

Market Volatility and Corporate Bonds: Collateral Damage

Can deteriorating market liquidity cause more damage to valuations?

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EXECUTIVE SUMMARY



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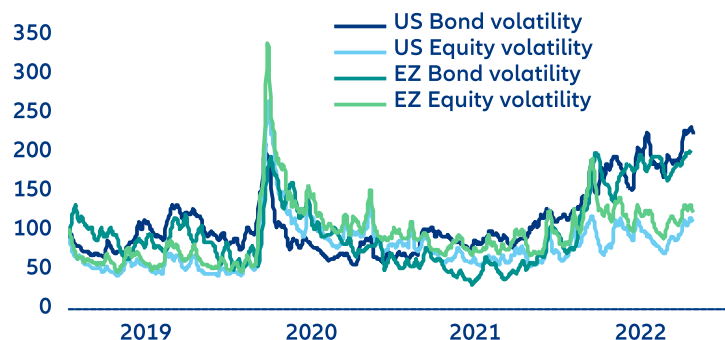
- **Over the last few months, more aggressive monetary tightening, especially in the US, has led a steep sell-off in public debt markets, resulting in unprecedented interest rate volatility.** Market fractures have started to appear, such as the recent turmoil in the UK Gilt market, as funding becomes expensive and scarce. The combined effect of high volatility and funding costs, amplified by leverage and concentration risk, could set off a so-called “liquidity spiral”—funding needs triggered by falling prices increase demand for safe collateral to cover margin calls and shore up liquidity buffers.
- **Liquidity squeezes increase valuation risk for less liquid assets, such as corporate bonds, which are coming under increasing scrutiny due to a deteriorating economic outlook.** Since the trading of corporate bonds relies heavily on intermediation, liquidity constraints could complicate market-making and negatively impact the valuation of corporate credit. We find that the current risk in liquidity risk accounts for ~10-30bps and ~30-60bps of the total year-over-year spread widening of IG and HY corporate bond in the US and Europe, respectively. This is a worrying development given that corporate credit, especially investment grade (IG), is having one of the worst years in recorded history. However, we expect corporate markets to gradually regain stability and liquidity on the back of a policy pivot in 2023 and a more stable long-end of yield curves.
- **While the implementation of monetary policy operates mostly through the government bond market, corporate bonds could benefit from an overall improvement in market liquidity.** Central banks can help address the adverse impact of the current pace of monetary tightening on market functioning – or “plumbing” – by making securities lending more widely accessible at lower cost could address current collateral scarcity. Widening collateral eligibility for accessing central bank money could also boost precious liquidity in corners of the capital market that are at risk of liquidity squeezes, such as corporate debt.

Monetary tightening is unleashing market volatility

Since the Global Financial Crisis (GFC), accommodative monetary policy has contributed to favorable financing conditions, excess system-wide liquidity and low market volatility, which has helped compress risk premia across all asset classes. Over the last few months, however, more aggressive monetary tightening in advanced economies, especially in the US, has fundamentally changed the situation. Higher borrowing costs, persistent inflationary pressures and signs of economic slowdown have led a steep sell-off in public debt markets, resulting in unprecedented interest rate volatility.¹ The impact is most apparent in the bond market, where, unlike in equity markets, volatility has reached levels close to those of the GFC (Figure 1). The outsized price swings of government debt and the attendant surge in bond market volatility can be explained by three factors:

- Markets testing central banks' commitment to continue their aggressive tightening path despite deteriorating economic data, which has pushed up yields above levels last seen more than two decades ago in both nominal and real terms;
- Convexity effects (i.e. small changes in rates from historically low levels cause large changes in bond valuations); and
- Market liquidity (i.e. trading volumes have declined and market-makers lack sufficient access to safe collateral, typically government bonds).²

Figure 1: US volatility decoupling between bonds and equity (rebased to 100)



Sources: Refinitiv Datastream, Allianz Research

We are beginning to see signs of markets behaving much more like they do during periods of stress, when funding becomes expensive and scarce. With central banks committed to taming inflation and with market fractures starting to appear, stress has already surpassed levels last seen during the Covid-19 crisis, pushing up interest-rate volatility (Figure 2). This is not only the result of the repricing of interest-rate expectations but also due to the predominance of quote-driven trading³ in bond markets. When funding becomes scarce, trading volumes decline and prices become more volatile.

¹ At the same time, strengthening the US currency and triggering a reverse currency war with other central banks trying to avert FX pressures, creating further upside pressure on US interest rates.

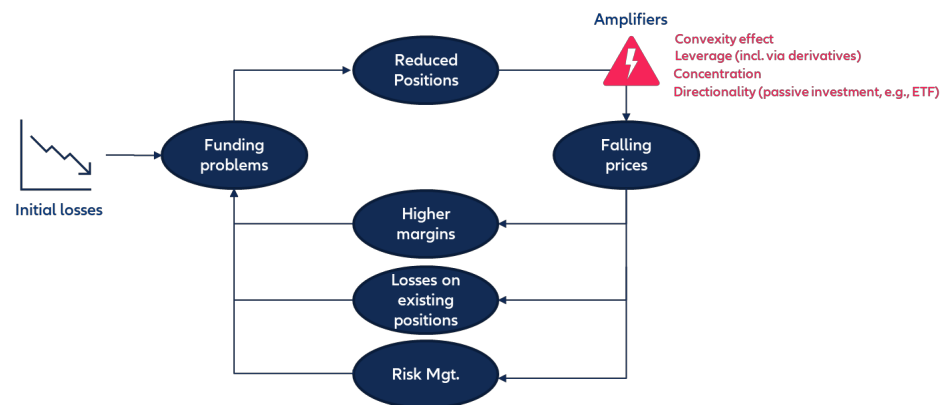
² There is also additional demand from banks investing their excess reserves as rates rise.

³ Non-standardized instruments, such as bonds, are traded in a quote-driven market operated by market-makers. Transactions are cleared and settled via the balance sheet of market makers; thus, market liquidity depends on the aggregate capacity of market makers to take risk on their books to fulfil clients' orders. This is different from an order-

The chart displays three components of the US 10-year nominal yield from early 2019 to late 2022. The blue line represents the actual US 10y yield, which fell sharply in early 2020 and then rose steadily. The green line represents the expectation component, which followed a similar but less volatile path. The red line represents the risk component (term premium), which was negative for most of the period, peaking slightly in mid-2020.

Year	US 10y yield	10y exp. short-term rates (expectation component)	10y nominal term premium (risk component)
2019	~1.8%	~2.5%	~-1.0%
2020	~0.5%	~1.8%	~-1.3%
2021	~1.5%	~1.8%	~-0.3%
2022	~4.2%	~4.5%	~-0.5%

Figure 3: Liquidity spiral

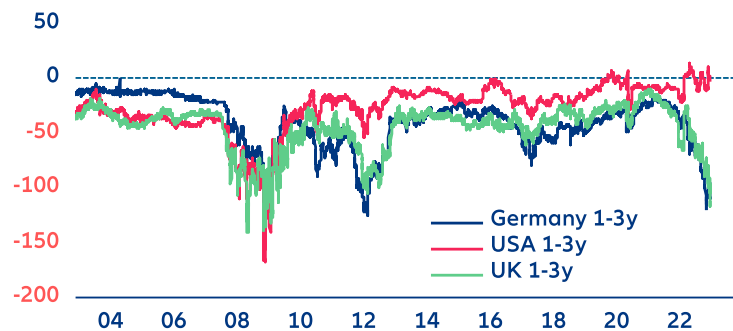


High volatility and funding costs could set off a so-called "liquidity spiral" in bond markets (Figures 3 to 5). In a liquidity spiral, funding needs triggered by falling prices increase demand for safe collateral to cover margin calls and shore up liquidity buffers for risk-management purposes. In this situation, demand shifts to the safest assets ("liquidity bifurcation"), creating a scarcity of safe assets, and "thins out" riskier (and traditionally less liquid) market segments. This effect could be amplified by the widespread use of derivatives by non-bank institutions (hedge funds, pension funds etc.). Higher volatility increases money demand for leveraged exposures, such as interest-rate derivatives. The bulk of derivatives positions are in interest rates: the increased volatility of interest rates is creating an automatic and autonomous demand for cash due to a higher probability of larger margin calls than would otherwise be the

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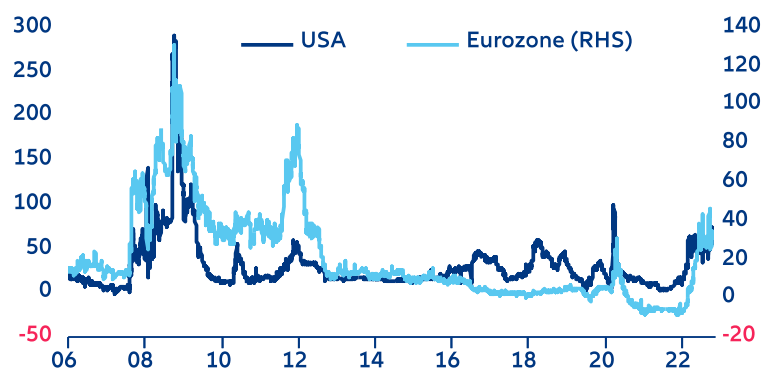
case. Asset swap spreads (i.e. the sovereign yield minus the swap rate) in the Eurozone and the UK are already as negative as they were during the GFC.⁴

Figure 4: Collateral scarcity (asset swap spreads) (bps)



Sources: Refinitiv Datastream, Allianz Research

Figure 5: Counterparty risk (overnight funding conditions) (FRA-OIS 1wma – bps)

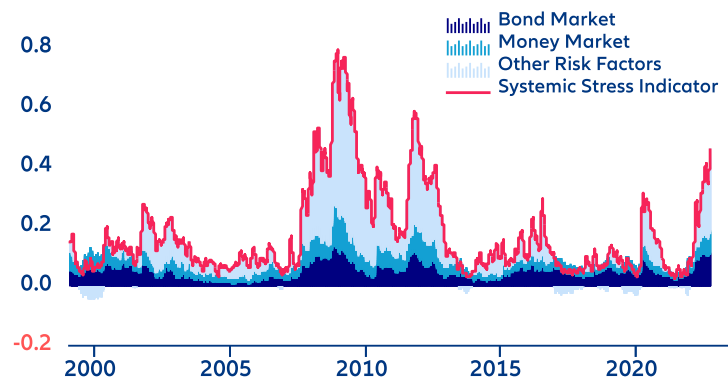


Sources: Refinitiv Datastream, Allianz Research

The recent UK Gilt market crash was a clear reminder of how quickly liquidity risk can spread, even in government bond markets. Liquidity risk becomes systemic when public debt and/or repo markets collapse, demanding a considerable degree of intervention to prevent a financial crisis and spillover to the actual economy. The revised rate expectations due to the surprise fiscal stimulus package announced by the UK government led to a violent re-pricing of long-dated UK government debt against the background of strong inflationary dynamics. In addition, the fast rise in long-term yields created margin call pressure on leveraged investors. Markets only stabilized after the Bank of England stepped in with a temporary QE program to absorb additional government debt. Given the high fragmentation of safe assets in the Eurozone, the possibility of a similar liquidity crisis cannot be ruled out (Figure 6).

⁴ In the US, asset swap spreads are still positive, which could also be a sign of liquidity risk. However, in this case, it may reflect an excessive demand for liquidity from the repo market, i.e. a growing reluctance of investment banks to take on repo risk from non-bank entities.

Figure 6: Eurozone systemic risk decomposition



Sources: Refinitiv Datastream, ECB, Allianz Research

Rising liquidity risk increases divergence in asset valuation

Asset valuation is significantly impacted by liquidity risk. The price of liquidity rises as its supply declines. Whether the buyer or the seller of an asset is paying this premium depends on demand. Low demand causes the seller to accept a liquidity discount, which lowers the market price. If demand is high, the buyer agrees to pay a premium, which drives up the market price. Recent developments in the US Treasury Inflation-Protected Securities (TIPS) market illustrate this point. High demand initially caused the liquidity premium to turn negative (i.e. the buyer pays a premium). However, as the liquidity supply declined, the premium turned positive once more (i.e. the seller pays a premium) (Figure 7). In general, less market liquidity will cause safe liquid assets to become more expensive and riskier, illiquid assets to become more expensive, hence increasing the divergence in valuation. This is mostly relevant to fixed income and alternative investments. Due to their order-driven trading model, equity might be less affected. The corporate bond market will be along the line of liquidity bifurcation.

Figure 7: US—Liquidity premium for 10-year TIPS (in pp)*

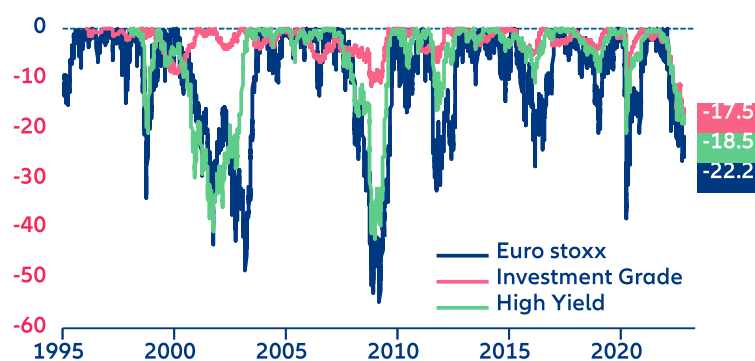


Sources: Refinitiv Datastream, Allianz Research. Note: */ based on term structure model according to D'Amico, Kim, and Wei (2018).

Corporate credit markets are also starting to feel the liquidity squeeze

Valuation risk is causing portfolio rebalancing away from (traditionally) less liquid assets due to “liquidity bifurcation.” Thus, liquidity constraints could amplify the adverse impact of tighter financing conditions in the less liquid credit and structured finance markets whose trading relies heavily on intermediation. These are either volatile risky assets (high yield), leveraged (hedge funds, real estate), complex or specialized assets (structured bonds, tiny emerging sovereign bonds) or assets with a highly concentrated intermediation structure (few market makers).

Figure 8: Europe—Risky assets one-year drawdown (%)

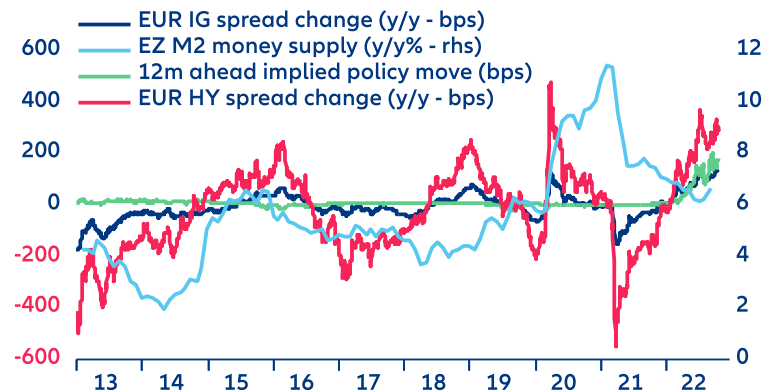


Sources: Refinitiv Datastream, Allianz Research

The corporate bond market might be the next domino to fall. It is well-known that corporate credit, especially investment grade (IG), is having one of the worst years in recorded history. The pass-through of macroeconomic and equity-market uncertainty into credit risk has remained and remains elevated. In the case of the Eurozone, a -17% one-year drawdown in the IG credit bucket is worse than the 2008 bear performance (-23% for the US), a negative performance that can be mostly attributed to the rise in risk free rates (2/3 of the move) but that leaves IG credit investors in a difficult territory.⁵ This is not the case for high yield (HY) corporate credit, which deteriorated more during the 2000 and 2008 bear markets due to higher default rates (Figures 8 and 9).

⁵ In addition, declining money growth has virtually removed the cushioning effect on credit spreads due to policy support during the Covid-19 crisis.

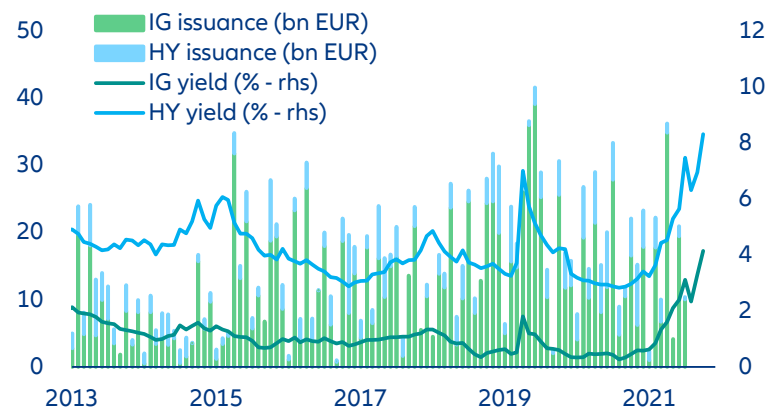
Figure 9: Europe—Corporate spreads and monetary policy



Sources: Refinitiv Datastream, Allianz Research

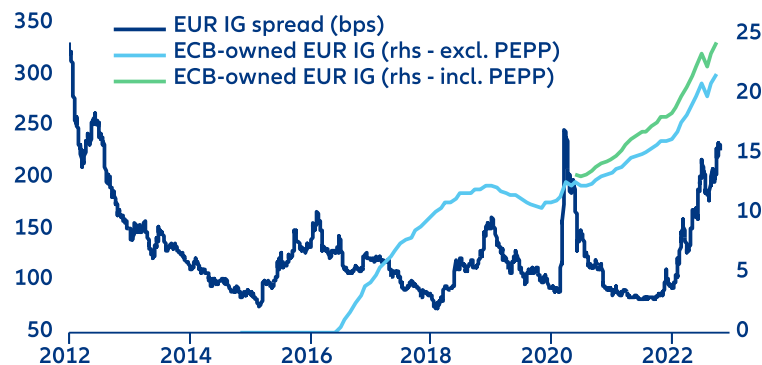
Market, macroeconomic and policy uncertainty have also taken their toll on the primary market for corporate debt (and credit-sensitive assets). Bond issuance has strongly decelerated year-to-date and has virtually stopped for HY names amid higher financing costs. This has also been the case for CLOs (collateralized loan obligations) with gross issuance slowing down across the developed world and especially in Europe. Many companies have front-run their funding needs already during the last two years as central banks' direct interventions kept financing costs at an all-time low. Current refinancing needs across corporate rating buckets remain relatively low, allowing companies to wait for central banks' policy pivot and thus avoid locking in higher debt costs (the bulk of refinancing will start to be noticeable in 2024-2025). In addition, a significant part of the EUR IG market cannot be counted in the EUR corporate liquidity pool. Even though the ECB has stopped expanding its corporate portfolio, the reduction of the asset base has led the ECB to become an even bigger market player within the EUR IG markets, moving from 22% ownership of the market to ~25%. Consequently, assuming that the ECB is and will remain a hold-to-maturity investor (we dismiss the negligible corporate securities lending part). Thus, supply side constraints exacerbate rising illiquidity of corporate credit (Figures 10-11).

Figure 10: Europe—Corporate bond issuance (EUR bn)



Sources: FINIM, Refinitiv Datastream, Allianz Research

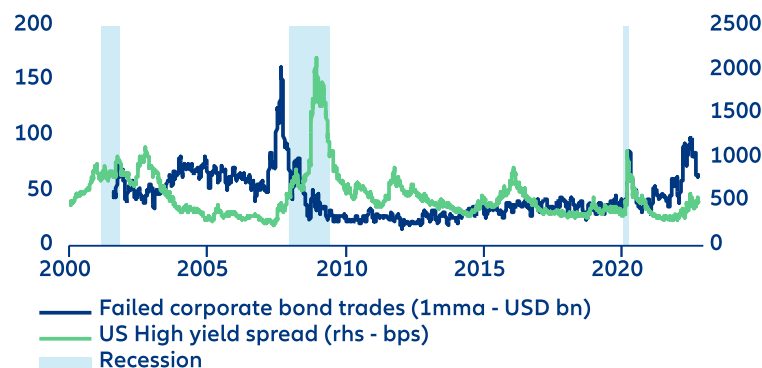
Figure 11: Europe—EUR corporate spreads and ECB holdings of corporate bonds (bn EUR)



Sources: Refinitiv Datastream, Allianz Research

This shrinking liquidity could also forebode market dysfunctionalities. Most notably, for instance, one of the direct liquidity indicators of US corporate markets, the number of failed corporate bond trades has strongly increased to levels last seen during the GFC. Even if the number of failed trades has recently dropped again, it is worth mentioning that historically such a change does not signal better economic prospects but may be an indication of an upcoming large recession (Figure 12).

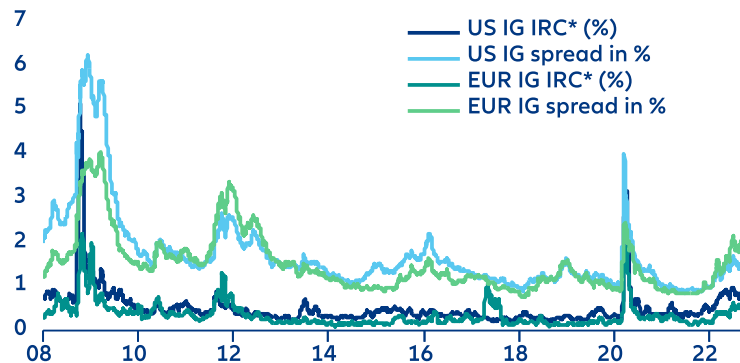
Figure 12: US—Failed corporate bond trades and HY corporate spread



Sources: Refinitiv Datastream, Allianz Research

Traditional liquidity-pricing metrics also indicate that liquidity conditions have deteriorated at the asset level (e.g. bid-ask spreads, Imputed Round Trip costs). This could also partially explain the exacerbated intra-day market moves currently in place (Figure 13). Similarly, this can also be seen in the divergence between synthetic corporate exposure (credit default swaps) and physical exposure (corporate bonds), with the spread between both instruments widening despite representing the same corporate credit universe. Such divergence tends to happen in periods of exacerbated market volatility paired with low liquidity and it is always more pronounced for below-investment-grade corporates.

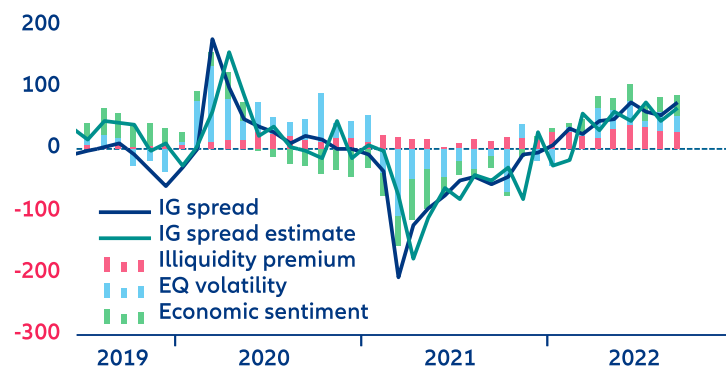
Figure 13: Investment grade corporate debt market liquidity vs spreads (%)



Sources: Refinitiv Datastream, Allianz Research. Note: IRC=imputed roundtrip cost, which is measured as percentage difference between the maximum and minimum prices contained in a roundtrip trade (Feldhütter, 2012). We use the iShares iBoxx \$ Inv Grade Corporate Bond ETF and the iShares € Corp Bond Large Cap UCITS ETF to compute the liquidity measures.

We find that the current risk in liquidity risk accounts for ~10-30bps and ~30-60bps of the total year-over-year spread widening of IG and HY corporate bond in the US and Europe, respectively. However, the premium is gradually falling as markets become slightly calmer. Consequently, we expect corporate markets to gradually regain stability and liquidity on the back of a policy pivot in 2023 and a more stable long-end of yield curves leading to a reignition of the primary market. Assuming that central banks will accept the role of lender of last resort for corporate bonds, credit markets should relatively rapidly erase part of the current cyclical market illiquidity. However, the structural part due to lower issuance may still be with us until year-end and in H1 2023 (Figure 14). It will also be key to keep the CLO market under watch as markets tends to accumulate similar illiquidity risks.

Figure 14: US corporate spread decomposition (y/y change in bps)



Sources: Refinitiv Datastream, Allianz Research

What can central banks do?

After the recent episodes of dramatic price swings in bond markets, managing market volatility will get much more attention from central banks as they keep raising rates to tame inflationary pressures. Financial stability considerations could constrain the normalization path in the context of increasingly “financialized” economies. Thus, comparing the current hiking cycle to the 1970s and 1980s should be avoided because the financial system is now far more vulnerable to interest rate volatility due to higher leverage, larger derivative exposures and higher asset correlation due to passive investment strategies.

While the implementation of monetary policy operates mostly through the government bond market, corporate bonds could benefit from an overall improvement in market liquidity. In particular, central banks can help address the adverse impact of the current pace of monetary tightening on market functioning – or “plumbing”. Safe collateral is crucial for market liquidity but much of it remains parked on central bank balance sheets – making securities lending more widely accessible at lower cost could address current collateral scarcity. Widening collateral eligibility for accessing central bank money could also boost precious liquidity in corners of the capital market that are at risk of liquidity squeezes, such as corporate debt. Finally, over the longer term, re-assessing the impact of post-GFC regulatory reforms on market-making would be warranted. Reforms have made primary dealers’ transactions more expensive due to reserve requirements. Maybe the pendulum has swung too far.

These assessments are, as always, subject to the disclaimer provided below.

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