaction function, Fed funds estimates under different inflation conditions, and scenarios that could prompt the Fed to adjust its current trajectory.

WHITE PAPER

THE TRANSITION TO NET ZERO—A CHALLENGE FOR CENTRAL BANKS

Highlighting the potential consequences for inflation in the euro area over the transition period to net zero, and implications for monetary policy.

WHITE PAPER

FOUR KEY FINDINGS ABOUT THE U.S. YIELD CURVE

PGIM Fixed Income's four key findings about the U.S. yield curve.

PGIM FIXED INCOME

SECTION 3

GLOBAL MACROECONOMIC OUTLOOK

By Katharine Neiss, PhD, European Chief Economist

03

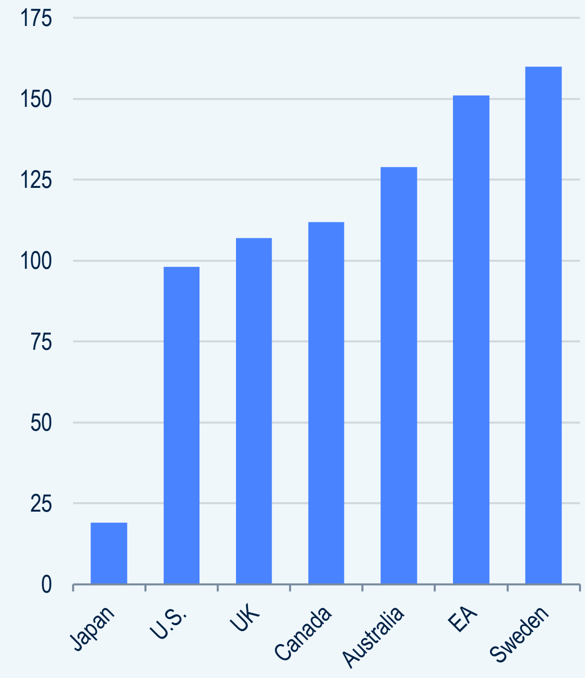
RECESSION RISKS RIPPLE OUT

Last quarter's focus was on the latest crisis triggered by Russia's invasion of Ukraine. That conflict represents a major negative supply shock to the global economy, pushing down on economic activity while simultaneously pushing up on inflation. The dynamics of these effects, however, differ. While the inflationary impact was almost immediate, rippling out across the globe, the slowdown in economic activity has been more gradual. Against a backdrop of significant economic momentum as economies have reopened, central banks around the world have remained focused on inflation risks despite the looming slowdown. With further downside risks from the conflict possible and the potential for over-tightening by central banks, market concern around recession risks has grown.

The continued upward march in inflation and central banks' focus on it led to a marked repricing in policy rates over Q2 across a range of countries (Figure 1). The Federal Reserve has led the charge, keen to burnish its price stability credentials and avoid inflation from becoming entrenched. Repricing has been notable elsewhere, such as the UK where labour markets remain tight, as well as the more economically-challenged euro area and Japan.

A succession of hikes over Q2—including an outsized 75 bp hike by the Fed—confirmed to markets that it is fully focused on tackling inflation. The combination of persistently high inflation, lagging wage gains, and front-loaded Fed tightening has hit consumer purchasing power. While nominal consumer spending has remained solid, real spending has weakened over the course of the year. Although in aggregate households have a cushion against high energy and food costs, many are already strapped, and we expect that consumer spending is likely to soften further. Consequently, pricing power is also likely to moderate for many companies going forward, particularly for those with restocked inventories just as frothy demand conditions subside. Housing activity has also already slowed in the face of tighter financial conditions, which are expected to continue working their way through the economy with lagged effects in coming quarters. For now, the Fed is focused on currently monthly inflation readings, vowing to keep up the pressure until the data show convincing signs they are softening towards the Fed's target. At some point, though, we expect the Fed will likely pivot back towards a focus on the projected lagged effects of its tightening and—should material signs of softening accumulate—will adopt a more measured pace of policy normalisation. However, the risk remains that the Fed is unable to engineer a soft landing and that further tightening tips the U.S. economy into recession.

Figure 1
Change in market-implied policy rates three years ahead (January 3, 2022 to July 7, 2022; bps)



Source: PGIM Fixed Income and Haver Analytics

The risk of recession in the euro area is even more acute considering the potential for further downside risks associated with the conflict as well as market stress in the periphery. Other downward forces include waning momentum as the boost from reopening fades, tighter financial conditions, slower growth in key euro area export markets, and, of course, the impact of significantly higher commodity prices, such as food and energy.

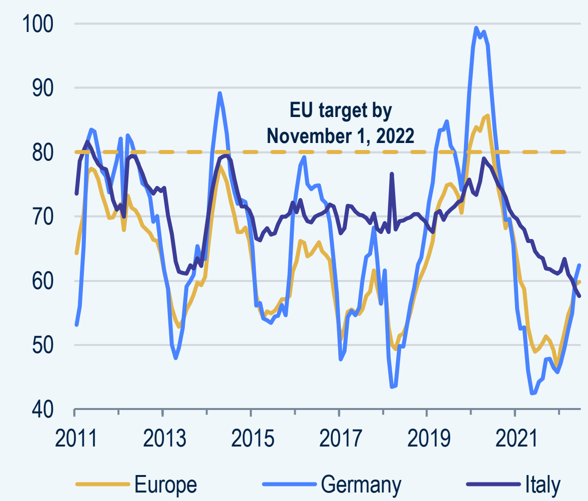
That said, a slowdown in the region has yet to meaningfully materialise. The collapse in economic sentiment since the conflict erupted, accompanied by the sharp decline in real incomes, all point to a looming consumer-led recession. The latest PMIs offered a hint of what may be to come, with unexpectedly large declines in new manufacturing orders as well as services. Prospects for a further material worsening in conditions remain high. Despite recent efforts to diversify its energy supply, the region remains dependent on Russia. Since the invasion, higher prices and reduced inflows from Russia have left gas storage levels in Europe at uncomfortably low levels, particularly in Italy (Figure 2). A sudden stop of energy flows from Russia would likely trigger rationing and a significant decline in industrial output.

For now, however, the euro area economy continues to benefit from reopening tailwinds. The labour market remains a notable bright spot, with high levels of employment and modest wage growth. Having concluded net asset purchases at the end of June, the ECB has committed itself to two successive rate rises out of negative territory by September. That normalisation path has triggered a notable uptick in the sovereign bond spread of the euro's most vulnerable member, Italy (Figure 2). The ECB is working on a backstop facility, which, if credible, could open up a more aggressive tightening path above zero as well as the risk of over-tightening. That said, we expect significant slowing in the euro area economy to lead the ECB to pause rate hikes, with the long run rate capped at around 1.25%, well below current market pricing.

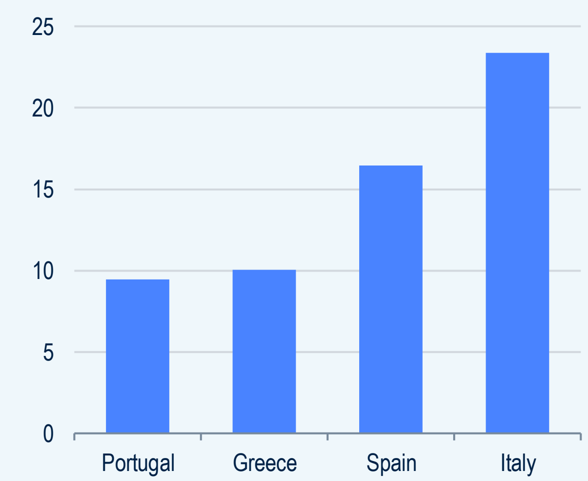
For emerging markets, alongside the financial-stability challenges brought about by higher interest rates in the developed world , a key spillover channel of the conflict is via higher food and commodity prices. Already, these impacts are affecting a number of countries, pushing up not only on inflation, but also on current accounts and external financing needs. And that adds to the challenge of sustaining a post-COVID recovery and securing sufficient external and domestic funding, especially against rising interest rates and risk aversion.

Figure 2

2A. European gas storage and market stress (%)



2B. Relative change in 10-year spreads (over 10-year German yields) since April ECB meeting (%)



Source: PGIM Fixed Income and Haver Analytics

But the impact is not uniform. To illustrate the widespread but differentiated impact, we rank countries by net exports of key commodities in Figure 3A and again by food and energy weights in Figure 3B. The bottom left-hand quadrant of Figure 3A are manufacturing, export-oriented hubs (such as South Korea or parts of CEE) that are heavily reliant on broad range of commodity imports. But some EMs export "hard" commodities and food (such as Brazil), meaning that the impact on their trade balances and terms of trade from the conflict shock is positive, and may, initially, off-set other costs of the conflict (such as lower global growth). Low-income countries are also particularly exposed to potential food shortages as well as the inflation impact as food makes up a larger share of the overall consumption basket. This is reflected in the EM average, which appears in the top right-hand quadrant of Figure 3B.

Despite these challenges, the impact of higher inflation, weaker exchange rates, and less established monetary frameworks prompted emerging market central banks to hike rates earlier and more aggressively than developed markets. That early and aggressive action will likely place a number of EMs in good stead going forward, especially in terms of preserving risk premia needed to secure external funding. Some of these central banks may also stop tightening now and not face the difficult challenge of hiking rates against weakening growth.

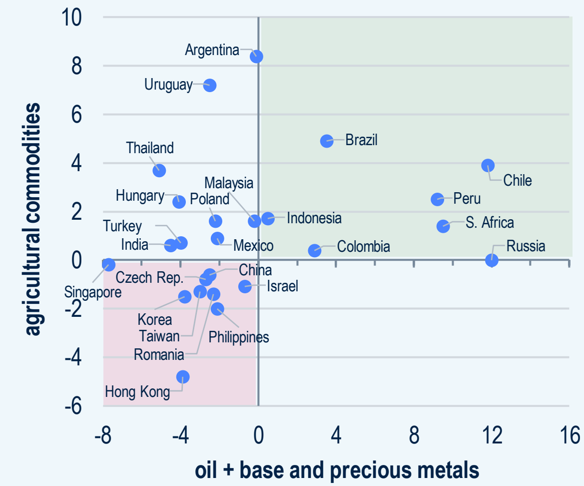
Meanwhile, China continues to buck the trend. Inflation remains relatively low, yet economic activity in Q1 showed a marked slowdown. The weakening in economic activity primarily reflects a slowing in the property sector, where we have seen an unprecedented decline in house prices and loan demand. In our view, China's continued zero COVID policy has to date been a relatively less-important driver, though low immunity in the region suggests such risks may well become a future challenge.

China is the only major region cutting interest rates, and fiscal stimulus is becoming more targeted. Moreover, additional fiscal and monetary easing is expected to offset any further significant slowing. By the end of 2022, we expect a massive cumulative wave of stimulus to become evident. But if China stumbles, a global recession becomes all but inevitable given the risks rippling out from the issues described above.

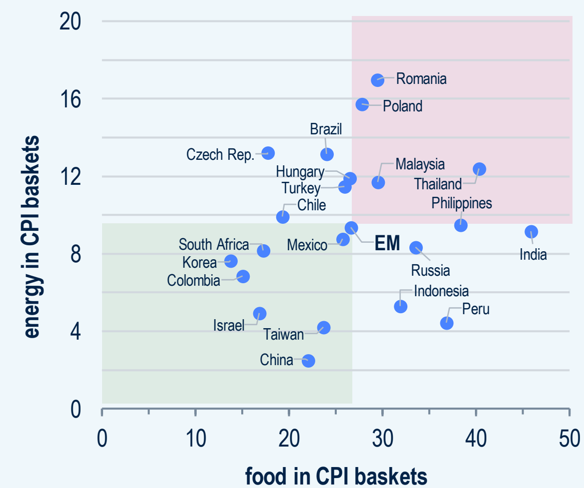
Figure 3

European gas storage and market stress

3A. Net exports of oil + metals and agricultural commodities (major emerging markets, % GDP, 2020)



3B. Food and energy weights in CPI baskets (major emerging markets, %)



Source: ITC Trademap, national sources, Haver Analytics

PGIM FIXED INCOME

SECTION 4

GLOBAL SECTOR OUTLOOKS

04

DEVELOPED MARKET RATES

Outlook: Becoming more compelling. A divergence between the Fed and market participants on the path of interest rates in 2023 may reveal the latter's rising concerns over recession risk. Our base case is that volatility will ultimately normalize and the 10-year yield will stay below the terminal policy rate of this hiking cycle when it is eventually reached.

■ Enormous volatility continues to be priced into developed market interest rates. In a departure from historical patterns, more clarity on the trajectory of the current tightening cycle have led to higher, instead of lower, short-term implied volatility. The recent selloff is also notable in its global nature, as German yields led the increase across the curve in Q2 by rising roughly 100 bps in the long end. Two-month realized vol in the 10-year bund yield spiked past pandemic and global financial crisis levels and approached levels reached during the sovereign debt crisis.

■ Amid the selloff across global sovereign debt, 10-year U.S. TIPS-implied breakeven declined by more than 40 bps, as we think the market expects the Fed's aggressive actions will be effective in taming inflation in the long run. While acknowledging the immediate path of inflation is going to dictate market volatility and the path of the Treasury 10-year yield, our base case is that implied volatility will ultimately decline, and the 10-year yield will stay below the terminal rate of this hiking cycle when it is eventually reached.

■ After the June FOMC meeting, the market expects the target rate to be lifted to around 3.5%, not far from Fed officials' median projection, but the market then proceeds to price in rate cuts beginning in 2023 while policymakers expect borrowing costs to rise further to 3.75%, a divergence that may reveal an assessment of rising recession risk among market participants.

■ Supply in the long end of the Treasury curve, particularly the 20-year, has declined to a fraction of last year's issuance sizes following multiple rounds of reductions. Unfortunately, the sector has not benefitted from the improved supply-demand picture, and the 20-year remains notably undervalued amid poor liquidity and elevated volatility. Overall, liquidity conditions in the Treasury market remain challenged, and the ability to transact large amounts of securities without moving the market has deteriorated substantially.

Figure
Realized volatility on German 10-year yield surpasses the pandemic and GFC (annualized std dev)

Source: PGIM Fixed Income. Bloomberg. Rolling 60-day window used.

AGENCY MBS

Outlook: Reducing underweights. Although we're aware of the continued challenges posed by heightened volatility in Treasuries, we continue to reduce MBS underweights vs. rates. We're opportunistically looking for pockets within the coupon stack that potentially have higher turnover, such as specified pools with higher loan ages.

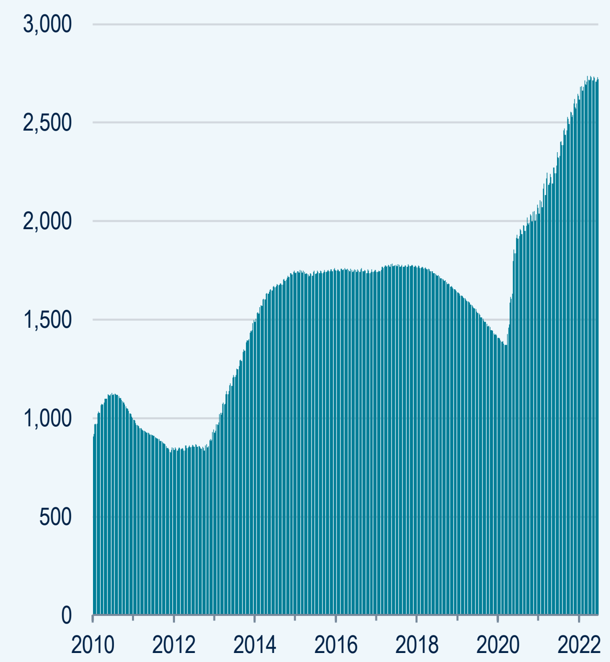
- Rising volatility hasn't been kind to agency mortgage-backed securities, as the recent underperformance vs. Treasuries is on par with March 2020. The zigzagging moves of the Treasury yield curve have also added to the market chaos. But unlike the onset of the pandemic when the desire to deleverage led to a stampede, the current market stress is primarily driven by concerns that the Fed may begin selling MBS outright if officials need to step up their inflation fight.

- Higher coupons outperform as investors seek higher yields to maintain carry in the face of higher funding cost. due to expectations for a higher terminal fed funds rate. Mortgage rates at 2008 highs has led to drastically lower originations. Originators are paying the price with layoffs and downsizing as they misinterpreted the macro picture, and we think supply will likely continue to come down for the rest of the year. Dealers have pulled back from intermediation amid the higher volatility and the Fed's ongoing QT, as they seem to avoid taking position on either side. We think the prospect of outright selling by the Fed is more a 2023 discussion; that said, we've benefitted from a strategy of underweighting significant positions in the SOMA portfolio. If outright sales occur, we think the market should be able to absorb the additional supply from the Fed in the initial phase.

- Bearing in mind the benefits of the government's implicit guarantees for agency MBS and the diversified composition of mortgage cash flows, agency MBS should be evaluated in a different camp than other credit sectors. Acknowledging that volatility could surge again and hurt the performance, we think current spreads levels are too wide, and we continue to find opportunities to cover underweight positions. As prepayment speeds have declined and durations have largely fully extended, we are opportunistically looking for pockets within the coupon stack that potentially have higher turnover, such as specified pools with higher loan ages.

Figure

The Fed's Agency MBS Holdings ($ billions)



Source: PGIM Fixed Income, Bloomberg.

SECURITIZED CREDIT

Outlook: Seeing longer-term value in higher-quality issues. While fundamentals remain solid, elevated interest rates place pressure on valuations, particularly in housing and commercial real estate. While short-term performance will vary by quality—lower tiers in the consumer and credit sectors will face periods of illiquidity and more acute pressure in an economic slowdown—the selloff created tangible value for longer-term investors.

■ **CMBS:** Elevated interest rates are still the primary risk to commercial real estate going forward as capitalization rate spreads are the tightest since the financial crisis. To prevent a decline in property valuations from increased cap rates, property owners—especially those in the industrial and multifamily sectors—need to increase net operating income (NOI), which could be difficult in a slowing economy. We remain cautious on retail and hospitality despite a temporary boost from post-lockdown activity, which is expected to abate. Office leasing activity has picked up and availability rates have stabilized, however, the work-from-home implications will continue to emerge over time given the length of CMBS leases. The broader market volatility created compelling opportunities for high-quality CMBS bonds, and we favor well-enhanced, fixed-rate CMBS conduit issues as well as single-asset, single-borrower mezzanine floaters, particularly those trading at discounts with embedded price appreciation.

■ **RMBS:** Higher home prices and mortgage rates will reduce the pool of first-time homebuyers, with Millennials supporting the rental market. We expect home-price appreciation will moderate into the 8-12% range in 2022 and will cool further into the low-single digits in 2023. Mortgage credit could deteriorate if originators lower standards to generate volume. We see opportunities in 2020 and 2021 credit-risk transfer issues (M2/B1) as they trade at a deep discount amid wider credit spreads and longer spread durations. We're also focusing on low loan-to-value issues (better liquidity) and non-callable bonds (better upside potential).

■ **CLOs:** Over the long term, CLOs at the top of the capital structure continue to offer strong relative value. Although loan prices are under pressure, there are few near-term maturities, and credit fundamentals remain firm without placing meaningful pressure on underlying CLO test measures. Secondary spreads trade 10-15 bps wide of primary levels, with the latter likely continuing to widen to secondary spreads and leading to meaningful concession opportunities as dealers close out warehouses. In the short term, spreads may continue to widen amid steady

Figure

Higher Mortgage Rates to Temper a Hot Housing Market

Key drivers	Impact	Explanation
Demand	↑	Favorable demographic outlook and change to hybrid work fueled by pandemic should support demand for housing.
Supply	↑	Housing inventories at historic lows, supply chain issues in construction to further limit supply.
Underwriting standards	↑	Underwriting guidelines remain stringent, albeit further loosening of the credit box is expected in a rising-rate environment.
Affordability	↓	Rapidly rising mortgage rates coupled with higher home prices will pose affordability challenges.

Source: PGIM Fixed Income

primary issuance and less appetite for AAA CLO paper from U.S. banks, which represented 60% of last year's demand. In Europe, dealers will also focus on reducing balance sheet risk, thus new issue supply should persist—and find a willing buyer base—amid the wider spread levels.

- **ABS:** We are opportunistic ABS sellers and remain highly selective regarding adding risk as relative value is not as compelling vs. other securitized sectors. We favor higher-value ABS, such as select issuers of unsecured consumer loans, subprime autos, and global prime auto credit-risk transfers. We're avoiding ABS sectors, such as aircraft, that are highly sensitive to macro volatility.

INVESTMENT GRADE CORPORATES

Outlook: Sensing further volatility and long-term value. Investment-grade spreads are in, or are approaching, a range where adding credit risk warrants consideration. Reverse-yankee issues present a case in point as spreads in euros trade historically wide to those in the U.S. for the same or similar issuers.

■ The IG corporate sectors exemplify the value—and hesitancy—that exists throughout the global spread sectors. While we're cognizant that value has been created, attempting to time the wides of the market will be highly challenging. Our base case is that spreads in the U.S. IG market may widen into the 170-180 bps area in the second half of the year, and we may start adding risk once spreads enter that range.

■ Corporate fundamentals also require a nuanced view. On one hand, they remain strong and trending positively with nearly $50 billion in rising stars this year. Furthermore, the compression of the current credit cycle means that many companies simply didn't have enough time to lever up, and leverage ratios remain consistent with pre-COVID levels (2.9x gross or 2.4x net). In addition, earnings growth and profit margins may have peaked, likely leading profit estimates lower.

■ That said, we're seeing more signs of shareholder friendly activity—particularly within sectors with strong cash flows, e.g., energy, metals, and chemical issuers—with stock buybacks and dividends at a record pace (up 36% from a year earlier), which accounted for 40% of EBITDA vs. the peak of 43% in 2016.

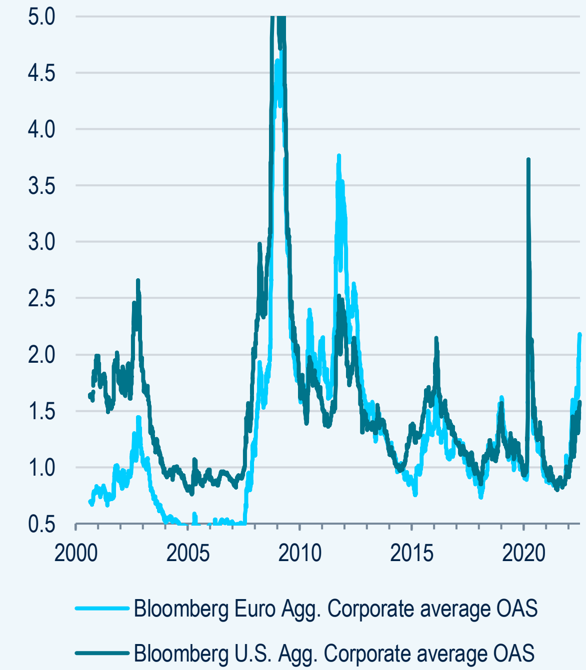
■ As we assess future spread movement in the context of the macro backdrop, we'll remain short spread duration with overweights in money center banks, energy and other commodities, as well as taxable municipals. We also plan on participating in attractive tender offers and using short-term rallies to reduce risk as needed.

■ Similarly, conditions in the European IG market remain uncertain, but it presents compelling relative-value opportunities in individual issuers given the recent volatility and credit dispersion. The strength in credit fundamentals also leaves room for some margin compression amid elevated inflation.

■ We're maintaining a small underweight to spread duration in European and global portfolios, and we see room for financial spreads to compress into the tighter levels on industrials. We generally see value in corporate hybrids as well as in BBB issues with spreads

Figure

The expanded gap between Euro and U.S. IG spreads creates opportunity in reverse-Yankee issues (bps)



Source: PGIM Fixed Income and Bloomberg

that materially widened recently. Although the ECB is tapering its corporate purchases, we continue to prefer non-CSPP eligible paper as it generally trades with more spread, but without additional credit risk.

- We're also overweight reverse-yankee issuers that trade materially wide of domestic paper issued in the U.S. Reverse-yankee issuers also tend to provide some insulation from macro developments that could broadly affect credit quality in Europe, e.g., a complete shut-off of Russian natural gas.

- Global IG portfolios are also overweight reverse-yankee issues as well as spread risk in general. At this point, European spreads reflect much of the risk in downside scenarios, and in many instances, the spread between U.S. and European debt from the same issuer is at the widest levels since the European debt crisis.

GLOBAL LEVERAGED FINANCE

Outlook: Highly selective. Despite solid credit fundamentals, geopolitical, inflation, and recession risks present tangible concerns. We are positioned for further spread widening, but think value is being created over the medium term. Active management and accurate credit selection will be rewarded with continued volatility.

- While strong credit fundamentals continue to sustain low U.S. high yield default rates, we have grown more cautious in light of increased geopolitical, inflation, and recession risks. We continue to believe that most U.S. high yield issuers will withstand the impacts of higher rates, slower growth, and inflation, aided in large part by a lack of near-term maturities due to the record $1 trillion of refinancings that took place in 2020 and 2021. However, we now anticipate higher default rates of 3% and 7% over the next two years should the economy follow our base case scenario of a shallow recession induced by aggressive rate hikes and persistent inflation.

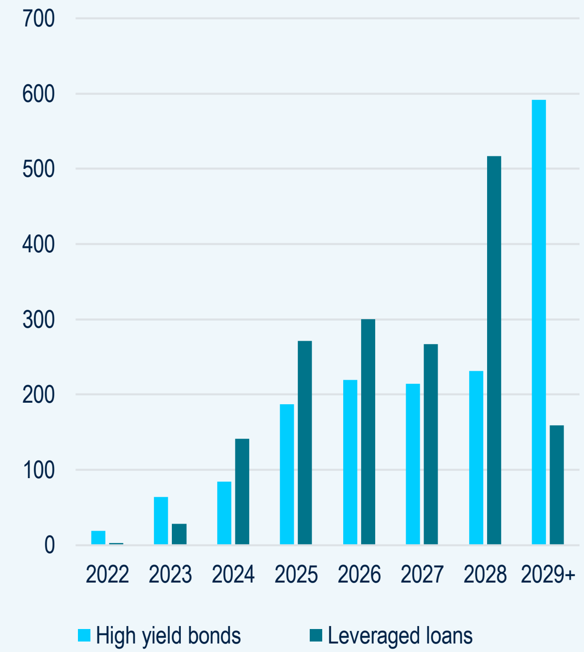
- Although we remain defensive and are prepared for further spread widening, we don't expect defaults to be as severe as in previous downturns due to the favorable positions of most issuers with manageable debt serviceability, favorable maturity profiles, and strong cash flows. Notably, if inflation subsides sooner than expected and/or the Fed engineers a soft landing, there is meaningful upside in the market given wider-than-average spreads and significant price discounts. As such, we believe the market is relatively close to fair value, with only modest spread widening needed to balance the risk and reward.

- In terms of positioning, we are reducing our allocation to lower-quality issuers and maintaining higher cash balances as part of a risk-reduction regime. We also maintain overweights to independent power producers, housing, and gaming issuers.

- For U.S. leveraged loans, we don't foresee a large uptick in defaults given the lack of near-term maturities and expect performance to be largely driven by technicals over the next three to six months. While CLO formation has started to pick up again after evaporating the last part of Q2, it is highly dependent on AAA tranche buyers, which have yet to meaningfully return to the market. Meanwhile, we expect inflows into loan mutual funds to continue to decelerate from the elevated levels seen over the prior six quarters. While our short-term outlook is tempered by expected price volatility, our long-term outlook is more constructive given the anticipated rise in base rates, which could drive all-in loan coupons to

Figure

U.S. high yield and loan maturities (par amount, $ billions)



Source: PGIM Fixed Income and J.P. Morgan approximately 7.25% and yields to approximately 9.0% by year-end.

- Despite the recent widening in spreads, we remain cautious on European High Yield and European Loans given the uncertain macroeconomic and inflation outlooks into 2023. Risks of blockages of Russian gas heading into winter, while still a low probability event, is not adequately captured in current spread levels. Moreover, spreads are currently only slightly wider than the post-GFC, long-term average, and markets, in our view, are assigning an inadequate probability of stagflation or recession. That said, fundamentals are generally at a strong starting point. Due to a lack of near-term maturities, we don't expect to see a material pickup in defaults in 2022 or 2023, even with the higher probability of a recession.

- In terms of positioning, we are running close to market neutral levels of risk with elevated cash balances and reduced levels of risk in cyclical sectors. We are also opportunistically adding carefully selected credits that have dislocated from fair value and present compelling relative-value opportunities. Ultimately, we think active management and accurate credit selection will be rewarded as volatility continues.

EMERGING MARKET DEBT

Outlook: Selective. Conditions remain challenging, but valuations already reflect considerable risk. A *moderation* scenario—in which inflation recedes and Chinese stimulus offsets slowing developed market growth—could boost the asset class. However, *recession* or *stagflation* scenarios would prove challenging, so being selective remains key. Selecting the best bottom-up, relative-value opportunities will depend on individual countries' growth trajectories, investor flows, and issuer/sector outcomes.

■ **Hard Currency Sovereigns:** In the last eight months, spreads on EM hard-currency government bonds reached their third-widest level in 18 years, only following the financial crisis and the COVID shock. However, China's growth is still a prominent risk: the government's zero-COVID policy and the property crackdown are endangering its 5.5% growth target for the year. Investors have welcomed the Chinese stimulus thus far, but more is needed, e.g. through infrastructure and public housing, to avoid a slowdown.

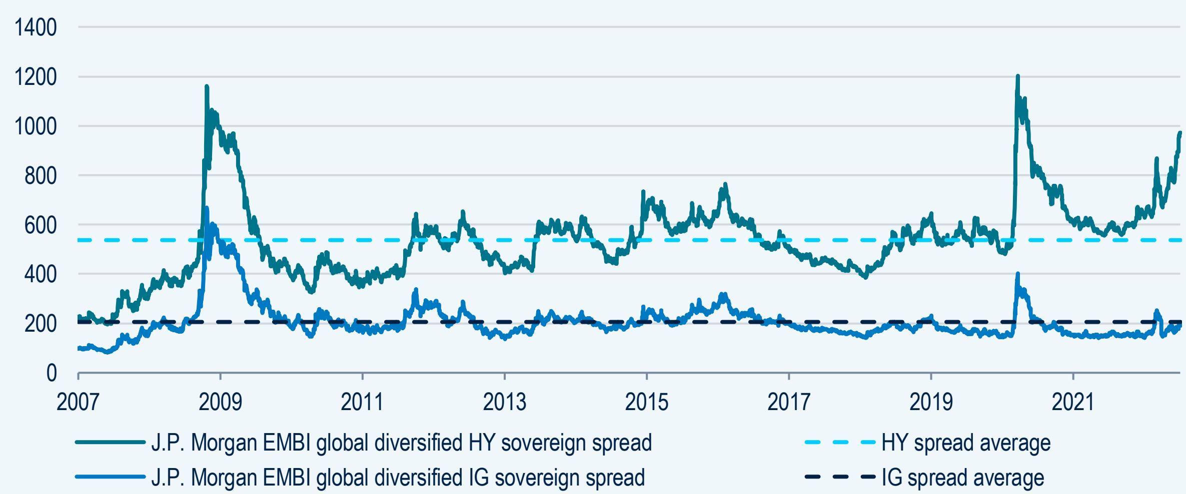
■ In the current environment, a portfolio of relative-value opportunities built on solid fundamental analysis has the potential to generate strong alpha. Particularly among lower-rated issuers, we expect EM debt to remain differentiated by issuer.

■ Tight financial conditions, slowing growth and falling risk appetite are likely to keep the economic environment challenging and risk premiums high. But in our analysis, EM debt markets will muddle through. Most spread widening in EM hard-currency government debt is probably behind us, and current spreads have historically been attractive entry points.

■ Within the low-rated space, fundamentals and policies vary significantly from one country to another. Take, for example, Ethiopia, Ghana, Kenya, Sri Lanka, Suriname, Tunisia and Turkey. These weak issuers face a difficult path forward, as risk aversion among investors and rising interest rates increase their debt service costs and limit market access.

■ Mitigating factors exist for low-rated issuers whose bond prices are near their recovery values, or low-rated issuers that are adjusting their policies, mostly due to conditions proposed by the International Monetary Fund. Some of these benefit

Figure
The selloff widened HY EM spreads well above the long-term averages (bps)



Source: PGIM Fixed Income and J.P. Morgan from improving fundamentals, high commodity prices, IMF support or deep domestic financial markets. This is the case with Ivory Coast, Angola, Iraq, Gabon, Dominican Republic, Cameroon, Mozambique and Nigeria.

- Slowing growth will have less impact on investment-grade and stronger BB-rated governments due to their fundamental strength.

- Saudi Arabia and Qatar have twin surpluses and are strengthening their considerable reserves. We also find value in Israel (ex-benchmark), given its fundamentals and attractive valuations. European growth is slowing, but we see value in Hungary and Romania. Next Generation EU funding will reinforce both countries' fundamentals without raising debt. Serbia appears attractive given its fiscal discipline, foreign direct investment, and substantial lithium deposits.

- Higher commodity prices favor Latin America. But the region's political shifts towards unorthodoxy could lead to deterioration, albeit from strong starting points. Nevertheless, where valuations already reflect this concern, such as in Colombia, we have a small overweight allocation.

- **EM Corporates:** EM corporate bonds have struggled to start 2022, as EM corporate spreads widened by over 90 bps. Chinese property developers, Macau gaming, and Russia and Ukrainian corporates have been the worst year-to-date performers.

- Despite resilient fundamentals, however, EM corporate margins are past their peaks. We expect EM corporate high-yield default rates (ex-Russia, ex-China property) to increase from 1-2% currently to trend levels of 3-4%.

- We remain focused on relative value and prefer the higher-quality high-yield and BBB-rated segments of EM corporates in countries, such as India, Israel, Thailand, Mexico and Peru.

- Lower-rated high-yield corporates are more vulnerable in a recession or stagflation, hence our selectivity. We are underweight small and medium-sized enterprises (SMEs), metals and mining, banks, and domestically-oriented corporates in vulnerable countries, such as Argentina or Turkey.

- Most bonds issued by China's property sector trade at distressed levels. For now, we maintain our small positions there and expect economic activity to improve over the next 6-12 months.

- We continue to find value in quasi-sovereign issuers, such as Mexico City Airport and India's Power Finance Corporation, which benefit from government support and attractive spreads.

- Technical factors support EM corporate bonds, including large negative net issuance, low dealer inventories, strong demand for investment-grade bonds by local Chinese/Taiwanese investors, and many tenders by issuers. Maturities due in the next two years (ex-China) are limited, as most issuers tendered for or refinanced their short-dated bonds last year.

■ **EM Local Rates:** The uncertain timing of "peak inflation" and the Fed's restrictive stance are keeping EM local-currency risk premiums high. It also means that energy prices and moves in G7 interest rates are more important for EM local-currency bonds than country-specific stories.

■ After the recent selloff in EM local-currency bonds, however, we started Q3 selectively covering underweight positions, especially shorter-dated ones.

■ We expect tighter global financial conditions to weigh on commodity prices. Such pressure might, in turn, cause a relief rally in EM rates.

■ Countries that hiked interest rates early, like Czechia and Brazil, are likely to stop hiking soon. Other countries, such as Chile, Mexico and Hungary, hiked interest rates later, but investors now price in rates as high as before the 2007-08. If global interest rates moderate, we consider all five countries candidate overweight positions.

■ In Latin America, our portfolios' duration is in line with the benchmark. But the region's yield curves reflect high levels of expected hikes. We may therefore choose to overweight Latin American duration, in particular in bonds of up to five years.

■ Asian central banks are likely to remain dovish. As a result, we are overweight Asian local-currency bonds in our portfolios, in particular Indonesian and Malaysian bonds. However, we underweight Thai local-currency bonds.

■ Poland remains our favorite underweight given that its central bank has been slow in reacting to rising inflation.

■ **EM Currencies:** In early Q3, we're maintaining our portfolios' long positioning in the U.S. dollar and remain cautious towards EM currencies, with a focus on relative value along the lines of the following:

■ Underweight EM currencies overall. Our largest underweight currency exposures lie in Asia (Chinese renminbi, Thai baht, Taiwan dollar), where we have concerns about China's growth but we also underweight commodity importers and currencies of countries that lag the Fed in monetary tightening.

■ Overweight exposure to Latin America (Brazilian real, Colombian peso, Peruvian sol), where we favor select commodity exporters whose currencies have high carry (interest rates) relative to their volatility.

■ Underweight positioning to the South African rand and the Indonesian rupiah. Both currencies are highly sensitive to economic growth and financial conditions.

■ In terms of possible tailwinds for EM currencies, high commodity prices will support commodity exporters for the foreseeable future. Interest rates on most EM currencies remain high, and China's stimulus is increasing. For now, however, we are skeptical that these tailwinds can overpower the Fed's hawkish stance.

■ As for the U.S. dollar, the Chinese government's stimulus might be large enough to counter the Fed's hawkish stance. Second, U.S. inflation might fall enough for the Fed itself to moderate its hawkish stance. Finally, the dollar's ascent might also be curtailed if the Fed seeks to avoid a recession.

MUNICIPAL BONDS

Outlook: Cautious. The elevated chances of a recession could prolong municipal outflows and restrain crossover buying. As long as retail investors believe there is a good chance of higher rates, municipals will remain under pressure.

- While credit quality remains strong and any flight to quality could benefit the sector, we believe the increasingly hawkish posture of the Fed could prolong municipal bond mutual fund outflows. Additionally, more expensive relative value propositions could restrain crossover buying. Hence, we have grown more cautious in light of increased recession risks and a more volatile path for rates going forward.

- Following the rally in May, market dynamics have since shifted. Whereas the technical headwinds began to dissipate in May as ETF inflows spurred managers to come back into the market, ETFs once again experienced outflows in late Q2. Moreover, the muni yield curve is now steeper relative to a flatter Treasury yield curve, tempering demand from crossover accounts (banks, insurance companies), while muni spreads remain tighter than their long-term averages.

- While we don't see any signs of an immediate relief in outflows from tax-exempt municipal bond funds in light of ongoing rate volatility, favorable reinvestment and lighter issuance should be somewhat supportive of the market, with -$33 billion in net supply projected for June–August. Meanwhile, taxable munis will mostly follow the same trends as liquidity continues to be thin and new issuance light. In terms of positioning, we continue to swap inferior convexity for high premium bonds with better convexity profiles.

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Figure

Muni spreads to treasuries sit wide of the tights, but still inside of averages (muni spreads, 2008-YTD 2022; bps)

	AA	A	BBB	HY
Average	36	93	184	335
Median	23	80	165	342
Current	18	62	114	202
Local tights (1/28/2022)	6	30	59	184

Source: PGIM Fixed Income and Bloomberg.

PGIM FIXED INCOME

SECTION 5

SUMMARIES

05

NEGATIVE VIEW — POSITIVE VIEW

Sector	Outlook	Asset class views*
DM Sovereign Rates	Becoming more compelling. A divergence between the Fed and market participants on the path of interest rates in 2023 may reveal the latter's rising concerns over recession risk. Our base case is that volatility will ultimately normalize and the 10-year yield will stay below the terminal policy rate of this hiking cycle when it is eventually reached.	U.S. Germany Japan UK Canada Australia
Agency MBS	Reducing underweights. Although we're aware of the continued challenges posed by heightened volatility in Treasuries, we continue to reduce MBS underweights vs. rates. We're opportunistically looking for pockets within the coupon stack that potentially have higher turnover, such as specified pools with higher loan ages.	Agency MBS
Securitized Credit	Seeing longer-term value in higher-quality issues. While fundamentals remain solid, elevated interest rates place pressure on valuations, particularly in housing and commercial real estate. While short-term performance will vary by quality—lower tiers in the consumer and credit sectors will face periods of illiquidity and more acute pressure in an economic slowdown—the selloff created tangible value for longer-term investors.	CMBS Non-Agency CLOs ABS
Global IG Corporates	Sensing further volatility and long-term value. Investment-grade spreads are in, or are approaching, a range where adding credit risk warrants consideration. Reverse-yankee issues present a case in point as spreads in euros trade historically wide to those in the U.S. for the same or similar issuers.	U.S. Corps. European Corps.
Global Leveraged Finance	Highly selective. Despite solid credit fundamentals, geopolitical, inflation, and recession risks present tangible concerns. We are positioned for further spread widening, but think value is being created over the medium term. Active management and accurate credit selection will be rewarded with continued volatility.	U.S. High Yield U.S. Leveraged Loans Euro High Yield Euro Leveraged Loans
EM Debt	Selective. Conditions remain challenging, but valuations already reflect considerable risk. A *moderation* scenario—in which inflation recedes and Chinese stimulus offsets slowing developed market growth—could boost the asset class. However, *recession* or *stagflation* scenarios would prove challenging, so being selective remains key. Selecting the best bottom-up, relative-value opportunities will depend on individual countries' growth trajectories, investor flows, and issuer/sector outcomes.	Sov. Hard Currency Corporates Local Rates EMFX
Municipal Bonds	Cautious. The elevated chances of a recession could prolong municipal outflows and restrain crossover buying. As long as retail investors believe there is a good chance of higher rates, municipals will remain under pressure.	Tax-Exempt Taxable

*Based on most-recent short-term views within the sector.

Sector		Subsector	Spread change (bps) Q2	Spread change (bps) YTD	SOFR OAS 6/30/22
CMBS	CMBS: Conduit AAA	First-pay 10-year	28	61	155
	CMBS: Conduit BBB-	BBB-	128	213	589
	CMBS: SASB – Senior	AAA	30	89	180
	CMBS: SASB - Mezz	BBB-	40	104	340
	CMBS: Agency Multifamily	Senior	6	28	80
Non-Agency RMBS	Legacy	RPL Senior	35	89	185
	Legacy	'06/'07 Alt-A	55	134	265
	GSE Risk-Sharing	M2	115	290	440
CLOs	CLO 2.0	AAA	56	58	200
	CLO 2.0	AA	65	69	265
	CLO 2.0	BBB	75	109	450
ABS	Unsecured Consumer Loan ABS	Seniors	62	111	197
	Unsecured Consumer Loan ABS	Class B	67	136	247
	Refi Private Student Loan	Seniors	47	81	172
	Credit Card ABS	AAA	27	44	77

Source: PGIM Fixed Income.

	Total Return (%)		Spread Change (bps)		OAS (bps)
	Q2	YTD	Q2	YTD	6/30/22
U.S. Corps.	-7.26	-14.39	37	60	153
European Corps	-7.29	-11.88	79	113	208

Source: Bloomberg. Represents data for the Bloomberg U.S. Corporate Bond Index and the Bloomberg European Corporate Bond Index (unhedged).

	Total return (%)		Spread / yield change (bps)		OAS (bps)/ yield %
	Q2	YTD	Q2	YTD	6/30/22
EM Hard Currency	-11.43	-20.31	142	173	542
EM Local (Hedged)	-3.22	-11.09	83	135	7.06
EMFX	-4.57	-9.84	105	128	5.61
EM Corps.	-5.62	-13.94	73	92	404

Source: J.P. Morgan.

	Total return (%)		Spread change (bps)		OAS/ DM (bps)
	Q2	YTD	Q2	YTD	6/30/22
U.S. High Yield	-9.83	-14.19	224	266	549
Euro High Yield	-10.65	-14.34	215	292	610
U.S. Leveraged Loans	-4.35	-4.45	209	219	658
Euro Leveraged Loans	-7.10	-7.62	289	345	760

Source: ICE BofAML and Credit Suisse.

	Total return (%)	Total return (%)
	Q2	YTD
High Grade Tax-exempt	-2.94	-8.98
High Yield Tax-exempt	-5.61	-11.77
Long Taxable Munis Agg Eligible	-8.27	-17.25

Source: Bloomberg. Represents the Bloomberg Municipal Bond Indices.

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. An investment cannot be made directly in an index. All data as of June 30, 2022.

IMPORTANT INFORMATION

Source of data (unless otherwise noted): PGIM Fixed Income and Bloomberg as of July 2022.

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INDEX DESCRIPTIONS

U.S. INVESTMENT GRADE CORPORATE BONDS

Bloomberg U.S. Corporate Bond Index: The Bloomberg U.S. Investment Grade Corporate Bond Index covers U.S.D-denominated, investment-grade, fixed-rate or step up, taxable securities sold by industrial, utility and financial issuers. It includes publicly issued U.S. corporate and foreign debentures and secured notes that meet specified maturity, liquidity, and quality requirements. 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.

EUROPEAN INVESTMENT GRADE CORPORATE BONDS

Bloomberg European Corporate Bond Index (unhedged): The Bloomberg 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.

EUROPEAN HIGH YIELD BONDS

ICE BofA European Currency High Yield Index: This data represents the ICE BofA Euro High Yield Index value, which tracks the performance of Euro denominated below investment grade corporate debt publicly issued in the euro domestic or eurobond markets. Qualifying securities must have a below investment grade rating (based on an average of Moody's, S&P, and Fitch). Qualifying securities must have at least one year remaining term to maturity, a fixed coupon schedule, and a minimum amount outstanding of €100 M. ICE Data Indices, LLC, used with permission. ICE DATA INDICES, LLC IS LICENSING THE ICE DATA INDICES AND RELATED DATA "AS IS," MAKES NO WARRANTIES REGARDING SAME, DOES NOT GUARANTEE THE SUITABILITY, QUALITY, ACCURACY, TIMELINESS, AND/OR COMPLETENESS OF THE ICE DATA INDICES OR ANY DATA INCLUDED IN, RELATED TO, OR DERIVED THEREFROM, ASSUMES NO LIABILITY IN CONNECTION WITH THEIR USE, AND DOES NOT SPONSOR, ENDORSE, OR RECOMMEND PGIM FIXED INCOME OR ANY OF ITS PRODUCTS OR SERVICES.

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:

J.P. 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)

J.P. Morgan 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

J.P. 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

J.P. 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 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 U.S. Treasury Bond Index: The Bloomberg 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 U.S. MBS—Agency Fixed Rate Index: The Bloomberg 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 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 U.S. Aggregate Bond Index: The Bloomberg 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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