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The paradox of safe assets: hedge funds, leveraged finance and treasury market instability

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ABSTRACT

This article explains a paradox at the heart of contemporary finance: the very properties that make U.S. Treasuries safe – liquidity, low volatility, and privileged collateral status – also make them ideal instruments for extreme leverage and therefore a recurrent source of market instability. It examines the deep entanglements between hedge funds, leveraged finance, and the U.S. Treasury market by tracing the rise of relative-value strategies that have turned safe assets into engines of leveraged speculation and absolute returns. It argues that top hedge funds' market power derives less from their assets under management than from their capacity to gain leveraged exposures through derivatives, repos, and basis trades, making bond markets unusually sensitive to leveraging and deleveraging. The article thus outlines a 'leveraged finance complex' linking top hedge funds, private equity firms, dealer banks, and shadow-banking vehicles such as CLOs. This complex reshaped corporate credit markets during the 2010s by increasing indebtedness, eroding credit quality, and securitising risky corporate debts. The 2019 repo-market panic – the 'Repocalypse' – is treated as a revelatory case in which repo-financed Treasury speculation collided with fragilities across this wider infrastructure.

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U.S. treasury market panic: anomaly or warning?

In early April 2025, the U.S. Treasury market experienced a sudden and disconcerting bout of turbulence. A weak auction of Treasuries triggered a sharp sell-off: prices fell, yields spiked, and liquidity deteriorated in what is ordinarily the deepest and most resilient financial market in the world. Initial explanations in the financial press were quick to attribute the episode to an exogenous political shock. President Donald Trump's announcement of sweeping new tariffs on Chinese and European imports was widely interpreted as a revival of trade-war politics and a signal of looming fiscal disorder. Bond market volatility, in this account, reflected rational investor concern about inflation, U.S. deficit, and geopolitical risk.

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This interpretation did not last. Within days, the explanatory focus shifted decisively away from politics and towards dynamics within the Treasury market itself. Commentators at the *Financial Times*, *Bloomberg*, and *The Wall Street Journal* increasingly identified hedge funds and their Treasuries basis trades as a central driver of the sell-off. Reports pointed to margin calls, forced liquidations, and abrupt deleveraging by relative-value funds active in Treasuries and repo markets. The diagnosis, however, remained broadly unchanged: the markets were reacting to an exogenous shock. Some observers went so far as to celebrate the episode as the return of ‘bond vigilantes’ disciplining myopic fiscal and trade policy through market pressure (Scaggs 2025).

This paper starts from a different premise. The April 2025 mini-panic was neither an accident nor a one-off reaction to an external shock. Rather, it was the latest manifestation of a recurrent pattern of instability in the U.S. Treasury market: one that has become increasingly visible over the past three decades. March 2020 offers the most dramatic recent example. During the global dash for cash at the onset of the pandemic, instead of working as a safe haven, the Treasury market seized up. Treasuries sold off alongside equities as hedge funds frantically unwound positions and reduced exposures, while spreads widened sharply across credit markets at large, and market liquidity evaporated (Schrimpf *et al.* 2020, Kruttli *et al.* 2021). The Federal Reserve was forced to intervene on an unprecedented scale, purchasing Treasuries in effectively unlimited quantities to restore some degree of ‘market functioning’.

Nor was March 2020 the first warning sign. In September 2019, months before the pandemic, the U.S. repo market abruptly froze. Overnight repo rates spiked to nearly 10 per cent, signalling an acute breakdown in the core funding market for Treasuries. Once again, the initial diagnosis focused on idiosyncratic factors: corporate tax payments, Treasury settlement dates, and coincidental cash drains from U.S. banks. Yet the scale and persistence of the Federal Reserve’s response – daily repo operations that evolved into a de facto reversal of balance-sheet normalisation initiated in 2017 (quantitative tightening) – were wildly disproportionate to these supposedly minor frictions, as will be argued later. If one extends the historical lens further back, the pattern becomes even clearer. The ‘Great Bond Massacre’ of 1994, which is also detailed later, was already deeply entangled with leveraged speculation in sovereign bond markets.

Seen together, these episodes challenge the conventional view of U.S. Treasuries as an inherently stabilising anchor of the global financial system. The April 2025 turbulence does not point outward – to trade wars, politics, or macroeconomic shocks – but inward, toward the evolving structure of contemporary bond markets themselves. The puzzle, then, is not why Treasuries occasionally (over)react to political events and news, but why the market for the world’s benchmark safe asset has become so acutely sensitive to episodes of (hedge fund) deleveraging.

In effect, the recurrence of Treasury market stress challenges a deeply entrenched assumption in both policy discourse and much of the academic literature: that sovereign bonds of advanced economies, especially those of the United States, are inherently ‘safe assets’: liquid, default-free, therefore immune to the volatilities that plague other markets. Instability, when it arises, is typically attributed to exceptional circumstances, and the idea that it might be endogenous to the everyday functioning of these markets remains deeply counterintuitive.

Yet, this is precisely what is being argued here. More specifically, the central claim of this paper is that hedge funds are not marginal actors in a niche corner of ‘alternative finance’ (Benquet and Bourgeron 2022), but structurally significant players in mainstream finance and contemporary capitalism. Over the past four decades, hedge funds have become amongst the most intensive users of leverage in the financial system, and this applies to sovereign bond markets too. Speculation in U.S. treasuries is a most popular strategy among the largest and most levered funds (Sgambati 2024). As a result, *Treasury market liquidity has become endogenously tied to the balance sheets of hedge funds (and their dealer banks)*.

This claim cuts against a dominant narrative in both policy and academic debates. In the shadow of the spectacular growth of giant asset managers – BlackRock, Vanguard, State Street (e.g. Fichtner and Heemskerk 2020, Braun 2021) – hedge funds are often portrayed as relatively small players, dwarfed by institutions managing tens of trillions of dollars in assets. From this perspective, hedge funds appear as opportunistic traders whose failures may harm their investors but pose little systemic risk.

This view is deeply misleading. Assets under management are a poor proxy for financial power (the ability to shape market outcomes). Hedge funds derive their influence not from the size of their balance sheets in net asset value (NAV) terms, but from their capacity to generate gross notional exposure (GNE) through leverage. By combining repo financing, derivatives, securities lending, and off-balance-sheet synthetic instruments, top hedge funds routinely operate with gross exposures that dwarf their equity capital many times over. It is gross exposure – not net worth or AUM – that determines market impact and, literally, *leverage* over financial markets (Sgambati 2024).

In the Treasury market, this distinction is crucial. Relative-value hedge funds specialise in arbitrage strategies (e.g. basis trades, convergence trades) that generate thin margins on individual positions but scale those margins through extreme leverage. Treasuries are ideally suited to this purpose. They are liquid, homogeneous, widely accepted as collateral, and cheap to finance in repo markets. As a result, *they have been transformed into raw materials for leveraged speculation and a source of absolute returns for hedge funds*.

More specifically, this paper argues that hedge funds have not merely participated in the Treasury market but have actively reshaped it, as they have come to play a central role in price formation, liquidity provision, and volatility dynamics (such as the sudden dislocation of April 2025). In periods of expansion, their leverage compresses yields, boosts turnover, and creates the appearance of deep and resilient markets. In periods of stress, the same leverage operates in reverse, producing margin spirals, forced selling, and sudden liquidity droughts. The significance of hedge funds, therefore, lies not only in their propensity to generate instability, but in the fact that their speculation has a *pro-cyclical* effect on safe-asset markets, and that this is a fully endogenous dynamic driven by the ebbs and flows of hedge fund leveraging and deleveraging. When hedge funds expand leverage, markets appear stable; when they deleverage, instability erupts.

A second claim I make in this paper is that hedge funds matter, not only because they speculate in Treasuries and generate instability in safe-asset markets, but because *they are embedded in a broader leveraged finance complex that now spans sovereign debt, corporate credit, and shadow banking*. This complex comprises large dealer banks, top private equity firms, and securitisation vehicles such as collateralised loan obligations (CLOs). Its expansion over the 2010s reshaped both financial markets and the nonfinancial corporate sector.

Large dealer banks – so-called ‘market-makers’ – sit at the centre of this architecture (Sgambati 2019). They provide (repo) financing to hedge funds, arrange syndicated loans to private equity firms, warehouse corporate debts waiting to be securitised, run matched books that connect hedge fund leverage to cash-rich institutional investors such as money market funds, and, not least, manage shadow banking vehicles. Private equity forms the second pillar of the leveraged finance complex. Through leveraged buyouts, dividend recapitalisations, and repeated refinancing, private equity firms have loaded unprecedented amounts of debt onto nonfinancial corporations (Sissoko 2023).

Hedge funds occupy a crucial position within this ecosystem. They are not only traders of sovereign debt but also investors in CLO equity and counterparties to dealer banks across multiple asset classes – including, it goes without saying, *equities*. Their balance sheets therefore link Treasuries markets directly to corporate credit and equity markets via the ‘big-bank’ dealer system. Stress in one domain propagates into the others through shared funding channels, collateral chains, and dealer constraints.

Notably, the implications of this architecture extend far beyond hedge funds themselves. Passive index funds, bond ETFs, pension funds, and insurers are all entangled in this system, either as providers of funding liquidity or as holders of corporate securities whose prices depend on leveraged trading and market-making. Likewise, the nonfinancial corporate sector has become structurally dependent on continuous refinancing, low yields, and stable market liquidity: conditions that hinge on the smooth operations of leveraged finance (this will be detailed later).

Once all of this is considered, a new picture emerges where Treasury market instability is not a narrow technical issue, stemming from exogenous shocks, but a structural feature of the market itself, now entangled with the balance sheets of hedge funds. As a result, today the market for safe assets and the market for corporate credit (including speculative-grade credit) form a single system in which the activities of the leveraged finance complex – speculation by hedge funds, leveraged buyouts by private equity firms, capital market lending and trading by dealer banks, and, not least, the securitisation of risky corporate debts by shadow banking entities – codetermine financial (in)stability: what I have called the ‘paradox of safe assets’.

The remainder of this paper develops this argument in three steps. First, it situates hedge fund leverage in the U.S. Treasury market within a longer historical trajectory, tracing how it became a site of speculative accumulation and systemic instability between the 1980s-1990s. Second, it analyses the September 2019 repo market panic as a critical case study, showing why the ‘perfect storm’ narrative fails and how hedge fund deleveraging exposes deeper structural fragilities. Third, it connects these dynamics to the leveraged finance complex that has reshaped corporate credit markets in the 2010s, arguing that instability in sovereign debt markets and fragility in the corporate sector are now two sides of the same coin. In this architecture, Treasury market panics such as the April 2025 one, are not anomalies but signals, indeed warnings.

Hedge funds: an industry that looks small but isn’t

At first glance, the hedge fund industry appears modest in scale. Global assets under management (AUM) amount to \$5.4 trillion (SEC 2025a, p. 4), small relative to the balance sheets of large banks or the portfolios of giant asset managers such as BlackRock,

Vanguard, or State Street. This comparison has encouraged a persistent narrative in which hedge funds are treated as marginal actors: part of a heterogeneous ‘alternative finance’ ecosystem (Benquet and Bourgeron 2022), innovative but peripheral to the core dynamics of contemporary capitalism.

This impression is misleading. AUM is a poor proxy for financial power. Hedge funds derive their influence not from the volume of assets they hold outright, but from the scale of market exposure they generate through leverage. When gross notional exposure (GNE) is taken into account, the footprint of the industry expands dramatically. Conservative estimates based on SEC data place total hedge fund GNE at around \$35 trillion in 2025 (Figure 1). Given the opacity of off-balance-sheet derivatives, offshore vehicles, and synthetic exposures, this figure almost certainly understates the true scale of hedge fund leverage (Sgambati 2024).

The gap between AUM and GNE is not incidental. It captures the defining characteristic of hedge funds as economic actors: their capacity to control vast positions with relatively little equity. Hedge funds are not primarily in the business of owning assets; they are in the business of leveraging balance sheets. Their power lies in their ability to borrow, refinance, and layer exposures through repo markets, derivatives, securities lending, and structured instruments. In this sense, hedge funds epitomise a political economy of leverage where financial power lies in borrowing with a view to investing, rather than saving (capital) as such (Sgambati 2022).

Crucially, this leverage is not evenly distributed across the industry. The hedge fund sector is highly polarised and intensely concentrated (Barth *et al.* 2020, Kruttli *et al.*

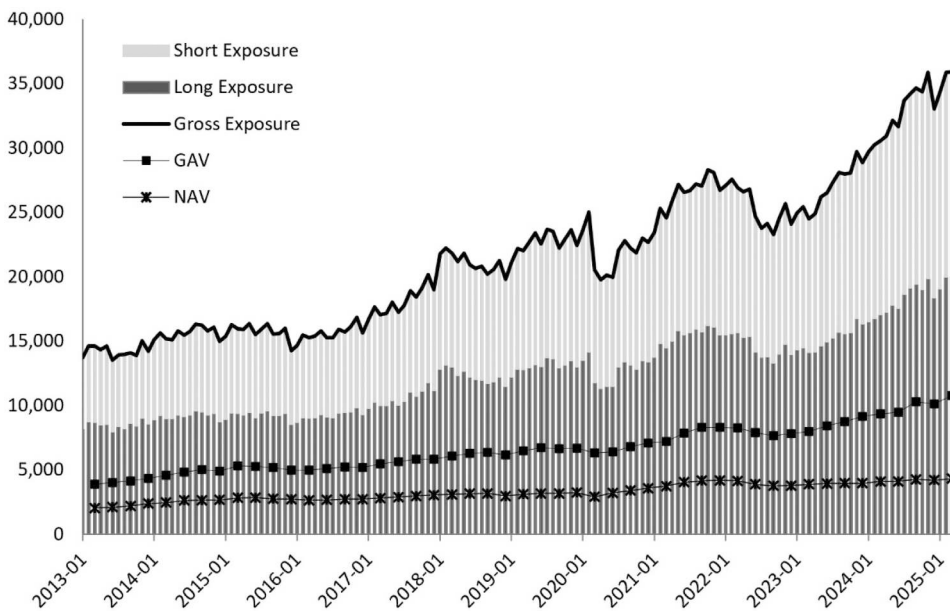


Figure 1. (author’s own figure). Qualifying hedge fund notional exposure, GAV, and NAV (billions of dollars). Data source: SEC (2025b). Long/short exposure totals are summed across all investment types from Tab.8.16 and Tab.8.17. GAV and NAV are from Tab.2.2 and Tab.2.4 and appear on quarter-end months only.

2022, Sgambati 2024). A small minority of dominant players accounts for the overwhelming share of leverage, derivatives activity, and systemic relevance, while the majority of hedge funds operate with little leverage and modest market impact. SEC data show that top 500 hedge funds – which practically approximate top 5 per cent of the industry, estimated to comprise a total of 9,822 funds in 2025 – accounts for the bulk of AUM, NAV, gross asset value, and GNE (SEC 2025a, pp. 21–22). Within this group, concentration is even more pronounced. The top 10 funds alone account for a staggering 40 per cent of the industry’s GNE (SEC 2025a, p. 22). These are the funds that matter.

By contrast, the vast majority of hedge funds barely use leverage at all. Economically, many of them differ from actively managed mutual funds only in their legal and liability structure. They are private rather than mutualised vehicles, catering to sophisticated wealthy investors rather than regular retail savers, but they do not deploy leverage at scale and do not materially shape market liquidity or pricing. Treating these funds as representative of the industry (representing the average fund) obscures the highly stratified nature of the hedge fund sector. The latter is therefore best understood as a winner-takes-all ecosystem. Access to leverage, favourable margin terms, and sophisticated financing structures is cumulative and self-reinforcing. Funds that perform well gain privileged access to prime brokers, cheaper funding, and greater balance-sheet elasticity, enabling them to scale positions further (Gerasimova and Jondeau 2018). Funds that underperform quickly lose access to leverage and disappear. What remains is a tightly concentrated core of dominant players embedded in a dense infrastructure of dealer banks and financial markets.

Making money out of safe assets

How do dominant hedge funds generate extraordinary returns? The answer lies not in superior forecasting of macroeconomic trends or the discovery of hidden informational ‘edges’. Though these attributes are still relevant, the industry’s profitability – which is acutely concentrated at the top – has become more and more dependent on the systematic (and automated) exploitation of minuscule spreads across markets through extreme leverage.

A defining feature of top hedge fund strategies is their reliance on the already-mentioned *relative value* (RV) trading. Rather than betting on the absolute direction of markets, RV strategies seek to profit from very small and persistent price discrepancies between closely related securities: on-the-run versus off-the-run Treasuries, cash bonds versus futures, swaps versus underlying instruments, or different points along the yield curve (Dikaranov *et al.* 2017). Relative value strategies are particularly well suited to fixed-income markets. Unlike equities, where valuation depends on uncertain expectations of future profits, fixed-income securities are standardised instruments with transparent cash flows and well-defined maturities. Their price dynamics are governed less by firm-specific information than by yield curves, liquidity premia, and institutional conventions (e.g. their eligibility as collateral). This makes them ideal substrates for strategies based on statistical regularities rather than directional bets.

Among fixed-income instruments, G10 sovereign bonds and, in particular, U.S. Treasuries occupy a privileged position (see Figure 2). They are the most liquid securities in the world, universally accepted as collateral, and deeply integrated into repo and derivatives

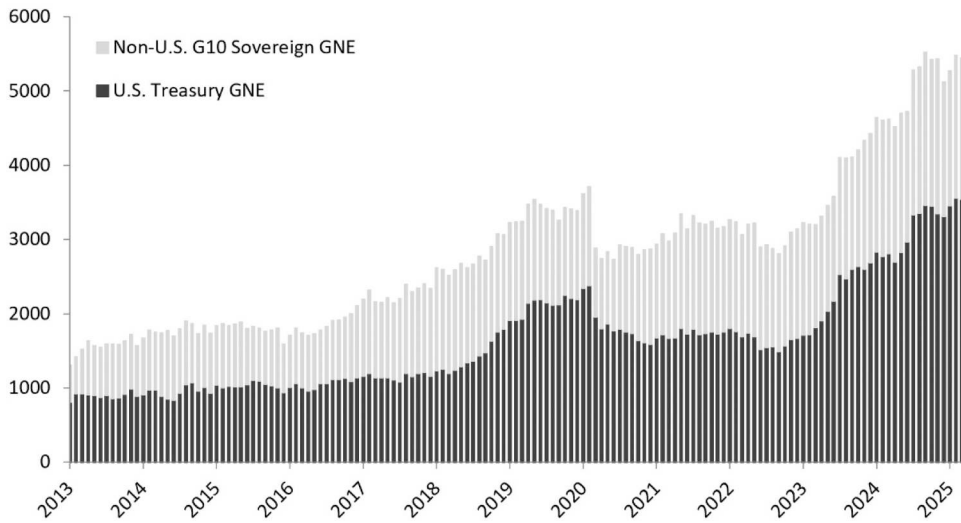


Figure 2. (author's own figure). Qualifying hedge fund gross notional exposure to sovereign securities (billions of dollars). Data source: SEC (2025b). Exposure totals are summed across all investment types from Tab.8.16 and Tab.8.17.

markets. These characteristics make them the preferred target of RV strategies such as convergence arbitrage and the Treasuries basis trade. Hedge funds routinely combine long positions in cash Treasuries with short positions in futures or swaps, financing the trade almost entirely through short-term (repo) borrowing.¹ On their own, these strategies generate meagre returns. The spreads involved are often measured in single-digit, or even fractional, basis points. Leverage is therefore essential. By scaling positions through repo financing and derivatives, hedge funds can transform minuscule price discrepancies into substantial profits. And Treasuries allow for very cheap leverage (thin margins or haircuts), precisely because they are safe, stable, liquid. SEC estimates suggest that *average* leverage ratios among relative-value qualifying hedge funds² exceed 25 times NAV or AUM (SEC 2025a, p. 14; 2025b, table 8.14).

This logic helps explain the so-called 'low beta anomaly' (Frazzini and Pedersen 2014): the empirical observation that some hedge funds consistently generate alpha – returns above benchmark – from assets characterised by low volatility and minimal credit risk (beta). Once leverage is added to the equation, the anomaly disappears. Hedge funds do not extract alpha *despite* operating in low-risk markets: they do so *because* low volatility and deep liquidity allow positions to be scaled (leveraged).

The result is striking. Top hedge funds speculating in Treasuries have regularly achieved returns on equity of over 30 per cent on an annualised basis (Kruttli *et al.* 2021, p. 38) throughout the 2010s – remarkable figures given the historically low yields of safe assets over this period. These returns are not the product of extraordinary insight into macroeconomic fundamentals. They are the outcome of a business model that combines relative value trading with extreme leverage. Cheap and abundant credit is conducive to easy money, which is why Treasury markets are often 'overcrowded': many hedge funds want in, and having a close relationship with primary dealers helps (Gerasimova and Jondeau 2018, Kruttli *et al.* 2022). This is also why any

small perturbation – e.g. an interest rate hike – can produce a significant cascade effect, even a margin spiral, for a broad range of financial market participants. In the next two sections, I illustrate this dynamic as I provide a brief historical account of hedge fund speculation in Treasuries, looking in particular at the Great Bond Massacre episode of 1994 and its implications for financial governance.

Relative value, absolute return, general panic

The dominance of relative value strategies in contemporary hedge fund practice is the outcome of a specific historical trajectory. It did not emerge spontaneously, nor was it inevitable. Rather, its consolidation can be traced to the transformation of U.S. bond markets and trading practices from the 1980s onwards (developments that were themselves rooted in financial innovations taking place in the 1960s, see Knafo 2021). John Meriwether occupies a central place in this history. As head of Salomon Brothers' bond trading and repo desk in the 1980s, Meriwether helped pioneer a relative-value approach to fixed-income speculation, shifting the emphasis away from directional bets on interest rates and toward exploiting small price discrepancies between closely related securities. Repo markets were central to this transformation, enabling bond traders to finance large positions cheaply and to scale strategies that would otherwise have been unprofitable.

Meriwether's founding of Long-Term Capital Management (LTCM) in 1994, after he was forced to resign from Salomon due to a Treasury market trading scandal, marked the institutionalisation of this approach. LTCM did not rely on macroeconomic foresight or discretionary judgment – the search for an 'edge' – in the style of global macro funds such as Soros's Quantum Fund. Instead, it systematised convergence trades based on quantitative models, statistical correlations, and extreme leverage. As one contemporary account put it, the strategy consisted in 'sucking up nickel after nickel and multiplying the process thousands of times' (Lowenstein 2023, p. 52).

LTCM is often remembered primarily for its spectacular collapse in 1998. Yet its more enduring legacy lies precisely in its perfecting of highly leveraged arbitrage trades. Its model provided a blueprint for the twenty-first-century hedge fund as a high-frequency trading, fintech firm – LTCM marketed itself as a 'the financial technology company' – relying less on human intuition than on computational power, sophisticated risk models, and, not least, 'renting out' the balance sheets of large dealer banks. Such a hedge-fund 'war machine' (Erturk *et al.* 2010) was able to systematically generate absolute returns, not by identifying unique opportunities, but by *industrialising* relative-value strategies.

In the quarter century since the 1990s boom, this model has diffused widely across the hedge fund industry. Advances in computing, the expansion of derivatives markets, the growth of repo financing and, not least, the secular decline in interest rates, have reinforced the viability of relative value strategies. What had once been the preserve of elite trading desks of investment banks is now a dominant mode of accumulation among the largest and least regulated private funds of the rich (Sgambati 2024).

Crucially, even before the founding of LTCM, relative value arbitrage in safe-asset markets was already highly popular among hedge funds and proprietary trading desks, and very much a systemic source of financial instability. As a matter of fact, the scale and significance of hedge fund leverage in the U.S. Treasury market became evident

during the bond market panic of 1994, often referred to as the Great Bond Massacre. It is worth recalling this often-forgotten episode, also in light of its implications for monetary and financial governance. In the early 1990s, low interest rates had supported the U.S. economic recovery and fuelled a booming stock market. When inflationary pressures began to build in 1994, Fed Chair Alan Greenspan responded with a modest rate hike, raising the federal funds rate from 3 to 3.25 per cent. Though intended to cool equity markets, the move triggered a sharp sell-off in U.S. Treasuries.

What happened was fairly simple: Greenspan had underestimated hedge fund exposures via convergence trades in what had turned out to be an overcrowded market. As funding costs rose in response to the Fed's interest rate hike, funds faced margin calls and were forced to deleverage, collectively selling off Treasuries acquired on thin margins. Liquidity evaporated, bond prices fell, and long-term interest rates surged. Notably, the panic quickly spilled over into European sovereign debt markets, where bond prices also fell sharply, *despite* the absence of corresponding rate hikes by European central banks. The reason was that hedge funds were also long on European sovereign bonds, and frantically unwinding their portfolios in what was a textbook 'margin spiral' (Brunnermeier and Pedersen 2008). Among the casualties of the 1994 bond panic was Steinhardt, Fine, Berkowitz, one of the dominant hedge funds of the 1980s and early 1990s, alongside Soros's Quantum Fund and Robertson's Tiger Management – the 'Big Three' of the hedge fund industry's classical era (Mallaby 2010).

This episode marked a turning point in both financial market dynamics and central bank governance, as it presented monetary authorities with a rather tricky problem: how to stop the safest markets in the world from spiralling out of control and triggering systemic deflation. Large-scale liquidation of sovereign debt, beginning with U.S. Treasuries and extending to European bonds, drove prices down and yields up. The mechanism is straightforward. When hedge funds sell bonds in large quantities, prices fall because there are more sellers than buyers. Since these bonds pay a fixed coupon, a lower purchase price means that new buyers earn a higher return relative to what they pay – this is what we mean by a higher yield.

More consequentially, newly issued government bonds must offer similarly attractive returns to compete with these discounted older bonds, pushing up governments' borrowing costs. For a new buyer with cash, such as a pension fund, the adjustment creates a different opportunity. Newly issued bonds, carrying higher coupons, may trade at relatively higher prices because they are more sought after, yet they still offer improved income streams and, for comparable instruments, longer effective maturities. By contrast, older bonds with lower coupons must fall *further* in price to match the yields of these new issues, especially as hedge funds attempt to offload them. For a leveraged fund that already holds such bonds, this procyclical dynamic represents a potentially large loss against a very thin equity cushion, as declining demand forces sales at increasingly steep discounts.

This is a problem not just for hedge funds, but also for the dealer banks financing them. Because dealers mark collateral to market, a fall in the bond's price triggers a margin call. The fund must then provide additional cash or securities, sell part of its position and repay its borrowing, or risk forced liquidation by its dealer. Even where the position forms part of a relative-value trade designed to hedge general movements in interest rates, its two legs may not move in lockstep, while margin must be supplied immediately, before the

expected convergence occurs. When many funds confront this choice simultaneously, individually prudent sales become a collective margin spiral: selling pushes prices lower and yields higher, producing further margin calls and further selling. New government debt must also clear the market at these higher prevailing yields, increasing borrowing costs and placing additional pressure on outstanding lower-coupon bonds. What begins as a hedge fund funding problem thus spreads to other financial firms, institutional investors, even governments, exposing a critical fragility at the heart of global finance: liquidity can evaporate suddenly even in markets for the safest securities.

Governing or accommodating leverage?

The Great Bond Massacre has reshaped the role of central banks, forcing them to confront a fundamental dilemma in an age where hedge funds are heavily exposed to Treasuries markets. If the Fed tightens policy early to cool speculative excess and financial market inflation – ‘leaning against the wind’ – it may pre-empt a larger crash, but it also risks triggering sudden hedge fund deleveraging and margin spirals, as in 1994. In such cases, what the public observes is not a crisis avoided, but a central bank accused of stifling market profitability, restraining growth, or even causing a panic and large-scale wealth destruction through ill-judged policy (it was estimated that bonds lost \$1.5 trillion in market value in 1994, see Ehrbar 1994).

Alternatively, the Fed can wait, allowing bubbles to inflate and hoping to contain the damage later (e.g. acting as dealer of last resort by purchasing older-issue bonds and relieving pressure on dealer-bank balance sheets). In the first scenario – countercyclical financial governance – hedge funds are disciplined while central banks are criticised; in the second – procyclical financial governance – both are effectively rewarded, albeit for different reasons. This asymmetry creates a structural bias toward accommodation. Countercyclical restraint makes the central bank visible as the apparent cause of financial losses, whereas procyclical rescue allows it to appear as the solution to a crisis whose build-up it did not prevent.

Since Greenspan, the practical task of central banking has therefore increasingly been not only to ‘mop the floor’ when necessary (Moschella 2024), but to preserve in ordinary times the dealer capacity and market liquidity on which financial leverage depends. Recent IPE scholarship helps explain this apparent paradox. Central banks increasingly govern finance from within the repo, collateral, and dealer markets through which policy is implemented – a dependence captured by Braun’s (2020) concept of the ‘infrastructural power of finance’ – and their reliance on deep and liquid markets has led them to ‘learn to love’ financialisation (Walter and Wansleben 2020), leaving them ‘dominant but captive’ to the infrastructures they must preserve (Coombs 2024).

Crucially, the central bank does not necessarily rescue individual hedge funds directly. It intervenes to stabilise the markets, collateral values, and dealer balance sheets through which their positions are financed. This distinction is politically important: assistance can be represented as *neutral* market stabilisation even when it protects the financing conditions of the system’s most leveraged actors. Gains accrue privately, while the risks generated by disorderly deleveraging are socialised, lest the entire system unravel and ‘it’ happen again – Bernanke’s (2002) shorthand for a return to Great Depression-style deflation. Leverage is therefore encouraged in good times and cushioned in bad ones.

The result is a financial system in which powerful actors can systematically transform safety into profit, confident that a sufficiently disorderly unwind will elicit public intervention. The September 2019 repo market panic was the clearest pre-pandemic signal that this leverage-intensive model, long embedded in safe-asset markets, had reached a scale at which its internal dynamics could no longer be contained without direct and sustained central-bank support.

The repocalypse

The dislocation of the U.S. repo market on 16–17 September 2019 was the most severe money-market disturbance since the global financial crisis. Overnight repo rates – normally anchored tightly to the Federal Reserve’s policy corridor – spiked abruptly, in some transactions reaching nearly 10 per cent. Funding evaporated in what is supposed to be the deepest and most liquid segment of the global financial system. Money market funds withdrew their cash, banks refused to lend, and the interbank market effectively froze.

The Federal Reserve responded immediately. Beginning on 17 September, it launched daily overnight repo operations of \$50–100 billion, soon supplemented with longer-term repos.³ These interventions escalated rapidly. By October and November, the Fed was conducting daily operations at scale, injecting liquidity into the repo market on a continuous basis. On a gross basis – summing daily operations rather than net balance-sheet expansion – repo injections quickly ran into the trillions of dollars. As one market commentator remarked at the time, ‘this is a lot of money even when you say it fast’.⁴ In practice, the market was short of \$100–200 billion in cash every day (Carlson *et al.* 2021), which the Fed filled with repo injections: money that expired overnight or within a week (Figure 3).

In the early twentieth century, Silvio Gesell called this kind of time-money with an expiry date *Freigeld*, or ‘free money’. It was indeed free money for a leveraged financial system desperate for funding liquidity. What began as an emergency response became a standing feature of monetary policy. By year’s end, the Fed’s balance sheet had expanded by more than \$400 billion, effectively terminating and reversing its balance-sheet normalisation programme months before the pandemic forced an explicit return to quantitative easing. The repo market was not merely stabilised: it was de facto ‘nationalised’ as the Fed quietly became the *market-maker of first resort* in the final months of 2019.

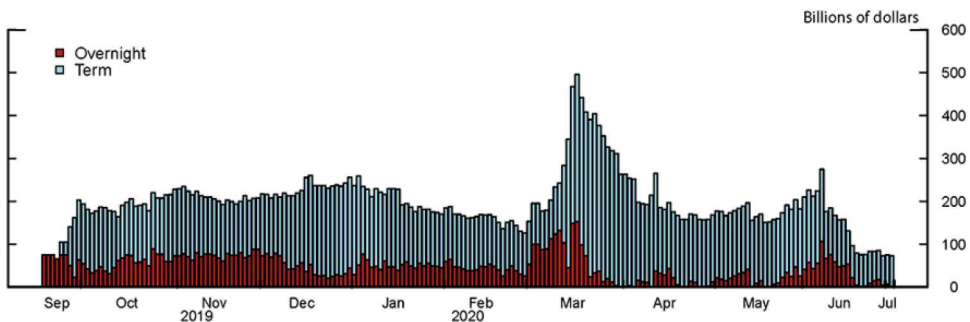


Figure 3. Federal Reserve Repo Outstanding. Source: Carlson *et al.* (2021).

This scale and persistence of intervention demand explanation. Markets do not require months of emergency liquidity to recover from minor technical glitches. If the repo spike was a transient accident, the response was wildly disproportionate. The panic – aptly dubbed a ‘Repocalypse’ (Haggith 2019) – was not just a disturbance: it was truly a *revelation* of underlying structural fragilities. Yet official reports framed the episode precisely as a ‘perfect storm’: an unfortunate but temporary coincidence of cash-flow events (e.g. Anbil *et al.* 2020, Paddrik *et al.* 2023). Two factors, in particular, have been emphasised. First, U.S. corporations were making quarterly tax payments, transferring large sums of cash from the private banking system into the Treasury General Account at the Federal Reserve. Second, a substantial volume of newly issued Treasury securities settled at the same time, forcing primary dealers to finance their inventories through repo borrowing. Together, these events drained funding liquidity just as demand for cash peaked.

This explanation has the virtue of simplicity but is fundamentally unsatisfactory and incomplete. Corporate tax dates and Treasury settlements are regular features of the financial calendar, but nothing comparable had occurred in previous quarters. More to the point, this explanation cannot account for the persistence of stress in the money market and the extraordinary scale and duration of the Fed’s response. A one-off timing mismatch does not justify *months* of daily intervention.

A December 2019 report by the Bank for International Settlements (Avalos *et al.* 2019) has helped widen the lens. The report questioned whether temporary factors could plausibly explain the magnitude of the rate spike and shifted attention to *structural conditions in the banking system*, particularly the interaction between rising Treasury issuance and declining reserve balances among U.S. dealer banks. On the one hand, between 2017 and 19, U.S. Treasury issuance had reached historically high levels. Following tax cuts and expanding fiscal deficits, net issuance exceeded \$1 trillion annually in both 2018 and 2019. Primary dealers were absorbing vast quantities of government debt, often holding it temporarily on balance sheet before distribution.

On the other hand, the Federal Reserve was shrinking its balance sheet through quantitative tightening. Between 2017 and September 2019, aggregate reserve balances fell from roughly \$2.8 trillion to under \$1.4 trillion. On paper, reserves still appeared *ample*. In practice, they were ‘not so ample after all’ (Copeland *et al.* 2021). More specifically, the BIS noted that reserves were unevenly distributed and tightly held as a liquidity buffer by the four largest U.S. banks. These market-makers accounted for more than half of all Treasury securities held by banks, while holding only about a quarter of total reserves (Avalos *et al.* 2019). In short, throughout 2019 U.S. big banks faced both a glut of Treasuries and a decline in reserves, straining their ability to fund ballooning portfolios.

Compounding the pressure on the banking system, the BIS report noted, was also hedge fund activity. Hedge funds had been ‘increasing their demand for Treasury repos to fund arbitrage trades between cash bonds and derivatives’ – the by now infamous Treasuries basis trade – but in September, funding ‘dropped as rates rose, suggesting a reluctance, also on the part of MMFs, to lend into these markets’ (Avalos *et al.* 2019, p. 14, see also Banegas *et al.* 2021). In essence, hedge funds were buying Treasury securities while shorting Treasury futures, profiting from small price discrepancies. To finance their purchases, they borrowed heavily in the (bilateral) repo market using Treasuries as collateral. They paid a haircut to dealer banks to open long positions, which the banks then collateralised and re-hypothecated in overnight repos with MMFs. Acting as

repo lenders, the four major U.S. banks funded their loans to hedge funds with cash obtained from MMFs.

Hedge funds' demand for leverage amplified repo funding pressures. More specifically, the BIS estimated that the big banks' 'net lending position (reverse repo assets minus repo liabilities) increased quickly, reaching about \$300 billion at end-June 2019' (Avalos *et al.* 2019, p. 13). This leverage had likely become unsustainable in September 2019 as MMFs withdrew funds from the Fixed Income Clearing Corporation (FICC) sponsored-repo programme, a segment of the repo market that took off in 2017 and through which MMFs 'save' cash that sponsoring banks match to reverse-repo loans for hedge funds (Afonso *et al.* 2021).

Unfortunately, despite acknowledging the presence of hedge fund speculation, official assessments of the Repocalypse have carried on downplaying the significance of hedge funds, portraying them as marginal participants relative to banks and other institutional investors – magnifiers rather than a congenital feature. For instance, the U.S. Office of Financial Research's *Anatomy of the Repo Rate Spikes in September 2019* (Paddrik *et al.* 2023, p. 7) concluded that 'increased borrowing by hedge funds through sponsored DVP repo was quite minor compared to other changes in supply and demand in mid-September 2019'.

The problem with this study and other analyses minimising the hedge fund factor is that they rest on limited empirical foundations. Their analysis is based on cleared and/or sponsored repos that are matched by MMF funding via third parties such as the FICC sponsored-repo programme. These are transparent transactions that can be more easily accessed for research purposes. However, much of hedge fund repo borrowing occurs through *uncleared* bilateral transactions – repo loans that are not matched, and which require no third-party oversight. Needless to say, these repo loans are poorly captured in standard datasets.

The uncleared bilateral segment of the repo market, however, is likely substantial. Its magnitude can be inferred from SEC filings for qualifying hedge funds. These filings show that hedge funds' long exposure to U.S. Treasuries nearly doubled between 2018 and 2019 – from \$700 billion at the beginning of 2018 to close to \$1.4 trillion in September 2019. Over the same period, their *repo borrowing* (measured as short repo exposure) expanded roughly by the same amount, rising above \$1.2 trillion (Figure 4).

Crucially, it is likely that short-repo exposure was not evenly distributed across maturities but concentrated in Treasury bills. This is for the simple fact that MMFs generally refuse to accept longer-dated notes or bonds as collateral, and banks tend to fund them only at a higher cost. In September 2019, the total stock of marketable T-bills amounted to roughly \$2.3 trillion,⁵ and hedge funds' repo-financed positions – over \$1.2 trillion – might have represented a significant share of the entire short-term segment of the Treasury market. Magnitudes become even more significant when we consider hedge funds' gross exposure (long plus short positions), as Treasury and repo exposures combined approached \$4 trillion in 2019. This level of exposure is hardly a marginal factor.

Data on qualifying hedge funds' exposure to equities adds further depth to these events. Since early 2018, hedge funds had been reducing their overall gross notional exposure, and this was driven by a significant deleveraging of their equity portfolios (Figure 5). In that year, their overall (nonfinancial) equity exposure dropped from over

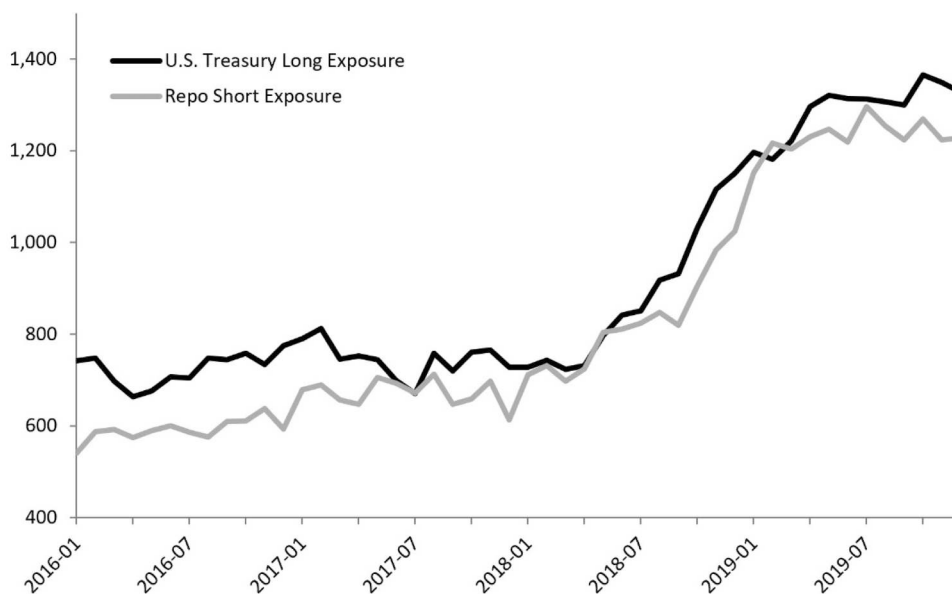


Figure 4. (author's own figure). Qualifying hedge funds, U.S. Treasury long exposure and repo short exposure (billions of dollars). Data source: SEC (2025b). Exposures are from Tab.8.16 and Tab.8.17.

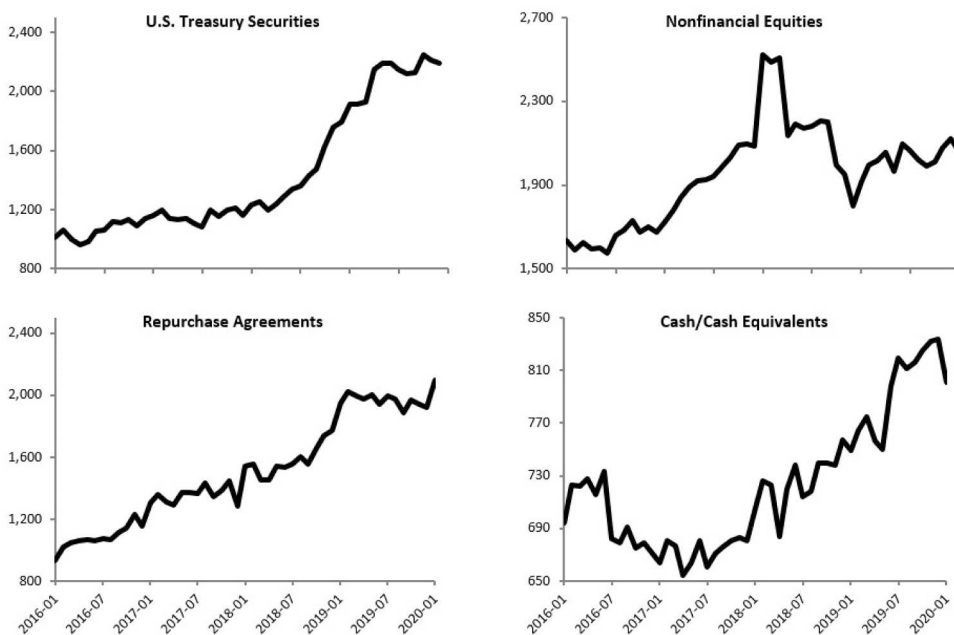


Figure 5. (author's own figure) Qualifying hedge funds, gross exposure by investment type (billions of dollars). Data source: SEC (2025b). Exposures are from Tab.8.16 and Tab.8.17.

\$2.5 trillion to \$1.8 trillion: a trough reached just before the December 2018 stock market mini panic (it is reasonable to suspect that this wave of hedge-fund deleveraging acted as a catalyst for that downturn).

This deleveraging in equities coincided with rising interest rates (Fed's normalisation), tighter financial conditions, and increased volatility in stock markets. While equity exposures partially recovered in 2019, they did not return to pre-2018 levels. Instead, hedge funds' balance sheets increased their cash holdings (Figure 5) and, most importantly, showed a marked increase in fixed-income and relative-value. Treasuries featured prominently in this strategic reallocation. Relative-value strategies targeting safe assets – more liquid, more stable, better-suited to cheap repo finance compared to stocks – offered hedge funds a way to continue deploying leverage while reducing exposure to equity market volatility. By the time of the Repocalypse, hedge fund portfolios had therefore undergone a significant compositional shift: equity risk had been reduced; reliance on repo-financed Treasury arbitrage had increased.

The evidence presented so far shows how the repo market had become a central pillar of hedge fund speculation in the Treasury market. This evidence, however, does not by itself establish hedge funds as the sole or even primary cause of the Repocalypse. Dealer balance-sheet constraints, reserve distribution and scarcity, and regulatory factors clearly mattered. The point is rather that hedge fund activity cannot be dismissed as marginal. Even more importantly, the concentration of Treasury and repo exposures among a small number of highly leveraged hedge funds raises a more general question: why did these funds pivot toward the Treasury market precisely in the years preceding the repo market breakdown? What conditions *elsewhere* in the financial system made equities and other asset classes less attractive relative to leveraged positions in safe assets?

Answering these questions requires looking *beyond* the money market itself (hence repos). The next section therefore widens the analytical lens further, situating hedge fund behaviour within a broader *leveraged finance complex* that links sovereign debt markets, corporate credit, private equity, and equity markets into a single, interdependent architecture.

The leveraged finance complex

The developments analysed so far – the growing instability of the Treasury market, the expansion of hedge fund leverage, and the money market ruptures revealed by the Repocalypse – cannot be understood in isolation. They are embedded in a broader transformation of credit markets: the emergence of what can be described as a *leveraged finance complex*.

By this term, I refer to an interlocking ecosystem comprising large dealer banks, private equity firms, hedge funds, and shadow banking vehicles – most notably collateralised loan obligations (CLOs), which I describe later. This complex has reshaped the structure of corporate finance over the last quarter century, and especially throughout the 2010s, driving both the expansion and the deterioration of corporate debt (particularly in the United States). Crucially, it has also interwoven corporate credit markets with sovereign bond markets and short-term funding markets, creating channels through which stress could propagate across asset classes (safe and risky alike) and ultimately reach the heart of money itself.

The engine of this transformation was a dramatic rise in corporate indebtedness. Following the global financial crisis, non-financial corporate debt in advanced economies grew far faster than output or profits. In the United States, the ratio of corporate debt

to GDP reached historic highs, while credit quality steadily deteriorated. By the mid-2010s, warnings about mounting fragility in U.S. corporate credit markets had become widespread. Analysts, major institutions, and academic researchers alike (e.g. Altman and Ruehne 2016) pointed to signs of a maturing credit boom spanning both corporate bonds and syndicated leveraged loans.

This expansion was initially sustained by ultra-low interest rates. Cheap funding enabled firms – both investment-grade and high-yield – to refinance repeatedly and push leverage to historic levels. Credit quality deteriorated accordingly. Concerns intensified toward the end of the decade. The McKinsey Global Institute reported in 2018 that global non-financial corporate debt had more than doubled since 2007, while junk bond issuance in advanced economies had nearly quadrupled, from \$500 billion to \$1.9 trillion (Lund *et al.* 2018, p. 9). Deterioration was not confined to speculative-grade markets. In the United States, BBB-rated bonds – one notch above junk – accounted for almost 40 per cent of all outstanding corporate bonds, up from 22 per cent in 1990. Net leverage among BBB issuers rose sharply as well, from 1.7× EBITDA in 2000 to 2.9× in 2017 (Lund *et al.* 2018, p. 8). These indicators suggested not merely a cyclical peak, but a structural accumulation of risk across the corporate credit spectrum.

Corporate defaults were also beginning to rise. By 2016, the global default rate had reached 2.1 per cent, exceeding the 35-year average of 1.5 per cent (Lund *et al.* 2018, p. 15). The United States accounted for roughly 65 per cent of these defaults, initially driven by the energy sector after the 2014–15 oil price collapse, but soon extending to retail, commodity, and manufacturing firms. Meanwhile, corporate profits, though still near historic highs, had become increasingly concentrated, and aggregate profitability had already declined from its 2013 peak. McKinsey warned that the global profit pool could fall from 10 to 8 per cent of world GDP by 2025 (Lund *et al.* 2018, p. 13). A looming refinancing cliff added to these pressures. In the United States, the share of maturing high-yield bonds was projected to rise sharply from 11 per cent in 2017 to 27 per cent by 2020 (Lund *et al.* 2018, p. 10). After more than a decade of ultra-low interest rates, central banks were signalling policy tightening, raising the prospect that default rates – already elevated – could rise further as debt burdens became unsustainable.

It was in this context that attention increasingly turned to CLOs: bankruptcy-remote shadow-banking vehicles that purchase pools of syndicated bank loans and fund those acquisitions by issuing structured tranches of securities. CLOs specialise in leveraged loans: credit extended to firms with high debt ratios, speculative-grade ratings, or wide credit spreads (Altman *et al.* 2019, p. 21). Leveraged loans typically do not finance productive investment. Instead, they finance mergers and acquisitions, leveraged buyouts, share buybacks, dividend recapitalisations, and repeated refinancing cycles by speculative-grade firms (Bank of England 2018, p. 43, Altman *et al.* 2019, p. 22).

In short, much like CDOs did with subprime mortgages, CLOs allow banks to offload credit risk to capital market investors by transforming non-investment-grade debt into ostensibly safe securities through bundling, tranching, and credit enhancement (Bavoso 2020, Bruche *et al.* 2020). Senior tranches are absorbed by insurance companies, pension funds, and asset managers, while equity tranches – bearing first losses but offering higher returns – are typically retained by private equity sponsors and purchased by hedge funds seeking leveraged exposure to corporate credit.

Crucially, more than hedge funds, private equity has played a major role in this process. Leveraged buyouts, dividend recapitalisations, and repeated refinancing cycles imposed by PE sponsors have generated unprecedented volumes of non-investment-grade corporate debt, particularly in the United States. The industry has expanded rapidly since the early 2010s: the number of private equity firms has risen from fewer than 7,000 in 2013 to about 25,000 in 2025, while total fund NAV has grown fivefold to \$7.2 trillion over the same period (SEC 2023, 2025b). More significantly, gross assets of PE-controlled portfolio companies have been estimated at \$15.7 trillion globally (SEC 2023, see also Sissoko 2023).

The 2010s private equity boom mirrored, and reinforced, the growth and deterioration of corporate credit markets, resembling a subprime bubble 2.0. Although structural differences between CLOs and subprime mortgage securities were often emphasised, the parallels became increasingly difficult to ignore. By 2017–2019, signs of strain were evident: CLOs issued during this period featured reduced AAA shares, more expensive financing, intense fee competition among managers, and, most importantly, compressed excess spreads, thereby lowering returns on equity tranches (Cordell *et al.* 2023, p. 1251–5). CLO issuance slowed in 2019, signalling mounting stress within the leveraged finance complex itself.

These developments did not go unnoticed by central bankers. In January 2019, the Bank of England estimated that the global leveraged loan market, including CLOs, had reached \$2.2 trillion, ‘comparable to the stock of US subprime mortgages before the onset of the financial crisis, if measured relative to the size of the relevant credit market’.⁶ By July, it revised this estimate to \$3.2 trillion, warning that global banks were exposed to as much as 55 per cent of this junk-debt universe once warehoused (i.e. not yet securitised) loans were included (Bank of England 2019, pp. 24–26). The Bank also noted that leveraged loans and junk bonds accounted for 18 per cent of total corporate debt in advanced economies, with the share of highly leveraged firms reaching or even exceeding their 2007 levels (*ibid.*).

Federal Reserve officials voiced similar concerns. In March 2019, Robert Kaplan, President of the Federal Reserve Bank of Dallas, warned that because ‘CLOs are today the largest buyer of these syndicated leveraged loans, disruptions to CLO creation could increase the likelihood that leveraged loans remain on bank balance sheets, which could, in turn, limit the ability of affected banks to extend credit during periods of stress’ (Kaplan 2019). Compounding these concerns, a February 2019 Allianz report argued that the Federal Reserve had significantly underestimated U.S. corporate leverage. Whereas the Fed placed the average corporate debt-to-EBITDA ratio at 3.9 in late 2018, Allianz estimated the true figure at closer to 4.6 once securitised leveraged loans held in CLOs were included. This implied that total corporate debt outstanding was likely around 30 per cent higher than reported, reaching approximately \$16.9 trillion, a historic peak (Allianz 2019, p. 6).

The IMF’s April 2019 Global Financial Stability Report echoed these warnings: ‘The U.S. corporate credit cycle appears to be at its highest point in recent history’ (IMF 2019, p. 12). Around the same time, the *Financial Times* struck a similarly alarmist note, declaring: ‘The private equity bubble is bound to burst’ (Jenkins 2019). The industry relied heavily on leveraged finance and was showing clear signs of strain.

The question is: how bad will the consequences be? Thanks to post-crisis regulation, banks are less exposed to buyout debt, with loans now spread across other financial groups,

including vast debt funds owned by private equity firms and other vehicles in which banks and asset managers invest. That may mean risk is diversified, or it could just mean the fallout hurts everyone (Jenkins 2019).

On 25 July 2019, *Reuters* reported that CLO investors were ‘increasingly pushing managers to include more flexibility in deal documents to address loan defaults as the market prepare[d] for an economic downturn after years of growth following the credit crisis’.⁷ Less than two months later, on 16–17 September 2019, the U.S. repo market seized up. Dislocations persisted until the pandemic officially marked the return of quantitative easing on a scale no one had imagined.

What the repocalypse revealed

Once the leveraged finance complex is taken into account, the behaviour of hedge funds in the years leading up to the Repocalypse takes on a different meaning. The gradual unwinding of equity exposures from early 2018 onward, and the concurrent pivot toward Treasury relative-value strategies, were a rational response to mounting fragilities in corporate credit markets (and, by extension, the stock market). By the late 2010s, equities were increasingly entangled with leveraged corporate balance sheets and deteriorating credit quality. Rising interest rates and the Federal Reserve’s balance-sheet normalisation programme increased the cost of leverage and exposed vulnerabilities in highly indebted firms. The leveraged finance complex that had powered the expansion of corporate debt was beginning to show signs of serious strain.

In this context, Treasuries offered hedge funds a different way to deploy leverage. Safe-asset markets allowed for higher leverage ratios than equities or corporate credit, owing to lower volatility, superior collateral status, and deep repo markets. Relative-value strategies in Treasuries appeared attractive *because they allowed leverage to be scaled efficiently at a moment when risk was rising elsewhere*. Two macro-financial conditions reinforced this strategic shift. First, the Federal Reserve’s quantitative tightening programme was releasing Treasuries back into the market, contributing to a growing supply of safe assets. Second, rising interest rates compressed returns on riskier leveraged strategies while simultaneously increasing the appeal of basis trades, which benefit from funding spreads and collateral dynamics rather than directional price movements.

The result was a strategic reallocation of leverage within the financial system. Hedge funds did not deleverage wholesale; they *repositioned* as they shifted exposures away from equities and corporate credit and toward sovereign bond markets. This reallocation increased the system’s dependence on repo funding and on the smooth functioning of Treasuries markets. The Repocalypse was the first clear manifestation of the tensions inherent in this configuration. It revealed a financial system in which sovereign debt markets, corporate credit markets, and short-term funding markets had become tightly coupled. Stress originating in one domain could no longer be contained there. When repo funding tightened, the effects rippled across Treasuries, hedge fund balance sheets, and the dealer-bank system.

Conclusion

The central thesis of this paper is that the instability observed in U.S. Treasuries markets over the past decade cannot be understood without reference to the leveraged finance

complex that reshaped corporate credit markets in the 2010s. Hedge funds matter not simply because they speculate in safe assets, but because they operate at the intersection of sovereign debt, corporate credit, and funding markets. In this architecture, Treasuries serve a dual role: they are both the foundation of financial stability and the raw material for leveraged speculation. This duality creates a paradox at the heart of contemporary capitalism. The safer the asset, the more leverage it attracts; the more leverage it attracts, the more destabilising its sudden unwinding becomes. Central banks are then forced to intervene, not simply to rescue speculative investment at the margins, but to stabilise the very markets upon which the financial system's survival depends.

The Federal Reserve can, in principle, repeat such interventions: as the issuer of dollar reserves, it does not face a finite stock of dollars. Following the September 2019 panic, the Fed offered extraordinary life support to the money market for months. But this capacity is not necessarily a reason for reassurance. Liquidity injections can arrest a fire sale, but they cannot eliminate underlying balance-sheet fragilities, determine who ultimately bears losses, or remove the incentives that produced leverage in the first place. Each rescue restores market functioning by protecting the financing conditions on which leveraged strategies depend, turning emergency elasticity into an increasingly normal feature of Treasury-market governance.

This dependence also narrows the Federal Reserve's room for manoeuvre. An attempt to tighten monetary policy against inflation or financial-market excess may itself trigger deleveraging in the Treasury market, forcing the central bank to restore liquidity even as it seeks to withdraw monetary accommodation. Financial stability and price stability can therefore pull policy in opposing directions. The danger is not that the Fed will run out of money, but that the market for the world's benchmark safe asset has already become vitally dependent on public backstops while the profits generated through leverage remain private.

Recent regulatory proposals illustrate the difficulty of escaping this dynamic. Liang and Zhu (2026), for example, argue that expanded central clearing and more efficient balance-sheet netting could increase dealer capacity to support Treasury and repo markets, thereby making market liquidity more resilient under stress. Such reforms may reduce counterparty risks for dealer banks and improve the elasticity of dealer balance sheets (i.e. cheaper and more abundant credit). Yet resilience at the moment of crisis may come at the cost of greater procyclicality in ordinary times. By lowering the balance-sheet cost of matched repo books, central clearing may also enable dealer banks to finance larger hedge-fund positions and allow basis-trade leverage to expand further. What is presented as a solution to insufficient or inefficient intermediation may therefore reproduce the underlying problem: a Treasury market whose liquidity increasingly depends on the continuous expansion, and eventual public accommodation, of private leverage.

Understanding this dynamic is essential not only for interpreting past crises, but for pre-empting future ones. As long as corporate debt remains elevated, securitisation proliferates, and leverage migrates toward the safest corners of the financial system, the next disruption is unlikely to come from where it is most feared. It will come, once again, from the very safe-asset heart of global finance.

Notes

1. Economically, a repo is a collateralised short-term loan. A hedge fund might buy \$100 of cash Treasuries, borrow \$99 against them overnight, and provide only \$1 of its own capital as a haircut, while shorting a closely related futures contract. The expected gain may be only a few cents as the two prices converge. But a small widening of the basis, a rise in the repo rate, or a margin call on the futures leg can exhaust the fund's cash buffer, forcing it to post more collateral or unwind the trade. When many funds face this choice at once, individual risk management becomes a collective fire sale.
2. The SEC (2025a, p. 68) defines a 'qualifying hedge fund' as a 'hedge fund advised by a Large Hedge Fund Adviser that has a net asset value (individually or in combination with any feeder funds, parallel funds, and/or dependent parallel managed accounts) of at least \$500 million'. In practice, qualifying hedge funds approximate top quintile funds by AUM in SEC statistics (Sgambati 2024).
3. Federal Reserve data on overnight and term repo operations between September 2019 and July 2020 is available at <https://www.federalreserve.gov/econres/notes/feds-notes/use-of-the-federal-reserves-repo-operations-and-changes-in-dealer-balance-sheets-accessible-20210806.htm#fig1>.
4. Interest Rate Observer founder and editor John Grant, interviewed by Rick Santelli on CNBC, 13 November 2019, available at https://www.youtube.com/watch?v=UUSVLgcqs_I&t=117s&ab_channel=CNBCTelevision.
5. U.S. Treasury Monthly Statement of the Public Debt, September 2019, available at <https://fiscaldata.treasury.gov/datasets/monthly-statement-public-debt/summary-of-treasury-securities-outstanding>.
6. 'How large is the leveraged loan market?', Bank Overground, Bank of England, 25 January 2019, available at <https://www.bankofengland.co.uk/bank-overground/2019/how-large-is-the-leveraged-loan-market?sf97991689=1&stream=top>.
7. <https://www.reuters.com/article/business/clo-market-prepares-for-downturn-by-pushing-to-swap-defaulted-assets-idUSL2N24Q1G2/>.

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