Private Credit Monitor

# Still on the benign side of the systemic debate

Lotfi Karoui
+1(917)343-1548 | lotfi.karoui@gs.com
Goldman Sachs & Co. LLC

Spencer Rogers, CFA
+1(801)884-1104 |
spencer.rogers@gs.com
Goldman Sachs & Co. LLC

Michael Puempel, Ph.D.
+1(212)357-8483 |
michael.puempel@gs.com
Goldman Sachs & Co. LLC

Vinay Viswanathan
+1(212)934 0799 |
vinay.viswanathan@gs.com
Goldman Sachs & Co. LLC

Sienna Mori
+1(212)902-6712 | sienna.mori@gs.com
Goldman Sachs & Co. LLC

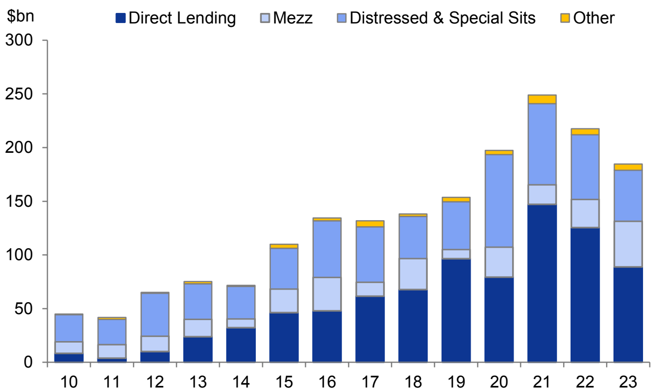
Ben Shumway
+1(801)578-2553 |
ben.shumway@gs.com
Goldman Sachs & Co. LLC

## Market trends: Fund concentration and public/private convergence

**Fundraising: Slower but more concentrated.** Fundraising activity in the private debt market has slowed vs. last year, both in terms of the number of new funds and aggregate capital raised. Looking at the latter, a total of $185 billion was raised in 2023 vs. $217 billion and $249 billion, in 2022 and 2021, respectively (Exhibit 1). Across strategies, mezzanine strategies were the only category that saw meaningful growth in aggregate capital raised vs. last year (again Exhibit 1). And while direct lending strategies continue to capture the lion's share of aggregate capital raised, the share dedicated towards mezzanine strategies has notably increased to 23% in 2023 vs. 12% in 2022. On the other hand, the share of fundraising dedicated to distressed/special situation strategies remains the lowest since 2010, at 26% vs. 28% last year, with most of the decline driven by the special situations category. This decline is somewhat surprising given the late cycle narrative that dominated most of 2023. We expect the momentum in fundraising to rebound in 2024, given the prospect of Fed cuts, receding recession concerns, and a gradual recovery in LBO activity.

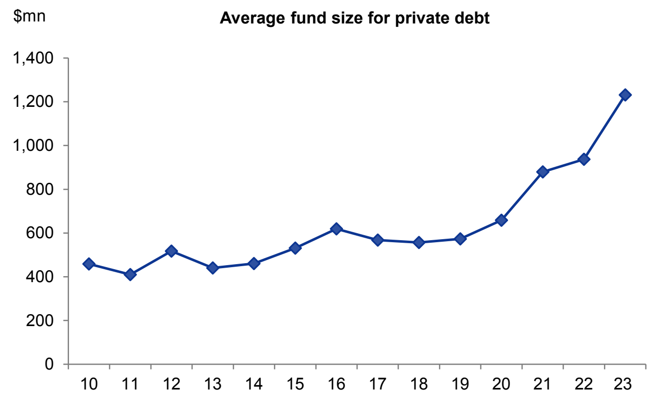
Beneath the surface, the number of funds launched decreased by almost 40% vs. last year, driving a large increase in average fund size from $937 million to $1.2 billion this year, a record-high level. In our view, slower new fund creation is consistent with a maturing market as investors allocate capital based on performance track records (Exhibit 2). But the stronger concentration at the fund level will continue to improve the ability of managers to deploy capital in larger deals (a key theme this year) while maintaining better diversification at the portfolio level.

**Exhibit 1: Fundraising activity across private debt strategies has slowed vs. last year with a meaningful increase in the share dedicated towards mezzanine strategies**




Source: Preqin, Goldman Sachs Global Investment Research

**Exhibit 2: Average fund size across private debt strategies continues to increase and reach record highs**



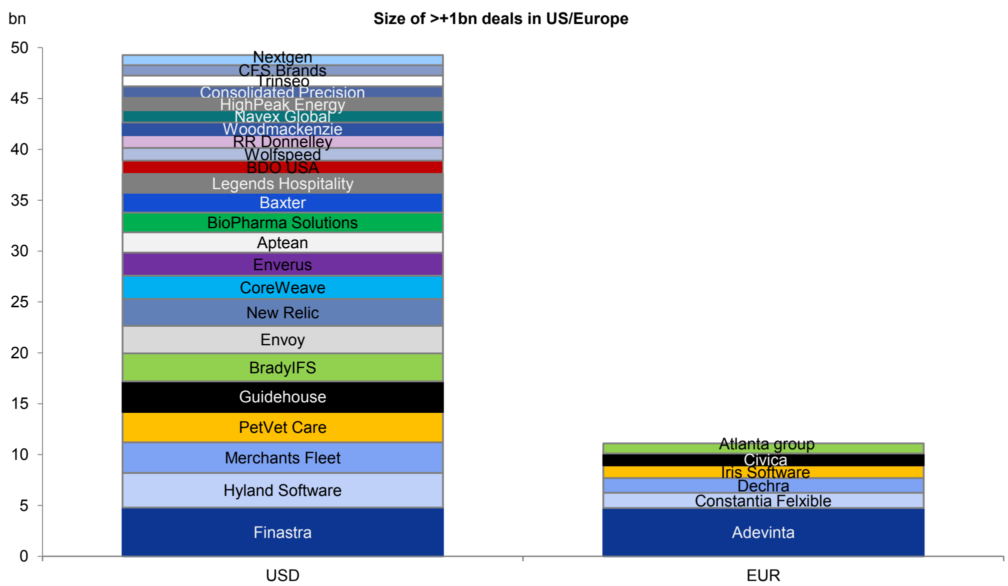

Source: Preqin, Goldman Sachs Global Investment Research



**Convergence between private and public debt markets: Putting things in context.** Private debt markets have traditionally been a key source of debt capital for middle market borrowers that reach beyond the scope of banks. This year, however, there has been increased convergence between public and private debt markets as issuers that typically rely on the broadly syndicated loan (BSL) market opted to tap the direct lending market for funding. In the US, 24 deals with a size exceeding $1 billion, for a total of $49 billion, were originated in 2023, while in Europe, the same figure stood at €11 billion across 6 deals (Exhibit 3). Both markets also saw the largest private credit deal on record: $4.8 billion in the US to support a refinancing transaction and €4.75 billion in Europe to support a buyout transaction. Most of these deals were comprised of more than three lenders vs. one or two typically, and many also involved a PIK component, which is a rarity in the BSL market.

In our view, the direct lending market will continue to provide an alternate route for funding at times when investor demand in the BSL market is weak (e.g.: LBO debt stuck on dealers' balance sheets, low investor appetite, weak CLO creation, etc.), which will likely create some overlap at the issuer level. That said, private credit markets are unlikely to become the default marketplace for borrowers with large debt capital structures. Despite growing fund concentration, the capacity to absorb large cap deals is still limited in aggregate. Larger private credit deals that tend to have more than three lenders also create more frictions among lenders, and thus erode one of the key attributes of the value proposition of direct lending: flexibility. Lastly, these deals typically offer lower coupons vs. traditional middle-market deals, and thus represent a drag on fund performance.

**Exhibit 3: Large cap deals in private debt markets have notably increased this year**




Source: Pitchbook LCD, Bloomberg, data compiled by Goldman Sachs Global Investment Research

# Focus: Why we still err on the benign side of the systemic risk debate



As the depth and breadth of private debt markets continue to grow, the debate about potential systemic vulnerabilities that such growth could pose to the economy remains intense, particularly following this year's bank failures. As we detail below, we continue to err on the benign side of this debate.

While the topic of measuring and identifying systemic risk has attracted a great deal of attention since the end of the global financial crisis, there is no universally accepted definition. The Financial Stability Board, an international body that monitors and makes policy recommendations to safeguard the global financial system, defines systemic risk as " *the risk of disruption to financial services that is caused by an impairment of all or parts of the financial system and has the potential to have serious negative consequences for the real economy*." This negative feedback loop between financial markets and the real economy can take many forms that often feed into each other. This includes an abrupt contraction in credit creation (i.e.: a credit crunch), large scale leveraged losses on financial assets that fuel wealth destruction among households, and lastly a confidence crisis in the safety of the banking system (i.e.: bank runs).

What makes an event systemic? And what makes an institution, asset class, or an investor base systemically important? Here again, there is no standard definition, but the Financial Stability Board has suggested a few key attributes. The first is size, with failures of large institutions or a collapse of large markets such as the housing and commercial real estate markets posing a more serious systemic threat. The second is the degree of interconnectedness and the scope for rapid contagion from one institution to another. The third is the scarcity of substitutability which determines the degree of vulnerability of the real economy to one group of financial institutions. The fourth is opacity and complexity of the risks which can fuel a loss of confidence in the system. The drivers of a systemic event are also multifaceted, often involving a combination of excessive financial leverage, large macro shocks, asset bubbles and balance sheet mismatches (either maturity or liquidity).

The failures of several regional banks last spring are two good examples of non-systemic events while the failure of Lehman Brothers in 2008 was systemic. The difference is that the latter was driven by a large macro shock (the bursting of the housing bubble), involved a caustic combination of balance sheet opacity, complexity, and excessive leverage, and affected a large institution that was critical for risk intermediation and had strong interconnectedness with peer institutions. SVB and Signature were smaller institutions with far less opacity in the composition of their balance sheets and, had little influence on risk intermediation. Perhaps more importantly, the failures of regional banks did not fuel a crisis of confidence vis-a-vis the banking system, a risk that was rapidly contained by the actions of the Fed and Department of Treasury.

How does this discussion relate to private credit markets? There are three potential channels through which the asset class can pose a threat to financial stability: 1. An abrupt and large increase in financial distress among borrowers in private debt markets that would lead, among many other things, to significant wealth destruction and potentially a full-blown economic recession; 2. Rising distress among asset managers (i.e.: GPs) leading to increased stress on risk intermediation in financial markets and potentially a fire sale of assets; 3. Rising distress among end-investors (i.e.: LPs), driven by a combination of balance sheet liquidity mismatches and losses on holdings. These risks are, of course, not trivial but we don't think they make private debt markets more "systemically important" than other capital markets. Conversely, we see a few unique features of private debt markets that make them more immune to exogenous shocks.

**Channel #1: An abrupt rise in financial distress among private debt borrowers leading to wealth destruction and causing an economic downturn or amplifying its severity.** Given the floating rate nature of their liabilities, the prospect of Fed cuts in 2024 is a welcome development for the debt capacity of borrowers in the direct lending market. That said, the level of the base rate will likely remain elevated by the standards of the post-global financial crisis period; a backdrop that will continue to test the ability of borrowers to adapt to a higher cost of funding environment. Our baseline view has been that the risk of a spike in losses on corporate credit portfolios, including direct lending, is quite low. If anything, and as we discussed in our last Private Credit Monitor, we see several reasons why losses on direct loan portfolios will likely peak at lower levels vs. the broadly syndicated loan market.

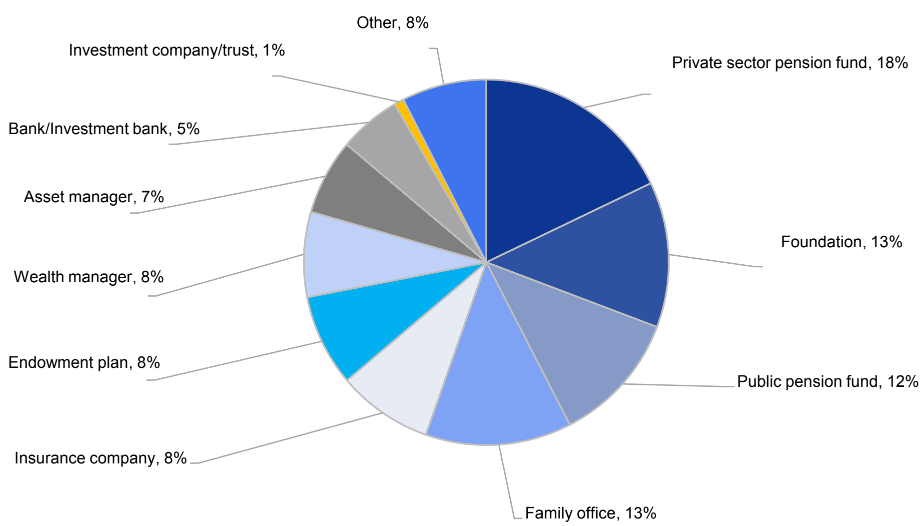
Many observers are, however, skeptical that borrowers in private debt markets, which are for the most part small firms that have less financial flexibility than larger firms, will be able to adjust to a higher cost of funding environment without a large uptick in financial distress. We readily acknowledge that the young age of private debt markets as an asset class doesn't allow us to infer any clues from previous cycles. That said, the broader leveraged finance markets (which include the broadly syndicated loan and HY bond markets) have been around for almost four decades and can offer some lessons. One key lesson is that spikes in defaults and losses rarely happen in a vacuum. As we showed in previous research, defaults are more coincident with recessions rather than predictive of them. This relationship suggests the existence of a common shock that typically affects both defaults and GDP growth rate as opposed to a causal link running from defaults to growth. The notion that corporate defaults can cause recessions has little empirical support when looking at the last four business cycles.

What if the usual cause-and-effect relationship between the state of the business cycle and defaults in public debt markets does not hold for the direct lending market? In other words, what if defaults and losses spike even as the economy is expanding? We don't think such an outcome would qualify as a systemic event. The size of the direct lending market is too small ($530 billion of deployed capital) and financial leverage is low (both among GPs and LPs), two factors that greatly limit the risk of contagion from one institution to another.

**Channel #2: Rising distress among asset managers fueling stress on risk intermediation and a potential fire sale of assets.** As we discussed in our most recent Private Credit Monitor, issuer concentration in direct loan portfolios is higher than in public debt market; a byproduct of the non-syndicated structure of the market as well as the absence of a tangible benchmark index (as is the case for HY bond funds). This lack of diversification makes it plausible that one or more direct lending funds could suffer significant losses. But here again, such an outcome doesn't qualify as systemic, in our view. For one, there isn't an expectation by end-investors nor regulatory bodies that the asset manager must absorb the losses. Put another way, asset managers act as agents for the end investor as opposed to financial intermediaries. Because there is no obligation to share losses, the risk of contagion to other funds within the same institution or to other institutions is remote. Second, the risk that large losses on a few funds spark a wave of redemptions and a run-on private debt funds is also low. The root-cause of bank runs are maturity mismatches between assets and liabilities (i.e.: short-term deposits are used to fund longer maturity loans). This mismatch is non-existent in private debt funds which are generally targeted to "buy and hold" institutional investors. While the past few years have seen increased participation of accredited individual investors in so called evergreen funds, these funds typically hold loans with shorter maturities, have higher cash balances and, perhaps most importantly, impose caps on redemptions.

**Channel #3: Rising distress among end-investors driven by larger than expected liquidity mismatches.** While the bulk of the investor base in private debt markets is not highly leveraged (Exhibit 4), balance sheet liquidity mismatches are often viewed as a potential driver of systemic risk. The risk is that some LPs either underestimated their liquidity needs or shifted their asset allocation strategy years after committing capital to the asset class. The concern is that the redemption constraints imposed by private debt fund managers can pressure LPs balance sheets and fuel some contagion.

**Exhibit 4: The bulk of the investor base in private debt markets is not leveraged**




Source: Preqin, Goldman Sachs Global Investment Research

We think this risk is also low, considering a broad range of liquidity and capital solutions that are available to both GPs and LPs. In our view, secondary activity in the direct lending market will continue to grow, providing LPs with a valuable degree of freedom in managing shifts in balance sheet liquidity needs and asset allocation priorities. As has been the case in the private equity industry for over two decades now, new funds dedicated to secondary transactions that allow LPs to either reduce or exit their holdings will continue to grow.

While private debt markets differ from private equity markets in many aspects, the last two decades can offer some valuable clues for what the future could bring to the direct lending market. Two decades ago, outright private equity portfolio sales often involved distressed LPs and thus cleared at a significant discount to the NAV. But the last decade has seen impressive growth of the secondary market, with AUM increasing to over $500 billion as of the first quarter from $100 billion a decade earlier, according to data collected from Preqin. Rather than a solution of last resort for distressed sellers, the secondary market has become a key tool to manage multi-asset portfolios. The structure of the market has also become more balanced from a supply/demand standpoint, resulting in significant compression in NAV discounts. We think secondary direct lending will likely follow the footsteps of their private equity counterparts, as more participants enter the market.

# Performance dashboard: Private vs. public markets

### Exhibit 5: Annual total returns in public and private leveraged finance markets

| Year | HY bonds | Leveraged loans | Public BDCs | Direct lending | Private debt | Private debt-mezzanine | Private debt-distressed |
|---|---|---|---|---|---|---|---|
| 2010 | 15% | 10% | 37% | 16% | 14% | 17% | 15% |
| 2011 | 5% | 2% | -9% | 10% | 4% | 11% | 2% |
| 2012 | 16% | 10% | 28% | 14% | 14% | 15% | 15% |
| 2013 | 7% | 5% | 13% | 13% | 15% | 7% | 17% |
| 2014 | 2% | 2% | -6% | 10% | 10% | 15% | 9% |
| 2015 | -4% | -1% | -3% | 6% | 4% | 11% | 3% |
| 2016 | 17% | 10% | 25% | 11% | 7% | 11% | 4% |
| 2017 | 8% | 4% | 1% | 9% | 12% | 19% | 9% |
| 2018 | -2% | 0% | -5% | 8% | 3% | 4% | 1% |
| 2019 | 14% | 9% | 29% | 9% | 7% | 16% | 3% |
| 2020 | 7% | 3% | -10% | 5% | 6% | 3% | 3% |
| 2021 | 5% | 5% | 36% | 13% | 21% | 17% | 23% |
| 2022 | -11% | -1% | -10% | 6% | 3% | 7% | 5% |

Note: The performance of the direct lending market is proxied by the Cliffwater Direct Lending Index ("CDLI") which provides unlevered returns of U.S. middle market corporate loans owned by public and private BDCs. The performance on the private debt, mezzanine debt and distressed debt funds are proxied by Preqin quarterly indices, which aggregates returns on private capital portfolios, inclusive of leverage.

Source: Bloomberg, Cliffwater, Morningstar LCD, Preqin, Goldman Sachs Global Investment Research

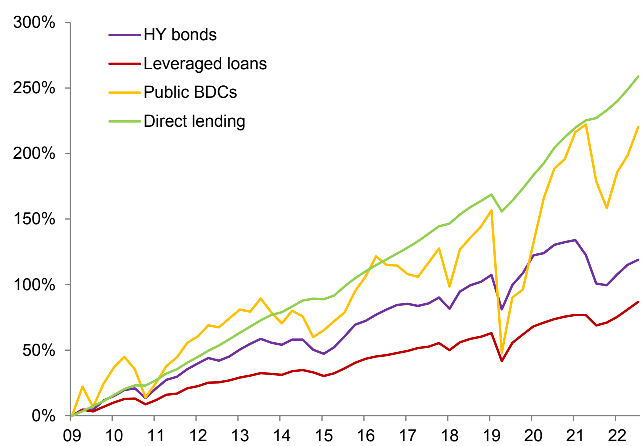
### Exhibit 6: Quarterly total returns in public and private leveraged finance markets

| Quarter | HY bonds | Leveraged loans | Public BDCs | Direct lending | Private debt | Private debt-mezzanine | Private debt-distressed |
|---|---|---|---|---|---|---|---|
| Q1 2022 | -5% | 0% | 2% | 2% | 1% | 3% | 2% |
| Q2 2022 | -10% | -4% | -13% | 1% | -1% | 1% | -1% |
| Q3 2022 | -1% | 1% | -7% | 2% | 2% | 1% | 4% |
| Q4 2022 | 4% | 3% | 11% | 2% | 3% | 2% | 1% |
| Q1 2023 | 4% | 3% | 5% | 3% | 3% | 1% | 2% |
| Q2 2023 | 2% | 3% | 7% | 3% | 2% | -1% | 2% |
| Q3 2023 | 0% | 3% | 7% | -- | -- | -- | -- |

Note: The performance of the direct lending market is proxied by the Cliffwater Direct Lending Index ("CDLI") which provides unlevered returns of U.S. middle market corporate loans owned by public and private BDCs. The performance on the private debt, mezzanine debt and distressed debt funds are proxied by Preqin quarterly indices, which aggregates returns on private capital portfolios, inclusive of leverage.

Source: Bloomberg, Cliffwater, Morningstar LCD, Preqin, Goldman Sachs Global Investment Research

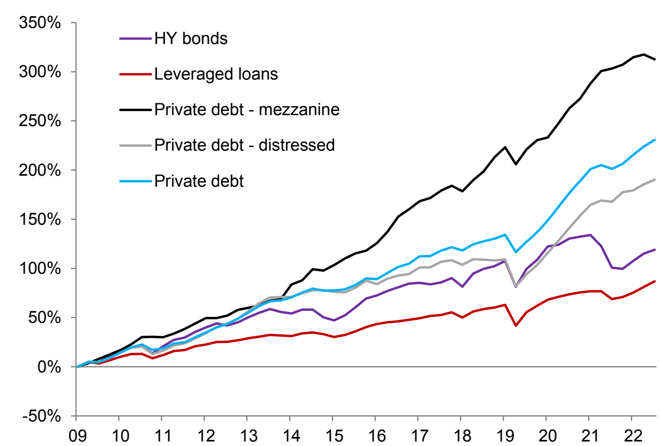
### Exhibit 7: Cumulative returns in private and public leveraged finance markets




Note: The performance of the direct lending market is proxied by the Cliffwater Direct Lending Index ("CDLI") which provides unlevered returns of U.S. middle market corporate loans owned by public and private BDCs. The performance on the private debt, mezzanine debt and distressed debt funds are proxied by Preqin quarterly indices, which aggregates returns on private capital portfolios, inclusive of leverage.

Source: Bloomberg, Cliffwater, Morningstar LCD, Goldman Sachs Global Investment Research

### Exhibit 8: Cumulative returns in private and public leveraged finance markets




Note: The performance of the direct lending market is proxied by the Cliffwater Direct Lending Index ("CDLI") which provides unlevered returns of U.S. middle market corporate loans owned by public and private BDCs. The performance on the private debt, mezzanine debt and distressed debt funds are proxied by Preqin quarterly indices, which aggregates returns on private capital portfolios, inclusive of leverage.

Source: Bloomberg, Morningstar LCD, Preqin, Goldman Sachs Global Investment Research

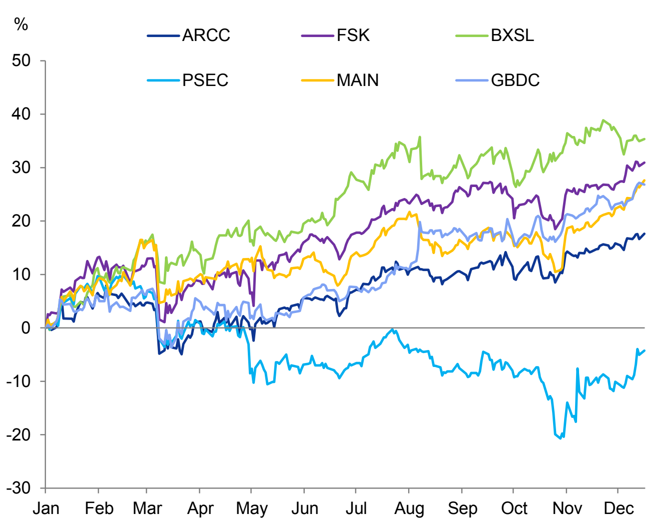
# Performance dashboard: Credit ETFs vs. public BDCs

**Exhibit 9: Credit ETF and public BDC performance**

| Market | Ticker | | AUM/ Market cap | Shares Outstanding (Mn.) | Short Interest (%) | Price | 2023 Total Return (%) | Benchmark Index |
|---|---|---|---|---|---|---|---|---|
| High Yield | HYG | HYG US EQUITY | $19.08B | 242 | 24.42 | 77.12 | 11.2 | iBoxx USD Liquid High Yield Index |
| | JNK | JNK US EQUITY | $8.35B | 88 | 8.07 | 94.37 | 12.0 | Bloomberg Barclays VLI: High Yield Total Return Index Value Unhedged USD |
| | SJNK | SJNK US EQUITY | $4.17B | 164 | 1.15 | 25.09 | 11.4 | Bloomberg Barclays US High Yield 350M Cash 0-5yr 2% Cap Total Return Index |
| | SHYG | SHYG US EQUITY | $5.23B | 125 | 0.14 | 42.14 | 10.2 | Markit iBoxx USD Liquid High Yield 0-5 Total Return Index |
| | HYS | HYS US EQUITY | $1.25B | 13 | 0.98 | 92.92 | 11.0 | ICE BofAML 0-5 Year US High Yield Constrained Index |
| | HYLS | HYLS US EQUITY | $1.48B | 36 | 0.03 | 41.41 | 13.2 | ICE BofAML US High Yield Constrained Index |
| | ANGL | ANGL US EQUITY | $2.93B | 101 | 0.58 | 28.67 | 12.2 | ICE BofAML US Fallen Angel High Yield Index |
| Loans | BKLN | BKLN US EQUITY | $6.08B | 287 | 10.85 | 21.19 | 12.6 | S&P/LSTA U.S. Leveraged Loan 100 Index |
| | SRLN | SRLN US EQUITY | $5.18B | 124 | 4.79 | 41.92 | 11.6 | Markit iBoxx USD Liquid Leverage Loans Total Return Index |
| | FTSL | FTSL US EQUITY | $2.29B | 50 | 0.35 | 46.04 | 11.5 | S&P/LSTA US Leveraged Loan 100 Market Value Index |
| Public BDCs | ARCC | ARCC UW Equity | $11.38B | 569 | 3.70 | 19.99 | 19.6 | -- |
| | FSK | FSK UN Equity | $5.61B | 280 | 1.44 | 20.02 | 33.8 | -- |
| | BXSL | BXSL UN Equity | $5.07B | 183 | 0.37 | 27.70 | 37.7 | -- |
| | MAIN | MAIN UN Equity | $3.63B | 84 | 4.57 | 43.38 | 29.0 | -- |
| | PSEC | PSEC UW Equity | $2.45B | 410 | 5.81 | 5.96 | -3.9 | -- |

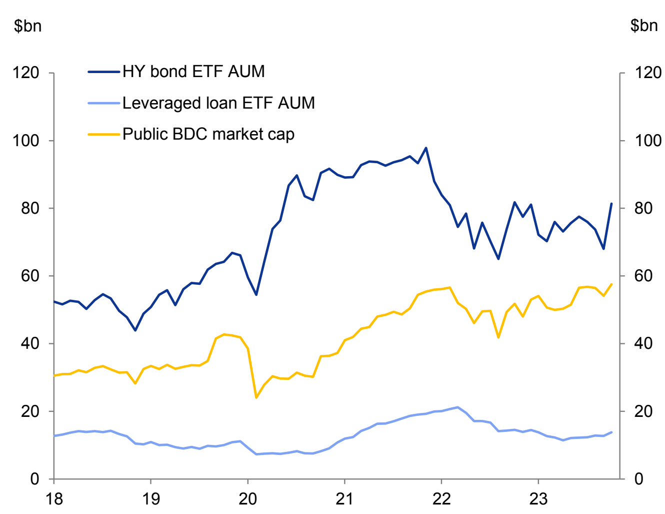
Source: Bloomberg, Goldman Sachs Global Investment Research

**Exhibit 10: Year-to-date cumulative total returns for the top 6 largest public BDCs (by market cap)**




Source: Bloomberg

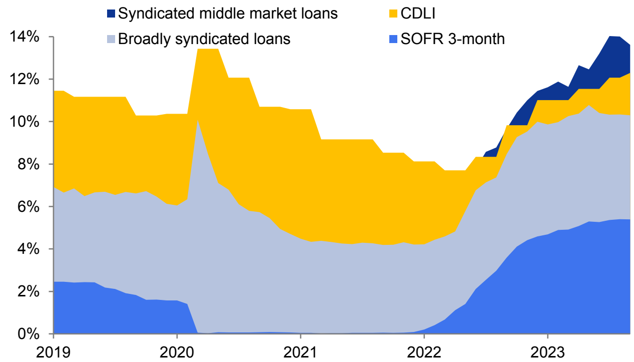
**Exhibit 11: HY bond and leveraged loan ETF AUM vs. public BDC market capitalization**




Source: Bloomberg, Cliffwater, EPFR, Goldman Sachs Global Investment Research

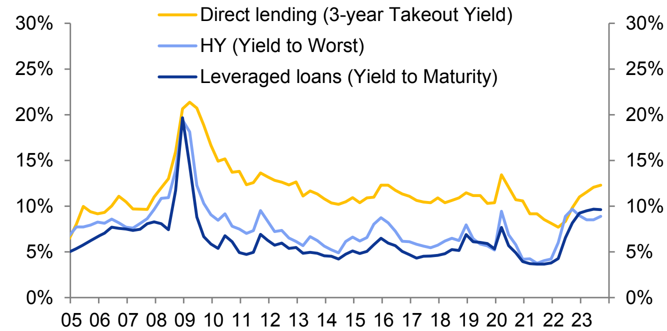
# Valuation dashboard: Private vs. public markets

**Exhibit 12: Decomposition of the excess yield provided by direct lending funds**
We use the yield to maturity on the Morningstar LSTA Leveraged Loan 100 Index and 3-year takeout yield on the Cliffwater Direct Lending Index



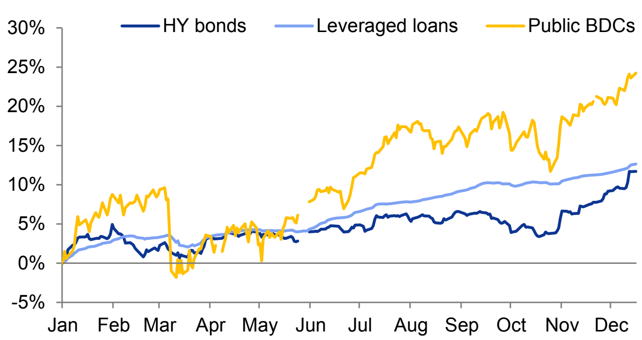

Source: Bloomberg, Cliffwater, Morningstar LCD, Goldman Sachs Global Investment Research

**Exhibit 13: Average yield provided by direct lending funds, HY bonds and broadly syndicated leveraged loans**



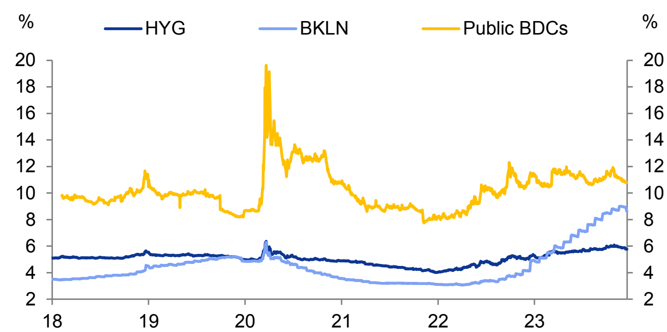

Source: Bloomberg, Morningstar LCD, Cliffwater, Goldman Sachs Global Investment Research

**Exhibit 14: Year-to-date cumulative total returns for the Bloomberg HY, Morningstar LSTA Leveraged Loan and Cliffwater BDC indices**



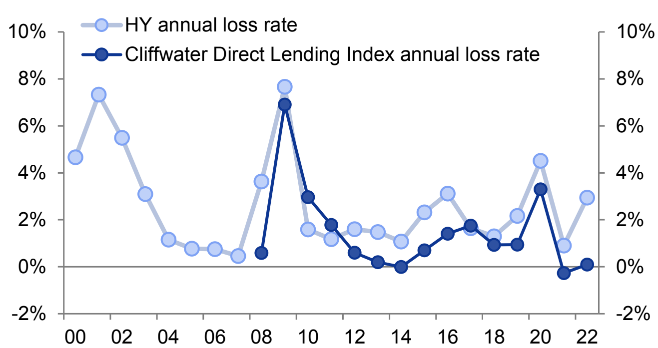

Source: Bloomberg, Morningstar LCD, Cliffwater, Goldman Sachs Global Investment Research

**Exhibit 15: Dividend yields: HY bond ETF, Leveraged loan ETF and the Cliffwater BDC Index**
Sum of gross dividend per share amounts that have gone ex-dividend over the prior 12 months, divided by the current price




Source: Bloomberg, Cliffwater, Morningstar LCD, Goldman Sachs Global Investment Research

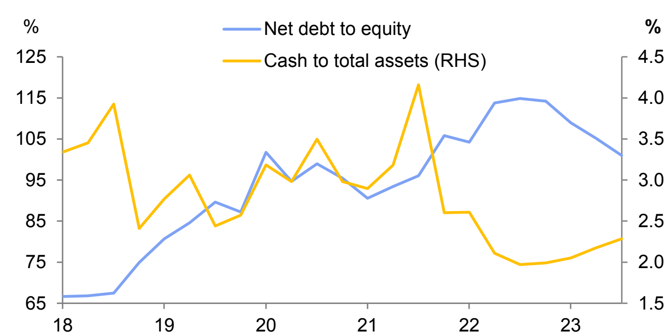
**Exhibit 16: Annual loss rates on the Cliffwater Direct Lending Index vs. the HY bond market**




Note: HY annual loss rate includes Russian defaults.

Source: Cliffwater, Moody's, Goldman Sachs Global Investment Research

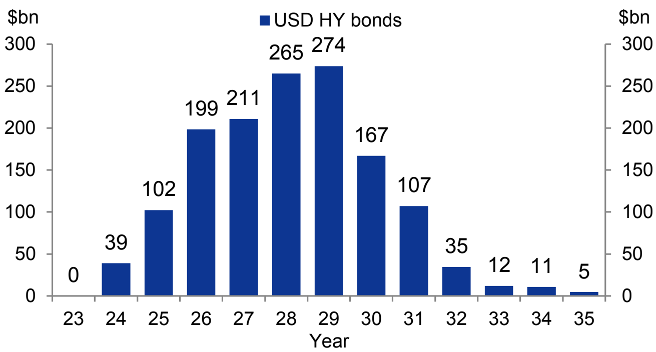
**Exhibit 17: Leverage and cash balances in public BDCs**




Source: Bloomberg, Cliffwater, Goldman Sachs Global Investment Research

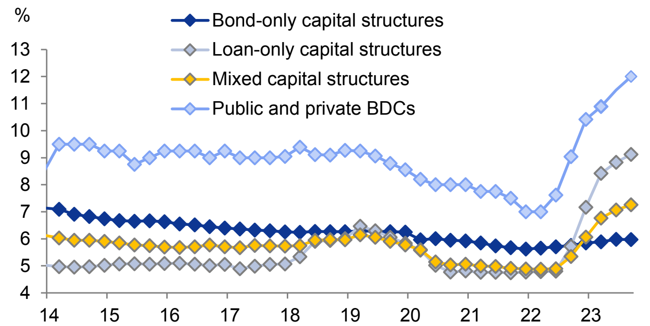
# LBO activity and refinancing needs: Private vs. public markets

**Exhibit 18: USD HY bond maturity wall**



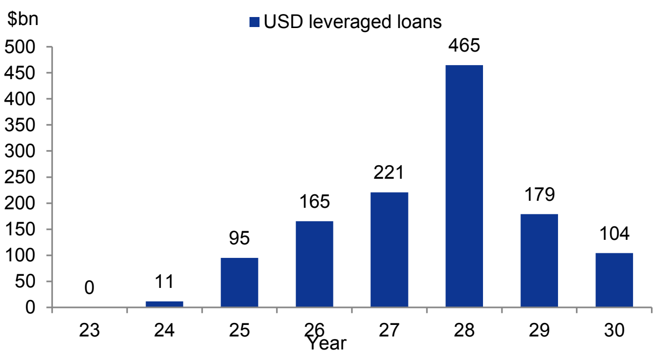

Source: Bloomberg, Goldman Sachs Global Investment Research

**Exhibit 19: Average coupon for bond, loan and BDC capital structures**



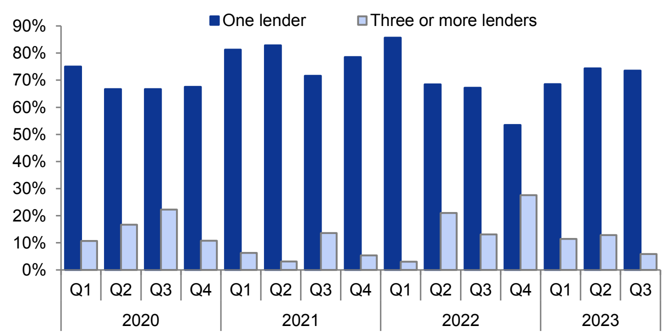

Source: Bloomberg, Morningstar LCD, Goldman Sachs Global Investment Research

**Exhibit 20: USD leveraged loan maturity wall**



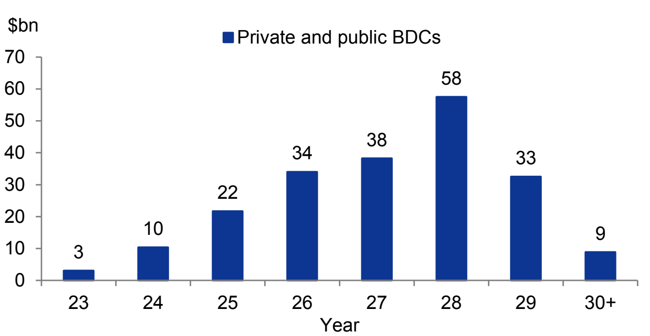

Source: Morningstart LCD, Goldman Sachs Global Investment Research

**Exhibit 21: Share of LBOs financed in the private credit market**



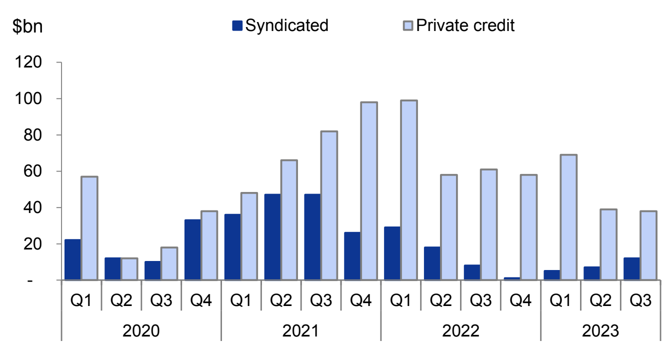

Source: Pitchbook LCD, Goldman Sachs Global Investment Research

**Exhibit 22: Maturity wall in private and public BDC loan portfolios**




Source: Pitchbook LCD, Goldman Sachs Global Investment Research

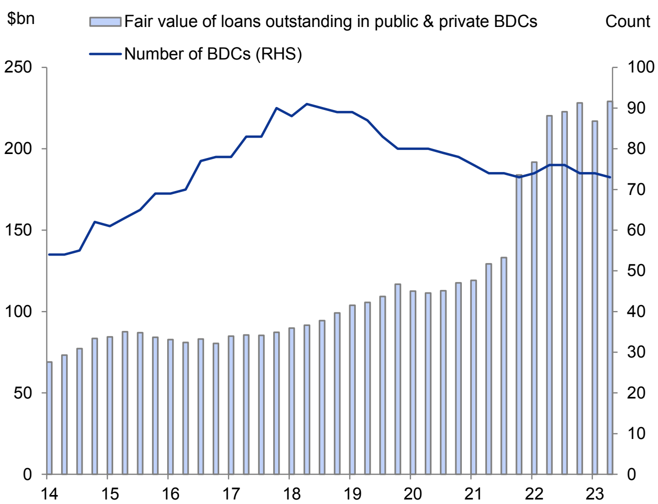
**Exhibit 23: Count of LBOs financed in broadly syndicated loans vs. private credit**




Source: Pitchbook LCD, Goldman Sachs Global Investment Research

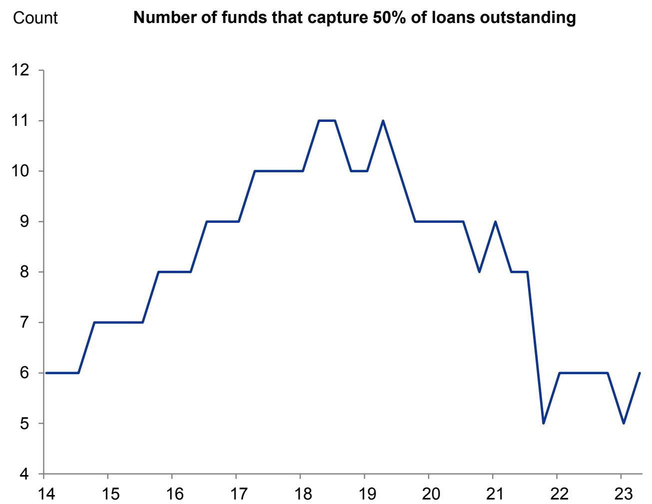
# Key trends in private and public BDCs: Holdings and allocations

**Exhibit 24: Fair value of loans outstanding in public and private BDCs**




Source: Pitchbook LCD, Goldman Sachs Global Investment Research

**Exhibit 25: Number of BDC funds that capture 50% of loans outstanding**




Source: Pitchbook LCD, Goldman Sachs Global Investment Research

**Exhibit 26: Holdings of public and private BDCs by capital structure seniority**

| Seniority level | Year-over-year change | | | | | |
|---|---|---|---|---|---|---|
| | Year-end 2022 | | Year-end 2021 | | Change | |
| | Holdings ($bn) | Allocation (%) | Holdings ($bn) | Allocation (%) | Holdings ($bn) | Allocation (%) |
| First Lien Loan | 168 | 74 | 130 | 71 | 38 | 2.81 |
| Equity | 28 | 12 | 22 | 12 | 6 | 0.51 |
| Second Lien Loan | 17 | 7 | 18 | 10 | -1 | -2.31 |
| Unitranche | 8 | 3 | 7 | 4 | 1 | -0.35 |
| Subordinated/Unsecured/Other | 7 | 3 | 7 | 4 | 0 | -0.67 |
| **Total** | **228** | **100** | **184** | **100** | | |

| Seniority level | Quarter-over-quarter change | | | | | |
|---|---|---|---|---|---|---|
| | 4Q2022 | | 3Q2022 | | Change | |
| | Holdings ($bn) | Allocation (%) | Holdings ($bn) | Allocation (%) | Holdings ($bn) | Allocation (%) |
| First Lien Loan | 168 | 74 | 163 | 73 | 5 | 0.34 |
| Equity | 28 | 12 | 27 | 12 | 1 | 0.38 |
| Second Lien Loan | 17 | 7 | 18 | 8 | -1 | -0.57 |
| Unitranche | 8 | 3 | 8 | 3 | 0 | -0.04 |
| Subordinated/Unsecured/Other | 7 | 3 | 7 | 3 | 0 | -0.10 |
| **Total** | **228** | **100** | **223** | **100** | | |

Source: Pitchbook LCD, Goldman Sachs Global Investment Research

**Exhibit 27: Holdings of public and private BDCs by capital structure seniority**

| Loan attribute | Year-over-year change | | |
|---|---|---|---|
| | Year-end 2022 | Year-end 2021 | Change |
| Average Coupon (%) | 12 | 7 | 4.36 |
| Average time to maturity (years) | 4 | 5 | -0.45 |
| Median deal size ($ million) | 3 | 3 | -0.24 |

| Loan attribute | Quarter-over-quarter change | | |
|---|---|---|---|
| | 4Q2022 | 3Q2022 | Change |
| Average Coupon (%) | 12 | 9 | 2.61 |
| Average time to maturity (years) | 4 | 3 | 1.61 |
| Median deal size ($ million) | 3 | 3 | -0.01 |

Source: Pitchbook LCD, Goldman Sachs Global Investment Research

# Key trends in private and public BDCs: Holdings and allocations

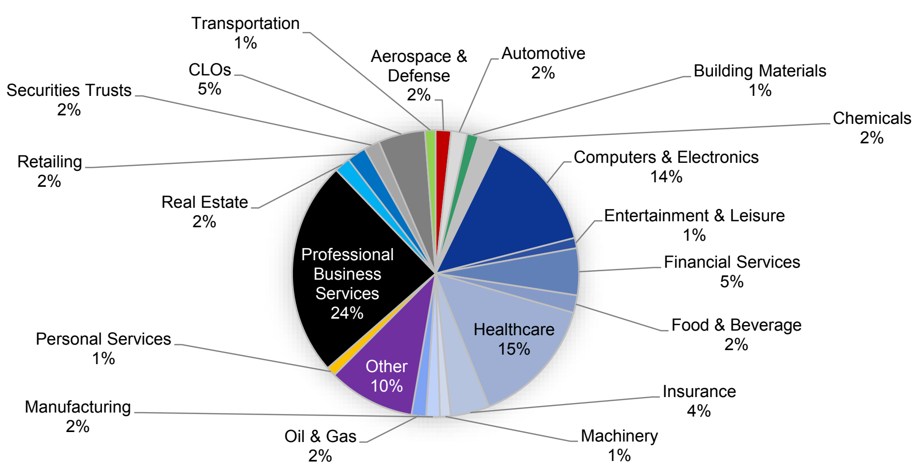
### Exhibit 28: Sector allocations for public and private BDCs

| Industry | Year-over-year change | | | | | |
|---|---|---|---|---|---|---|
| | Year-end 2022 | | Year-end 2021 | | Change | |
| | Holdings ($bn) | Allocation (%) | Holdings ($bn) | Allocation (%) | Holdings ($bn) | Allocation (%) |
| Professional & Business Services | 57 | 25 | 46 | 25 | 11 | -0.04 |
| Healthcare | 35 | 15 | 28 | 15 | 7 | 0.05 |
| Computers & Electronics | 33 | 14 | 23 | 13 | 10 | 1.81 |
| Other | 24 | 10 | 18 | 10 | 6 | 0.78 |
| Financial Services | 13 | 6 | 11 | 6 | 2 | -0.21 |
| CLOs | 10 | 5 | 8 | 4 | 2 | 0.13 |
| Chemicals | 6 | 3 | 6 | 3 | 0 | -0.48 |
| Retailing | 6 | 2 | 5 | 3 | 0 | -0.34 |
| Food & Beverage | 5 | 2 | 4 | 2 | 1 | -0.16 |
| Automotive | 4 | 2 | 4 | 2 | 0 | -0.28 |
| Real Estate | 4 | 2 | 4 | 2 | 0 | -0.23 |
| Securities & Trusts | 4 | 2 | 4 | 2 | 1 | -0.11 |
| Aerospace/Defense | 4 | 2 | 3 | 2 | 1 | 0.02 |
| Oil & Gas | 4 | 2 | 5 | 3 | -1 | -0.85 |
| Manufacturing | 4 | 2 | 3 | 1 | 1 | 0.16 |
| Building Materials | 3 | 1 | 3 | 2 | 0 | -0.17 |
| Entertainment & Leisure | 3 | 1 | 3 | 1 | 0 | -0.11 |
| Machinery | 3 | 1 | 2 | 1 | 1 | -0.01 |
| Transportation | 3 | 1 | 3 | 1 | 0 | -0.14 |
| Personal Services | 3 | 1 | 2 | 1 | 1 | 0.31 |
| Structured Finance - CLO | 2 | 1 | 1 | 1 | 0 | -0.12 |
| **Total** | **228** | **100** | **184** | **100** | | |

| Industry | Quarter-over-quarter change | | | | | |
|---|---|---|---|---|---|---|
| | 4Q2022 | | 3Q2022 | | Change | |
| | Holdings ($bn) | Allocation (%) | Holdings ($bn) | Allocation (%) | Holdings ($bn) | Allocation (%) |
| Professional & Business Services | 57 | 25 | 55 | 25 | 2 | 0.38 |
| Healthcare | 35 | 15 | 34 | 15 | 1 | 0.14 |
| Computers & Electronics | 33 | 14 | 32 | 14 | 1 | 0.16 |
| Other | 24 | 10 | 24 | 11 | 0 | -0.31 |
| Financial Services | 13 | 6 | 13 | 6 | 0 | -0.07 |
| CLOs | 10 | 5 | 10 | 4 | 1 | 0.22 |
| Chemicals | 6 | 3 | 6 | 3 | 0 | -0.07 |
| Retailing | 6 | 2 | 5 | 2 | 0 | 0.00 |
| Food & Beverage | 5 | 2 | 5 | 2 | 0 | -0.10 |
| Automotive | 4 | 2 | 4 | 2 | 0 | -0.09 |
| Real Estate | 4 | 2 | 4 | 2 | 0 | -0.06 |
| Securities & Trusts | 4 | 2 | 4 | 2 | 0 | 0.02 |
| Aerospace/Defense | 4 | 2 | 4 | 2 | 0 | -0.09 |
| Oil & Gas | 4 | 2 | 4 | 2 | 0 | -0.23 |
| Manufacturing | 4 | 2 | 3 | 1 | 1 | 0.20 |
| Building Materials | 3 | 1 | 3 | 1 | 0 | -0.06 |
| Entertainment & Leisure | 3 | 1 | 3 | 1 | 0 | -0.03 |
| Machinery | 3 | 1 | 3 | 1 | 0 | -0.03 |
| Transportation | 3 | 1 | 3 | 1 | 0 | 0.00 |
| Personal Services | 3 | 1 | 2 | 1 | 0 | 0.05 |
| Structured Finance - CLO | 2 | 1 | 2 | 1 | 0 | -0.02 |
| **Total** | **228** | **100** | **223** | **100** | | |

Source: Pitchbook LCD, Goldman Sachs Global Investment Research

### Exhibit 29: Current sector breakdown of public and private BDC portfolios

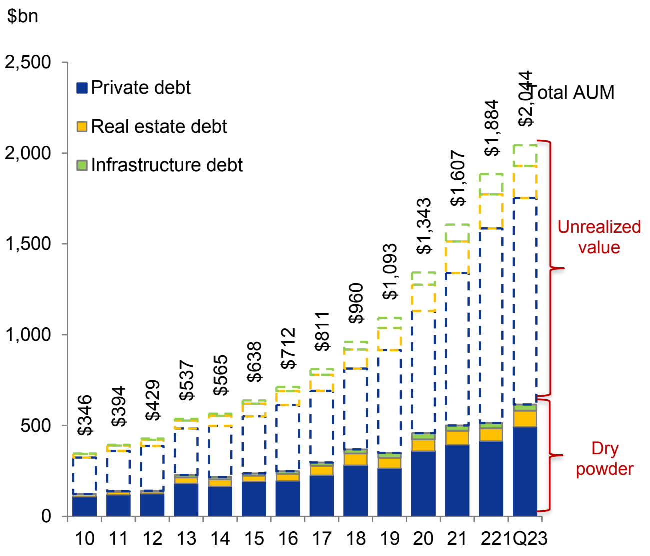



Note: Other includes Media, Investment Fund, Consumer Nondurables, Telecommunications, Wholesale Trade, Utilities, Textile &, Apparel Mfg., Home Furnishings, Construction, Educational Services, Environmental Services, Metals & Mining, Retail Food & Drug, Shipping & Ship Building, Printing & Publishing, Airlines, Forest Products, Gaming & Hotels, Leasing, Steel, Railroads and Tobacco.

Source: Pitchbook LCD, Goldman Sachs Global Investment Research

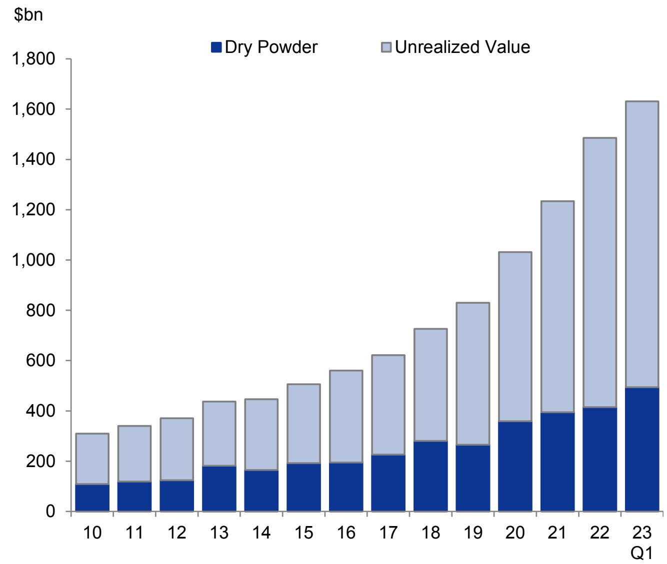
# AUM for various debt private strategies

**Exhibit 30: Total AUM in private debt, real estate debt and infrastructure debt**



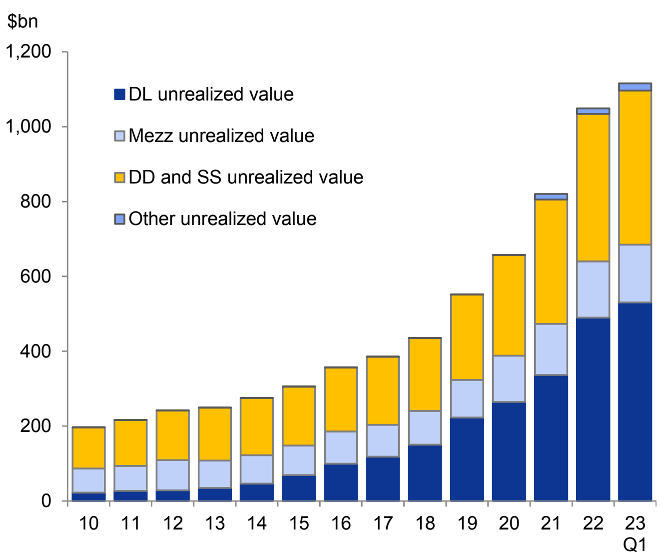

Source: Preqin, Goldman Sachs Global Investment Research

**Exhibit 31: Total AUM in private debt funds**



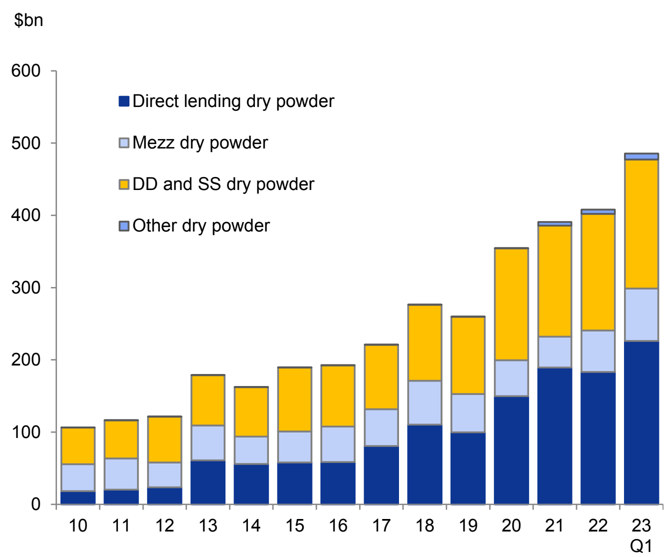

Source: Preqin, Goldman Sachs Global Investment Research

**Exhibit 32: Breakdown of unrealized value by private debt strategy**




Source: Preqin, Goldman Sachs Global Investment Research

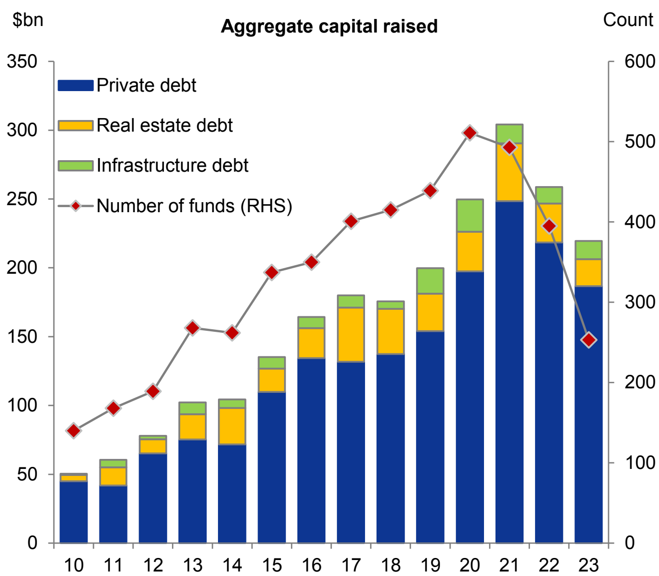
**Exhibit 33: Breakdown of dry powder by private debt strategy**




Source: Preqin, Goldman Sachs Global Investment Research

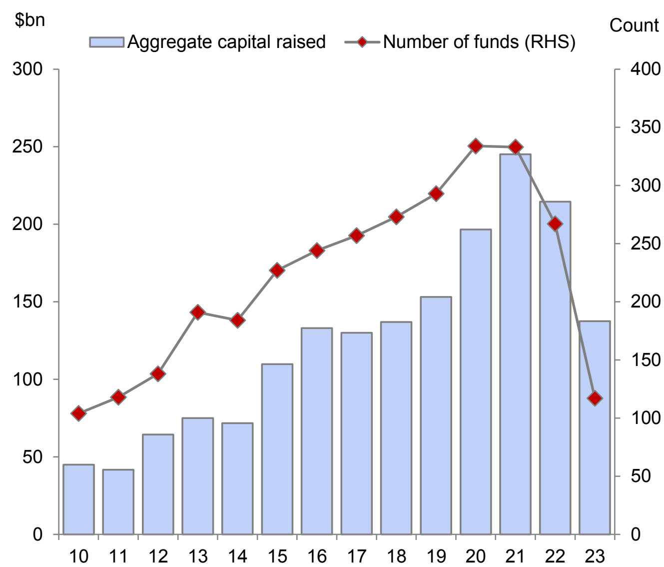
# Fundraising activity in private debt markets

**Exhibit 34: Aggregate capital raised and number of funds for private debt, real estate debt and infrastructure debt**



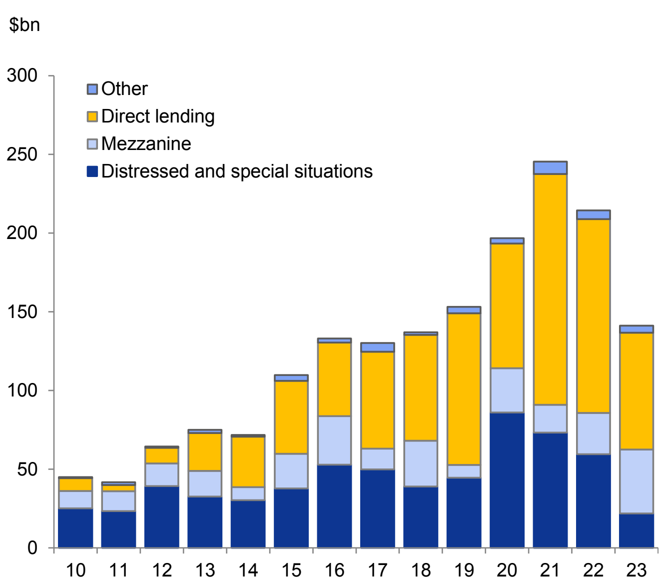

Source: Preqin, Goldman Sachs Global Investment Research

**Exhibit 35: Aggregate capital raised and number of funds for private debt strategies**



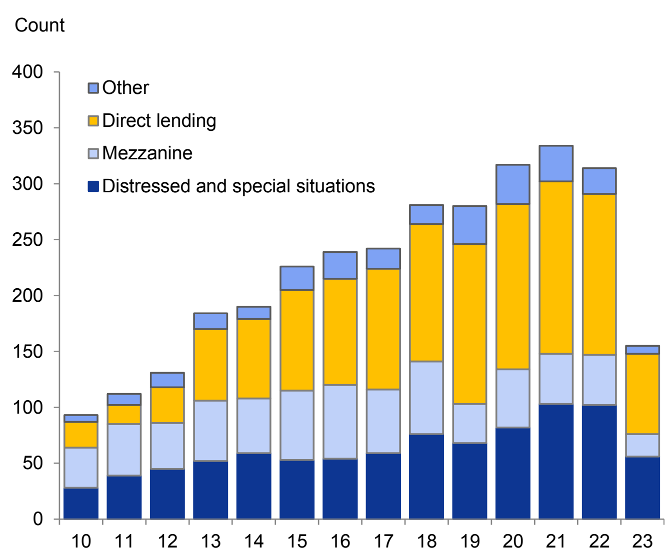

Source: Preqin, Goldman Sachs Global Investment Research

**Exhibit 36: Breakdown of capital raised by private debt strategy**




Source: Preqin, Goldman Sachs Global Investment Research

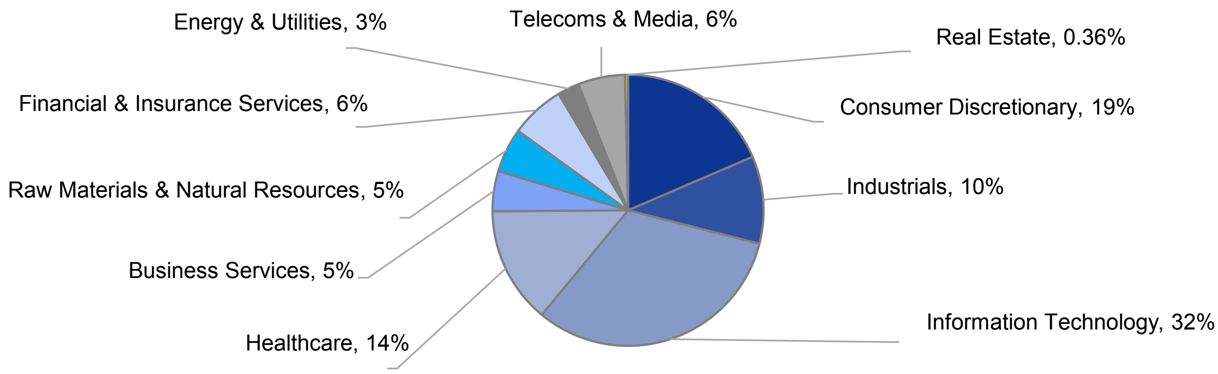
**Exhibit 37: Breakdown of number of funds by private debt strategy**




Source: Preqin, Goldman Sachs Global Investment Research

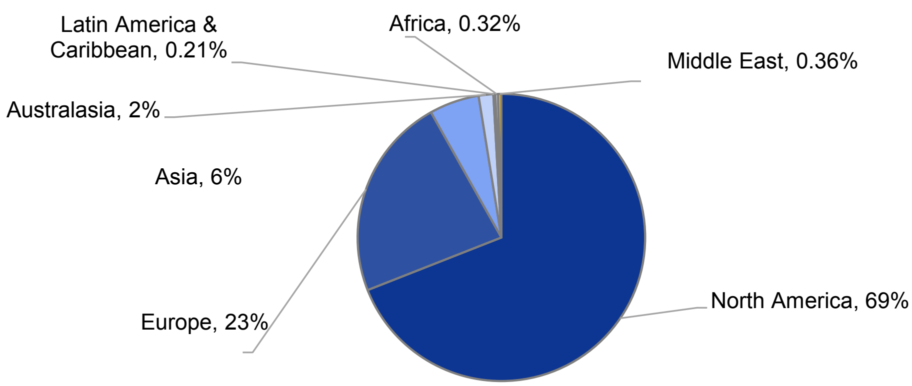
# Industry, region and investor breakdown of this year's fundraising

**Exhibit 38: Sector breakdown**



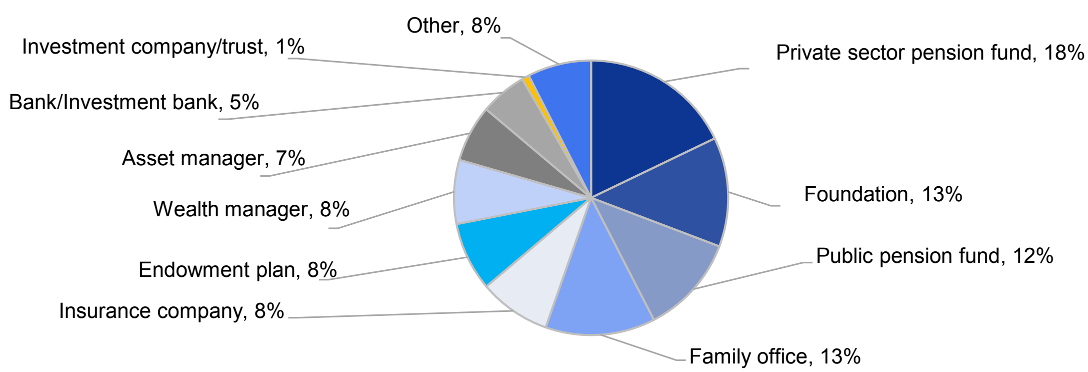

Source: Preqin, Goldman Sachs Global Investment Research

**Exhibit 39: Region breakdown**




Source: Preqin, Goldman Sachs Global Investment Research

**Exhibit 40: Investor base breakdown**




Source: Preqin, Goldman Sachs Global Investment Research

# Disclosure Appendix

## Reg AC

We, Lotfi Karoui, Spencer Rogers, CFA, Michael Puempel, Ph.D., Vinay Viswanathan, Sienna Mori and Ben Shumway, hereby certify that all of the views expressed in this report accurately reflect our personal views, which have not been influenced by considerations of the firm's business or client relationships.

Unless otherwise stated, the individuals listed on the cover page of this report are analysts in Goldman Sachs' Global Investment Research division.

## Disclosures

### Regulatory disclosures

### Disclosures required by United States laws and regulations

See company-specific regulatory disclosures above for any of the following disclosures required as to companies referred to in this report: manager or co-manager in a pending transaction; 1% or other ownership; compensation for certain services; types of client relationships; managed/co-managed public offerings in prior periods; directorships; for equity securities, market making and/or specialist role. Goldman Sachs trades or may trade as a principal in debt securities (or in related derivatives) of issuers discussed in this report.

The following are additional required disclosures: **Ownership and material conflicts of interest:** Goldman Sachs policy prohibits its analysts, professionals reporting to analysts and members of their households from owning securities of any company in the analyst's area of coverage. **Analyst compensation:** Analysts are paid in part based on the profitability of Goldman Sachs, which includes investment banking revenues. **Analyst as officer or director:** Goldman Sachs policy generally prohibits its analysts, persons reporting to analysts or members of their households from serving as an officer, director or advisor of any company in the analyst's area of coverage. **Non-U.S. Analysts:** Non-U.S. analysts may not be associated persons of Goldman Sachs & Co. LLC and therefore may not be subject to FINRA Rule 2241 or FINRA Rule 2242 restrictions on communications with subject company, public appearances and trading securities held by the analysts.

### Additional disclosures required under the laws and regulations of jurisdictions other than the United States

The following disclosures are those required by the jurisdiction indicated, except to the extent already made above pursuant to United States laws and regulations. **Australia:** Goldman Sachs Australia Pty Ltd and its affiliates are not authorised deposit-taking institutions (as that term is defined in the Banking Act 1959 (Cth)) in Australia and do not provide banking services, nor carry on a banking business, in Australia. This research, and any access to it, is intended only for "wholesale clients" within the meaning of the Australian Corporations Act, unless otherwise agreed by Goldman Sachs. In producing research reports, members of Global Investment Research of Goldman Sachs Australia may attend site visits and other meetings hosted by the companies and other entities which are the subject of its research reports. In some instances the costs of such site visits or meetings may be met in part or in whole by the issuers concerned if Goldman Sachs Australia considers it is appropriate and reasonable in the specific circumstances relating to the site visit or meeting. To the extent that the contents of this document contains any financial product advice, it is general advice only and has been prepared by Goldman Sachs without taking into account a client's objectives, financial situation or needs. A client should, before acting on any such advice, consider the appropriateness of the advice having regard to the client's own objectives, financial situation and needs. A copy of certain Goldman Sachs Australia and New Zealand disclosure of interests and a copy of Goldman Sachs' Australian Sell-Side Research Independence Policy Statement are available at: https://www.goldmansachs.com/disclosures/australia-new-zealand/index.html. **Brazil:** Disclosure information in relation to CVM Resolution n. 20 is available at https://www.gs.com/worldwide/brazil/area/gir/index.html. Where applicable, the Brazil-registered analyst primarily responsible for the content of this research report, as defined in Article 20 of CVM Resolution n. 20, is the first author named at the beginning of this report, unless indicated otherwise at the end of the text. **Canada:** This information is being provided to you for information purposes only and is not, and under no circumstances should be construed as, an advertisement, offering or solicitation by Goldman Sachs & Co. LLC for purchasers of securities in Canada to trade in any Canadian security. Goldman Sachs & Co. LLC is not registered as a dealer in any jurisdiction in Canada under applicable Canadian securities laws and generally is not permitted to trade in Canadian securities and may be prohibited from selling certain securities and products in certain jurisdictions in Canada. If you wish to trade in any Canadian securities or other products in Canada please contact Goldman Sachs Canada Inc., an affiliate of The Goldman Sachs Group Inc., or another registered Canadian dealer. **Hong Kong:** Further information on the securities of covered companies referred to in this research may be obtained on request from Goldman Sachs (Asia) L.L.C. **India:** Further information on the subject company or companies referred to in this research may be obtained from Goldman Sachs (India) Securities Private Limited, Research Analyst - SEBI Registration Number INH000001493, 951-A, Rational House, Appasaheb Marathe Marg, Prabhadevi, Mumbai 400 025, India, Corporate Identity Number U74140MH2006FTC160634, Phone +91 22 6616 9000, Fax +91 22 6616 9001. Goldman Sachs may beneficially own 1% or more of the securities (as such term is defined in clause 2 (h) the Indian Securities Contracts (Regulation) Act, 1956) of the subject company or companies referred to in this research report. Investment in securities market are subject to market risks. Read all the related documents carefully before investing. Registration granted by SEBI and certification from NISM in no way guarantee performance of the intermediary or provide any assurance of returns to investors. Goldman Sachs (India) Securities Private Limited Investor Grievance E-mail: india-client-support@gs.com. Compliance Officer: Anil Rajput |Tel: + 91 22 6616 9000 | Email: anil.m.rajput@gs.com. **Japan:** See below. **Korea:** This research, and any access to it, is intended only for "professional investors" within the meaning of the Financial Services and Capital Markets Act, unless otherwise agreed by Goldman Sachs. Further information on the subject company or companies referred to in this research may be obtained from Goldman Sachs (Asia) L.L.C., Seoul Branch. **New Zealand:** Goldman Sachs New Zealand Limited and its affiliates are neither "registered banks" nor "deposit takers" (as defined in the Reserve Bank of New Zealand Act 1989) in New Zealand. This research, and any access to it, is intended for "wholesale clients" (as defined in the Financial Advisers Act 2008) unless otherwise agreed by Goldman Sachs. A copy of certain Goldman Sachs Australia and New Zealand disclosure of interests is available at: https://www.goldmansachs.com/disclosures/australia-new-zealand/index.html. **Russia:** Research reports distributed in the Russian Federation are not advertising as defined in the Russian legislation, but are information and analysis not having product promotion as their main purpose and do not provide appraisal within the meaning of the Russian legislation on appraisal activity. Research reports do not constitute a personalized investment recommendation as defined in Russian laws and regulations, are not addressed to a specific client, and are prepared without analyzing the financial circumstances, investment profiles or risk profiles of clients. Goldman Sachs assumes no responsibility for any investment decisions that may be taken by a client or any other person based on this research report. **Singapore:** Goldman Sachs (Singapore) Pte. (Company Number: 198602165W), which is regulated by the Monetary Authority of Singapore, accepts legal responsibility for this research, and should be contacted with respect to any matters arising from, or in connection with, this research. **Taiwan:** This material is for reference only and must not be reprinted without permission. Investors should carefully consider their own investment risk. Investment results are the responsibility of the individual investor. **United Kingdom:** Persons who would be categorized as retail clients in the United Kingdom, as such term is defined in the rules of the Financial Conduct Authority, should read this research in conjunction with prior Goldman Sachs research on the covered companies referred to herein and should refer to the risk warnings that have been sent to them by Goldman Sachs International. A copy of these risks warnings, and a glossary of certain financial terms used in this report, are available from Goldman Sachs International on request.

**European Union and United Kingdom:** Disclosure information in relation to Article 6 (2) of the European Commission Delegated Regulation (EU)

(2016/958) supplementing Regulation (EU) No 596/2014 of the European Parliament and of the Council (including as that Delegated Regulation is implemented into United Kingdom domestic law and regulation following the United Kingdom's departure from the European Union and the European Economic Area) with regard to regulatory technical standards for the technical arrangements for objective presentation of investment recommendations or other information recommending or suggesting an investment strategy and for disclosure of particular interests or indications of conflicts of interest is available at https://www.gs.com/disclosures/europeanpolicy.html which states the European Policy for Managing Conflicts of Interest in Connection with Investment Research.

**Japan:** Goldman Sachs Japan Co., Ltd. is a Financial Instrument Dealer registered with the Kanto Financial Bureau under registration number Kinsho 69, and a member of Japan Securities Dealers Association, Financial Futures Association of Japan Type II Financial Instruments Firms Association, The Investment Trusts Association, Japan, and Japan Investment Advisers Association. Sales and purchase of equities are subject to commission pre-determined with clients plus consumption tax. See company-specific disclosures as to any applicable disclosures required by Japanese stock exchanges, the Japanese Securities Dealers Association or the Japanese Securities Finance Company.

## Global product; distributing entities

Goldman Sachs Global Investment Research produces and distributes research products for clients of Goldman Sachs on a global basis. Analysts based in Goldman Sachs offices around the world produce research on industries and companies, and research on macroeconomics, currencies, commodities and portfolio strategy. This research is disseminated in Australia by Goldman Sachs Australia Pty Ltd (ABN 21 006 797 897); in Brazil by Goldman Sachs do Brasil Corretora de Títulos e Valores Mobiliários S.A.; Public Communication Channel Goldman Sachs Brazil: 0800 727 5764 and / or contatogoldmanbrasil@gs.com. Available Weekdays (except holidays), from 9am to 6pm. Canal de Comunicação com o Público Goldman Sachs Brasil: 0800 727 5764 e/ou contatogoldmanbrasil@gs.com. Horário de funcionamento: segunda-feira à sexta-feira (exceto feriados), das 9h às 18h; in Canada by Goldman Sachs & Co. LLC; in Hong Kong by Goldman Sachs (Asia) L.L.C.; in India by Goldman Sachs (India) Securities Private Ltd.; in Japan by Goldman Sachs Japan Co., Ltd.; in the Republic of Korea by Goldman Sachs (Asia) L.L.C., Seoul Branch; in New Zealand by Goldman Sachs New Zealand Limited; in Russia by OOO Goldman Sachs; in Singapore by Goldman Sachs (Singapore) Pte. (Company Number: 198602165W); and in the United States of America by Goldman Sachs & Co. LLC. Goldman Sachs International has approved this research in connection with its distribution in the United Kingdom.

Goldman Sachs International ("GSI"), authorised by the Prudential Regulation Authority ("PRA") and regulated by the Financial Conduct Authority ("FCA") and the PRA, has approved this research in connection with its distribution in the United Kingdom.

**European Economic Area:** GSI, authorised by the PRA and regulated by the FCA and the PRA, disseminates research in the following jurisdictions within the European Economic Area: the Grand Duchy of Luxembourg, Italy, the Kingdom of Belgium, the Kingdom of Denmark, the Kingdom of Norway, the Republic of Finland and the Republic of Ireland; GSI - Succursale de Paris (Paris branch) which is authorised by the French Autorité de contrôle prudentiel et de resolution ("ACPR") and regulated by the Autorité de contrôle prudentiel et de resolution and the Autorité des marches financiers ("AMF") disseminates research in France; GSI - Sucursal en España (Madrid branch) authorized in Spain by the Comisión Nacional del Mercado de Valores disseminates research in the Kingdom of Spain; GSI - Sweden Bankfilial (Stockholm branch) is authorized by the SFSA as a "third country branch" in accordance with Chapter 4, Section 4 of the Swedish Securities and Market Act (Sw. lag (2007:528) om värdepappersmarknaden) disseminates research in the Kingdom of Sweden; Goldman Sachs Bank Europe SE ("GSBE") is a credit institution incorporated in Germany and, within the Single Supervisory Mechanism, subject to direct prudential supervision by the European Central Bank and in other respects supervised by German Federal Financial Supervisory Authority (Bundesanstalt für Finanzdienstleistungsaufsicht, BaFin) and Deutsche Bundesbank and disseminates research in the Federal Republic of Germany and those jurisdictions within the European Economic Area where GSI is not authorised to disseminate research and additionally, GSBE, Copenhagen Branch filial af GSBE, Tyskland, supervised by the Danish Financial Authority disseminates research in the Kingdom of Denmark; GSBE - Sucursal en España (Madrid branch) subject (to a limited extent) to local supervision by the Bank of Spain disseminates research in the Kingdom of Spain; GSBE - Succursale Italia (Milan branch) to the relevant applicable extent, subject to local supervision by the Bank of Italy (Banca d'Italia) and the Italian Companies and Exchange Commission (Commissione Nazionale per le Società e la Borsa "Consob") disseminates research in Italy; GSBE - Succursale de Paris (Paris branch), supervised by the AMF and by the ACPR disseminates research in France; and GSBE - Sweden Bankfilial (Stockholm branch), to a limited extent, subject to local supervision by the Swedish Financial Supervisory Authority (Finansinpektionen) disseminates research in the Kingdom of Sweden.

## General disclosures

This research is for our clients only. Other than disclosures relating to Goldman Sachs, this research is based on current public information that we consider reliable, but we do not represent it is accurate or complete, and it should not be relied on as such. The information, opinions, estimates and forecasts contained herein are as of the date hereof and are subject to change without prior notification. We seek to update our research as appropriate, but various regulations may prevent us from doing so. Other than certain industry reports published on a periodic basis, the large majority of reports are published at irregular intervals as appropriate in the analyst's judgment.

Goldman Sachs conducts a global full-service, integrated investment banking, investment management, and brokerage business. We have investment banking and other business relationships with a substantial percentage of the companies covered by Global Investment Research. Goldman Sachs & Co. LLC, the United States broker dealer, is a member of SIPC (https://www.sipc.org).

Our salespeople, traders, and other professionals may provide oral or written market commentary or trading strategies to our clients and principal trading desks that reflect opinions that are contrary to the opinions expressed in this research. Our asset management area, principal trading desks and investing businesses may make investment decisions that are inconsistent with the recommendations or views expressed in this research.

We and our affiliates, officers, directors, and employees will from time to time have long or short positions in, act as principal in, and buy or sell, the securities or derivatives, if any, referred to in this research, unless otherwise prohibited by regulation or Goldman Sachs policy.

The views attributed to third party presenters at Goldman Sachs arranged conferences, including individuals from other parts of Goldman Sachs, do not necessarily reflect those of Global Investment Research and are not an official view of Goldman Sachs.

Any third party referenced herein, including any salespeople, traders and other professionals or members of their household, may have positions in the products mentioned that are inconsistent with the views expressed by analysts named in this report.

This research is focused on investment themes across markets, industries and sectors. It does not attempt to distinguish between the prospects or performance of, or provide analysis of, individual companies within any industry or sector we describe.

Any trading recommendation in this research relating to an equity or credit security or securities within an industry or sector is reflective of the investment theme being discussed and is not a recommendation of any such security in isolation.

This research is not an offer to sell or the solicitation of an offer to buy any security in any jurisdiction where such an offer or solicitation would be illegal. It does not constitute a personal recommendation or take into account the particular investment objectives, financial situations, or needs of individual clients. Clients should consider whether any advice or recommendation in this research is suitable for their particular circumstances and, if appropriate, seek professional advice, including tax advice. The price and value of investments referred to in this research and the income from them may fluctuate. Past performance is not a guide to future performance, future returns are not guaranteed, and a loss of original capital may occur.

Fluctuations in exchange rates could have adverse effects on the value or price of, or income derived from, certain investments.

Certain transactions, including those involving futures, options, and other derivatives, give rise to substantial risk and are not suitable for all investors. Investors should review current options and futures disclosure documents which are available from Goldman Sachs sales representatives or at https://www.theocc.com/about/publications/character-risks.jsp and https://www.fiadocumentation.org/fia/regulatory-disclosures_1/fia-uniform-futures-and-options-on-futures-risk-disclosures-booklet-pdf-version-2018. Transaction costs may be significant in option strategies calling for multiple purchase and sales of options such as spreads. Supporting documentation will be supplied upon request.

**Differing Levels of Service provided by Global Investment Research:** The level and types of services provided to you by Goldman Sachs Global Investment Research may vary as compared to that provided to internal and other external clients of GS, depending on various factors including your individual preferences as to the frequency and manner of receiving communication, your risk profile and investment focus and perspective (e.g., marketwide, sector specific, long term, short term), the size and scope of your overall client relationship with GS, and legal and regulatory constraints. As an example, certain clients may request to receive notifications when research on specific securities is published, and certain clients may request that specific data underlying analysts' fundamental analysis available on our internal client websites be delivered to them electronically through data feeds or otherwise. No change to an analyst's fundamental research views (e.g., ratings, price targets, or material changes to earnings estimates for equity securities), will be communicated to any client prior to inclusion of such information in a research report broadly disseminated through electronic publication to our internal client websites or through other means, as necessary, to all clients who are entitled to receive such reports.

All research reports are disseminated and available to all clients simultaneously through electronic publication to our internal client websites. Not all research content is redistributed to our clients or available to third-party aggregators, nor is Goldman Sachs responsible for the redistribution of our research by third party aggregators. For research, models or other data related to one or more securities, markets or asset classes (including related services) that may be available to you, please contact your GS representative or go to https://research.gs.com.

Disclosure information is also available at https://www.gs.com/research/hedge.html or from Research Compliance, 200 West Street, New York, NY 10282.