GLOBAL MARKETS ANALYST

The Supply/Demand Drivers of Higher G10 Long-End Risk Premium (Marshall/Freycenet/Zu)

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- Recurrent bouts of volatility and a heightened focus on fiscal trajectories have made long-end rates a focal point across G10 rates markets for much of the last year. While higher term premia haven't been a uniquely long-end story, long-end curves have nonetheless steepened by more than implied by their historical relationship to shifts in shorter maturities.
- A mix of supply and demand factors are at play, with a steadily accumulating stock of debt intersecting with reliance on a more price sensitive buyer base. Since 2021, incremental absorption has fallen squarely on the shoulders of the private sector as central bank ownership has declined modestly amid quantitative tightening.
- The overall stock of long-end debt outstanding across core sovereign bond markets has grown both in absolute terms and relative to the size of the economy. This is despite the likes of the UK and Japan taking steps to curb their reliance on very long-dated issuance. That trend stands in contrast to dynamics in credit markets where the outstanding stock of long-end debt has been relatively stable of late.
- The shifting behavior of traditional sources of long-end demand have likely contributed to the broader macro trends. While pensions and insurers continue to accumulate assets, shifts from defined benefit to defined contribution pension models and reduced incremental hedging needs within existing portfolios have likely eroded structural appetite for long-dated sovereign bonds.
- We expect it will take time for higher levels of long-end risk premia to moderate. The trajectory of overall funding needs presents challenges to quickly altering the existing composition of what's already outstanding, while shifts in demand patterns are likely to prove durable.

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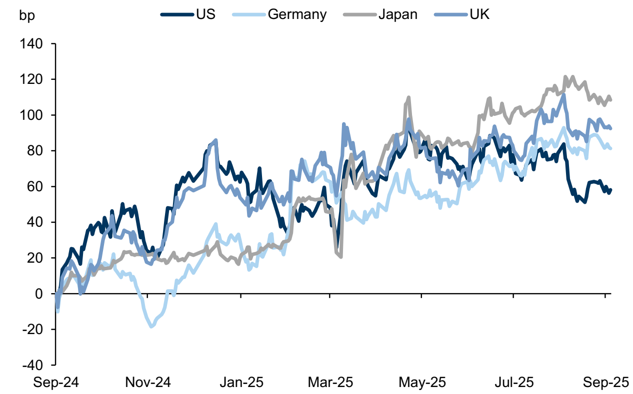
The Supply/Demand Drivers of Higher G10 Long-End Risk Premium

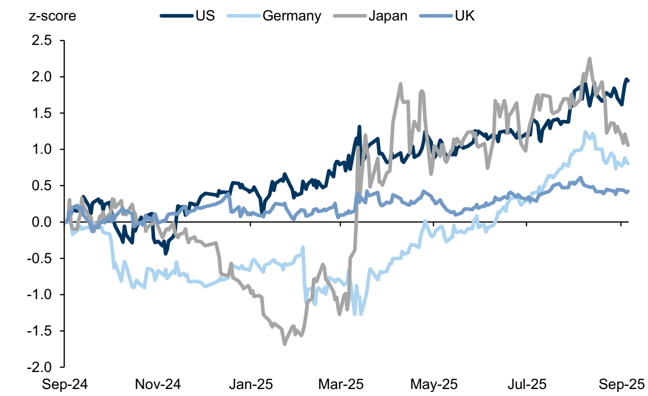
Recent shifts in long-end curves across core rates markets have offered reminder of the soothing effects of diminished inflation concerns and the elevated focus on shifts in fiscal risks and the issuance mix. Over the last year, episodes of heightened global volatility and underlying pressure from fiscal trajectories have ensured that long-end yields have never strayed too far from the spotlight (Exhibit 1). Bearish pressure has, for the most part, been reflected in higher real yields, while long-dated bonds sit at historically cheap levels versus matched maturity swap rates. And while higher term premia haven't been uniquely a story for the 30y point, 10s30s curves across core sovereign bond markets have steepened by more than would typically be expected based on the behavior of the curve out to the 10y point (Exhibit 2).

Exhibit 1: The move higher in long-end yields has had a global flavor
Change in 30y yields



Source: Goldman Sachs FICC and Equities, Goldman Sachs Global Investment Research

Exhibit 2: Term premia adjustments haven't been limited to the long-end, but 10s30s curves have steepened by more than the behavior of yields out to the 10y point would usually imply
Standardized change in residual of 10s30s curve to level (5y), slope (2s10s), and curvature (2s5s10s) of yield curve out to 10y

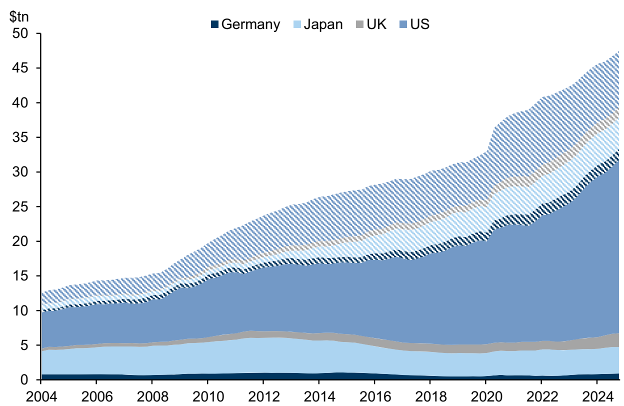


Source: Goldman Sachs Global Investment Research

Rising free float and a long-end supply overhang

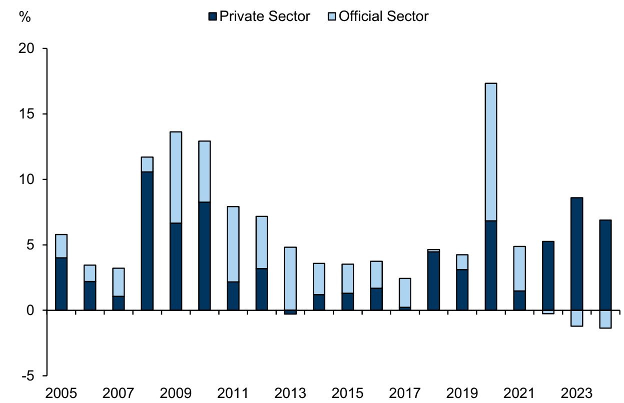
We think the set of observations first and foremost reflect the intersection of rising fiscal risks with evolving supply/demand dynamics for long duration assets. At a high level, G4 free float—the stock of bonds held by the private sector—is steadily accumulating thanks to elevated or expanding deficits and shrinking central bank balance sheets (Exhibit 3). Looking at the sum of US, UK, Japan, and German markets, 2021 was the last year during which central banks (domestic and foreign) were in aggregate net buyers. Since then, incremental absorption has fallen squarely on the shoulders of more price sensitive non-official buyers as official sector ownership has declined amid quantitative tightening (Exhibit 4).

Exhibit 3: Privately held G4 debt has grown significantly in recent years
German, Japan, UK, and US government debt outstanding, solid = held by private sector, striped = held by official sector; current USD



Source: IMF, Haver Analytics, Goldman Sachs Global Investment Research

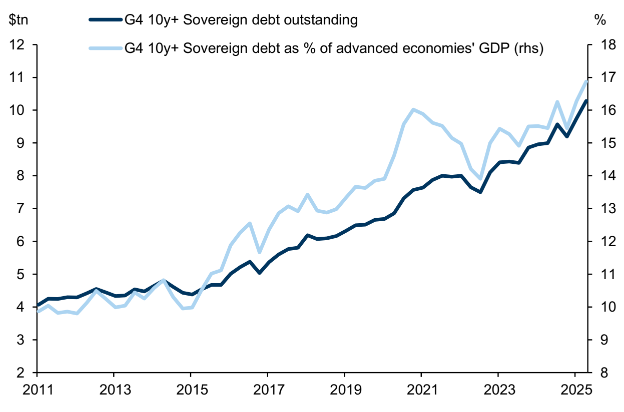
Exhibit 4: Non-official buyers have shouldered the burden of absorbing incremental sovereign bond supply since 2021
y/y change in holdings of German, Japan, UK, and US government debt normalized by amount outstanding at the start of the year; official sector = domestic central bank plus foreign official



Source: IMF, Haver Analytics, Goldman Sachs Global Investment Research

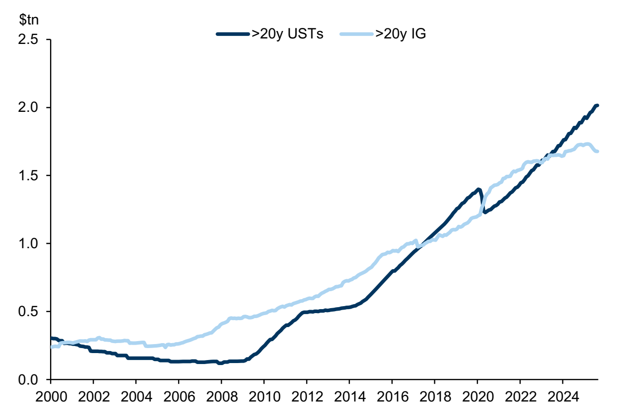
Growth in the stock of long-end sovereign debt outstanding has contributed to that process, rising steadily in both absolute terms and relative to the size of the economy (Exhibit 5). This trend stands in contrast to dynamics visible in the US corporate bond market where the accumulation of long-dated supply has slowed (Exhibit 6). While not the only factor at play, this diverging long-end supply picture is likely one of the drivers behind the flattening observed in the back-end of corporate spread curves alongside a steeper 10s30s Treasury curve.

Exhibit 5: Growth in the stock of long-end G4 sovereign debt has outpaced economic growth
US, Europe, UK, and Japan Treasury aggregate bond index amount outstanding with >10y to maturity



Source: Bloomberg, Goldman Sachs Global Investment Research

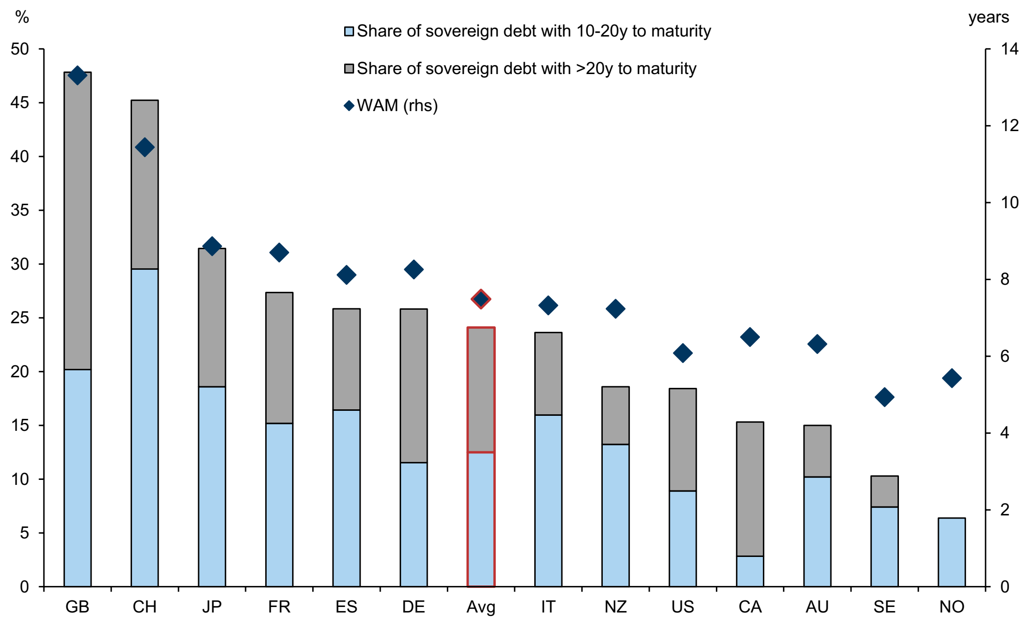
Exhibit 6: The accumulation of long-end US Treasury debt stands in contrast to the recent picture in IG
Amount of >20y USTs and >20y IG in the US aggregate bond index



Source: Bloomberg, Goldman Sachs Global Investment Research

Issuers in markets where the existing stock has a relatively heavy tilt towards longer maturities (Exhibit 7) have been taking steps to curb their reliance on very long-dated issuance. The UK DMO has gone to lengths to better align the issuance mix with the demand landscape, significantly lowering the WAM of debt outstanding in the process, while in Japan the MOF has curtailed its long-end issuance plans over the course of the year. While helpful on the margin, toggling issuance doesn't necessarily eliminate an existing supply overhang. Even in the US, the boost to long-end buybacks only serves to slow the pace of accumulation. The secondary market still ultimately has to clear amid continued growth in the aggregate amount of long-end debt outstanding across G10.

Exhibit 7: The UK DMO has taken steps to lower its WAM but the stock of long-end Gilts outstanding remains elevated compared to the rest of G10
Share of sovereign debt outstanding with 10-20y and >20y to maturity vs weighted average maturity (WAM) of debt outstanding



Source: Bloomberg, Goldman Sachs Global Investment Research

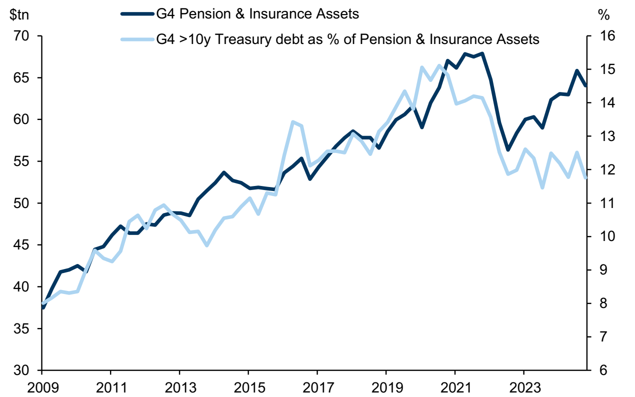
Shifting sands of long-end demand

Beyond the supply picture and broader shift in burden from (price insensitive) official sector buyers to (price sensitive) private sector buyers, adjustments in the demand patterns of longer-term investors may be playing a contributing role in the steepness of long-end yield curves. At a high level, traditional pools of long-term savings such as pensions and insurers continue to grow, with the accumulation of assets broadly keeping pace with the accumulation of long-end sovereign debt (Exhibit 8).

The mix of those assets is evolving, however, as defined benefit plans (DB) continue to cede ground within the broader pool of retirement savings. This trend has been a steady and obvious one within private sector retirement savings in the US where most of the growth has come from the steady growth of defined contribution (DC) assets (Exhibit 9). Meanwhile pending Dutch pension reform will correspond to a more discrete shift of a large sleeve of European retirement savings.

Exhibit 8: Pension and insurance assets have broadly kept pace with the growth in long-end debt outstanding

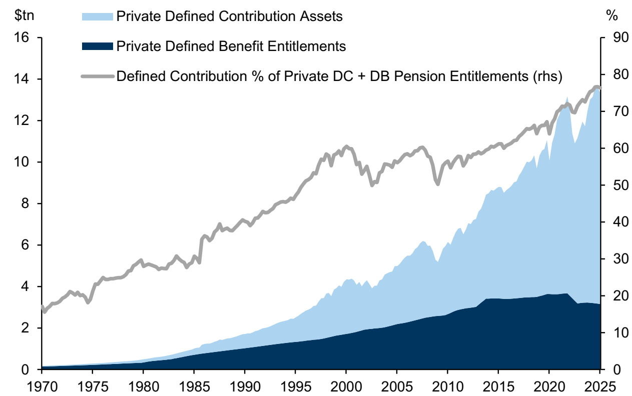
G4 pension and insurance assets in notional terms and vs stock of long-end G4 sovereign debt outstanding



Source: OECD, Haver Analytics, Bloomberg, Goldman Sachs Global Investment Research

Exhibit 9: The mix of US private sector retirement savings is shifting steadily towards a defined contribution model

US private defined contribution pension assets and defined benefit entitlements



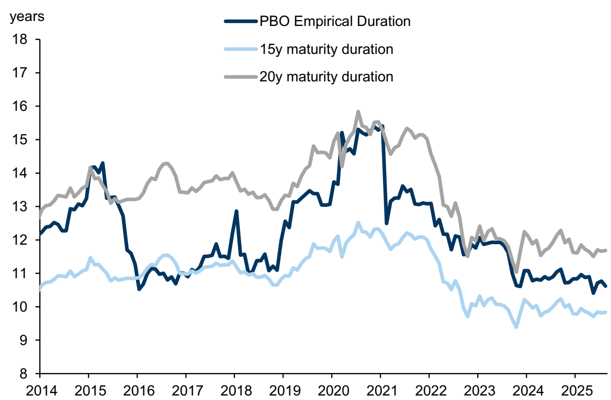
Source: Federal Reserve, Haver Analytics, Goldman Sachs Global Investment Research

In the US there is still potential demand from private DB pension plans whose liability duration tends to be closer to the 15-20y part of the curve (Exhibit 10). But with such private sector plans generally frozen to new entrants, duration needs are largely a function of existing duration shortfalls. Further, long-dated IG is likely to be a more natural beneficiary than USTs given the closer alignment with discount rates—a demand side factor that we think leans in the same direction to the supply trends mentioned earlier.

The accumulation of defined contribution assets does not obviate the need for fixed income, and target date funds (which have risen in popularity over time) shift the burden of rebalancing and portfolio composition decisions from the plan beneficiaries to asset managers. Target date funds' glidepath towards a higher fixed income allocation as the target retirement date approaches manages market risk. But the asset mix is not tailored to deliver promised lifetime income—instead the responsibility of managing longevity risk rests with the individual and their pace of withdrawals. The net effect is likely less structural demand for longer-term fixed income than would be required under a liability-driven investing approach. To this end, while other providers adjust their duration profile shorter as retirement nears, Vanguard—the largest target date fund provider—maintains a duration of its target date bond holdings that more or less matches the Bloomberg Aggregate Bond Index throughout the glidepath (Exhibit 11).

Exhibit 10: Private defined benefit pension obligation has an empirical duration that is consistent with a 15-20y maturity instrument

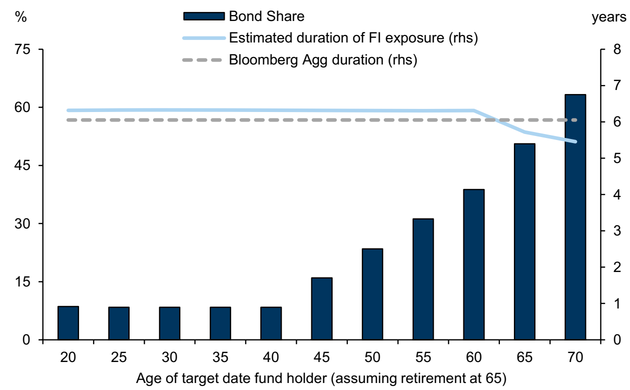
Estimated private defined benefit obligation duration vs duration of 15y and 20y maturity instrument (using average pension discount rate)



Source: Milliman, Goldman Sachs Global Investment Research

Exhibit 11: Target-date retirement funds follow a glide-path that manages market risk but not necessarily longevity risk

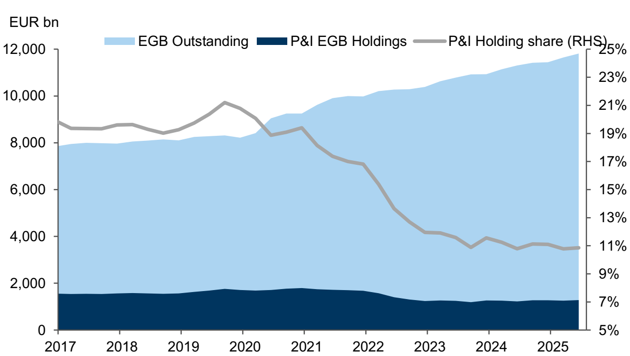
Estimated bond share, portfolio duration, and duration of fixed income of Vanguard target date funds



Source: Company reports, Goldman Sachs Global Investment Research

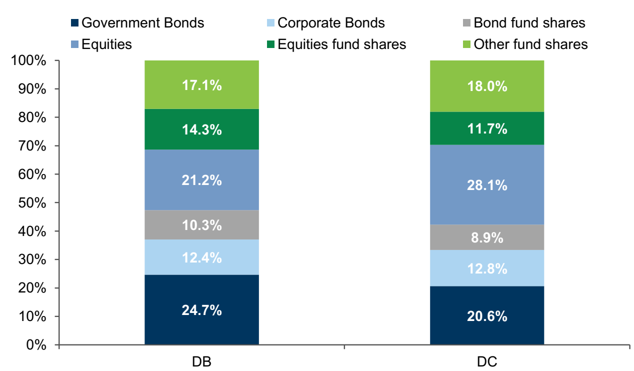
In the Euro area, pension funds and insurers' EGB holdings have been largely stable over recent years, failing to keep pace with the increasing stock of government debt (Exhibit 12). Market focus has been firmly on the Dutch pension reform, which represents a more discrete version of what has been a steadier trend in the US. The transition of the Dutch pension system—which represents about 80% of total pension fund assets in the Euro area—from a DB to a DC model should reduce incentives to hedge long-end interest rate risk (typically via swaps), while also shifting to a model that typically has a larger equity allocation (Exhibit 13). We think that cyclical factors will be the primary driver of broader curve shape, with the pension fund reform having so far reinforced the macro tailwinds to curve steepening.

Exhibit 12: P&I holdings of EGBs have not kept pace with the stock of government debt in recent years



Source: Haver Analytics, ECB, Goldman Sachs Global Investment Research

Exhibit 13: DC funds typically have a larger allocation to equities in the Euro area

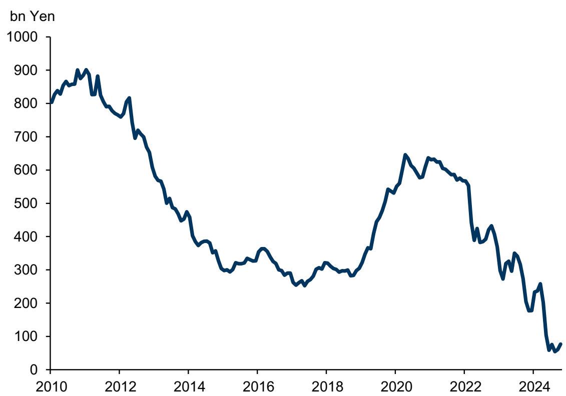


Source: EIOPA, Goldman Sachs Global Investment Research

Among G10 rates markets, long-end volatility has been the most pronounced in Japan this year, corresponding to a 10s30s curve that is highly dislocated from its usual cyclical drivers. Japanese lifers had been reliable buyers of super long-dated JGBs for years, including through prior selloffs, but have stepped back meaningfully during the latest episode of volatility (Exhibit 14). While it is possible that elevated volatility itself may be a deterrence for some investors, such a reduction in appetite is likely in part a function of past purchases having left lifers well hedged and with little incentive to lean against the yield move.

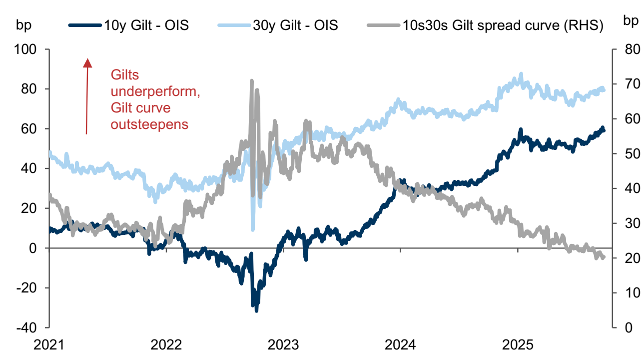
In the UK, LDI deleveraging was at the epicenter of the surge in long-end volatility three years ago. Higher rates, stronger regulatory scrutiny and the passage of time have corresponded to a reduction in the size of the LDI market and the duration of its exposure, with less leverage and larger cash buffers in the system today. Alongside that demand adjustment, the fact that scars from the 2022 Gilt crisis have proven durable despite issuance shifts suggests to us comparatively poor inflation dynamics remain a key impediment to sustained Gilt relief. We note that although fiscal events are highly salient, Gilt spreads have broadly stabilised year-to-date and even show long-end cash outperforming (Exhibit 15), again highlighting the role of sticky inflation risk premium in supporting elevated outright yields.

Exhibit 14: Japan lifer demand for long-term JGBs has declined sharply
12m average net purchases of super long-term (>15y) JGBs from Japanese lifers



Source: Ministry of Finance, Haver Analytics, Goldman Sachs Global Investment Research

Exhibit 15: Despite the strong market focus on fiscal, long-end cash has actually outperformed year-to-date



Source: Goldman Sachs Global Investment Research, Goldman Sachs FICC and Equities

Fundamentals, policy, and passage of time can bring (relative) relief

We expect it will take time for higher levels of long-end risk premia to moderate. On the supply side, the trajectory of overall funding needs and the existing stock of long-end debt present challenges to quickly altering the existing composition of what's already outstanding, and we don't expect the accumulation of long-end debt to halt entirely. Over time a shift in favor of front-end and belly issuance to meet incremental funding needs in the US can build on some of the adjustments already in place in the UK and Japan, but we expect that to be a multi-year process. Meanwhile, the demand shifts discussed—from official to private sector buyers, and in traditional sources of long-end demand—are likely to prove durable.

Shifts in the profile of the debt stock can relieve relative imbalances along the curve but require benign inflation outcomes in order to help attenuate the macro pressure of accumulating debt stocks. If inflation dynamics allow for sustainable, non-recessionary cuts, increased reliance on short-dated borrowing can lead to more favorable *r-g* dynamics and in turn reduce upward pressure on long-end term premia. Even in friendlier rate environments, however, a primary fiscal balance of about -3% in the US makes it hard to do much more than slow the rate of debt accumulation. Our economists' US fiscal baseline is consistent with debt-to-GDP growing by about

2pp/year—which our estimates suggest is worth about 5bp/year of upward pressure on 5y5y forward rates. So while issuance adjustments can act as a partial offset for the back-end of the curve specifically, we'd nonetheless expect the fiscal trajectory to correspond to some drift in belly and longer-dated forwards.

Disclosure Appendix

Reg AC

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