24 April 2025
ESMA50-524821-3642

ESMA TRV Risk Analysis

Financial Stability

Annual risk assessment of leveraged AIFs in the EU – 2024

ESMA Report on Trends, Risks and Vulnerabilities Risk Analysis

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Financial Stability

Annual risk assessment of leveraged AIFs in the EU – 2024

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Summary

On an annual basis, National Competent Authorities (NCAs) and ESMA assess the risks posed by leveraged Alternative Investment Funds (AIFs), within the framework defined by ESMA's Guidelines on AIFMD Article 25.[2] This article provides the summary of the 2024 risk assessment. We identify leverage-related risks within different categories of AIFs and assess their potential systemic relevance.

- Leveraged AIFs overall: The overall level of leverage of funds included in the sample remains limited. However, substantially leveraged funds increased their leverage further. The median leverage ratio of the substantially leveraged funds increased from 450% in 2022 to 530% in 2023, which calls for attention.
- Real estate (RE) funds: REs operated in a market environment of falling real estate prices, especially in Commercial Real estate (CRE). While the RE fund sector has been resilient at EU level, the combination of declining real estate prices and outflows from some funds put pressure on RE funds in some jurisdictions. Given that leverage limits under AIFMD Article 25 are a macroprudential tool, the systemic relevance of RE funds needs to be considered. RE funds could be systemically relevant in jurisdictions where groups of RE funds own a large share of the underlying market for real estate assets.
- Hedge funds (HFs): HFs display the highest levels of leverage. Their risk is first assessed on an individual basis, as specific HF strategies can limit the relevance of group analysis. However, HFs also collectively have considerable exposures to sovereign bonds across strategies, which may pose a risk of market impact.
- Other AIFs: The category of "other AIFs" – which is by far the largest type of AIFs – includes GBP Liability-Driven Investment (LDI) funds, which gain leveraged exposures to the UK government bond market and have been subject to specific resilience requirements and an increased monitoring since 2022. The assessment shows that imposing limits to the interest rate risk they can take successfully increased the resilience of the sector, and for some funds resulted in a decline of leverage. As a consequence, the Central Bank of Ireland (CBI) and the Commission de Surveillance du Secteur Financier (CSSF), decided to turn these measures into an "other restriction" under Article 25(3) of the AIFMD.[3]

Finally, we also consider the contribution of AIFs to the funding of non-financial corporations (NFCs). Our assessment shows that their contribution to the corporate bond markets is already substantial, thus highlighting the importance of the resilience of the AIF sector for the real economy.

This article contributes to ESMA's financial stability objective by presenting the AIFMD Article 25 framework and the results of the risk assessment performed by ESMA and NCAs in 2024, based on the end of 2023 AIFMD data.

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1 This article was written by Jean-Baptiste Haquin and Roberto Proietti.

2 Guidelines on article 25 AIFMD, 2020, ESMA.

3 ESMA advice, 2024, ESMA.

Key statistics: EU leveraged AIFs

	Funds of Funds	Hedge Funds	Real Estate	Private Equity	Other AIFs	None[4]
AIFs using leverage on a substantial basis						
Number of funds (Absolute number)	50	84	244	36	244	_
Net Asset Value (EUR bn)	5.3	11.7	12.9	2	59.3	_
Gross leverage (Median, in %)	802	969	509	702	544	_
Commitment leverage (Median, in %)	842	653	506	743	484	_
Adjusted leverage (Median, in %)	682	671	456	515	368	_
Large AIFs (AuM > 500mn) employing leverage not on a substantial basis						
Number of funds (Absolute number)	314	55	542	230	1,260	61
Net Asset Value (EUR bn)	418.5	39.3	698.2	321.2	1,645.6	158.6
Gross leverage (Median, in %)	106	172	146	103	148	131
Commitment leverage (Median, in %)	103	147	139	102	112	114
Other AIFs with unusually high use of leverage (NCAs)						
Number of funds (Absolute number)	367	13	70	271	454	34
Net Asset Value (EUR bn)	80.5	0.7	8	23.7	54.8	51.1

Note: All values refer to AIFs managed and/or marketed by EEA30 AIFMs at the end of 2023, AIFs reported to ESMA by National Competent Authorities (NCAs). AIFs sold under a National Private Placement Regime (NPPR) are excluded. Leveraged funds are identified using the AIF reporting code as specified in the Annex 2 of ESMA guidelines on AIFMD reporting obligations. Open ended AIFs are funds that issue shares which are redeemable on demand by investors. Data for the EEA30.
Sources: AIFMD database, National Competent Authorities, ESMA.

[4] Some funds do not report any type and are classified as “None”.

Introduction

Based on AIFMD Article 25, ESMA and NCAs perform a regular risk assessment of the financial stability risks posed by leveraged AIFs. Leveraged funds may pose financial stability risks to the financial system if they are large enough to impact the markets they invest in, or the counterparties that are exposed to them. Systemic risk is more likely to arise from groups of funds exposed to the same risk factors than from individual funds,[5] such as by funds following similar strategies or investing in similar assets.

ESMA's Guidelines on AIFMD Article 25 set up a two-step approach. First, ESMA and NCAs select a sample of leveraged funds, including AIFs employing leverage on a substantial basis[6] and leveraged funds managing more than EUR 500mn in AuM. In addition, we include funds which may pose a risk to financial stability due to their unusual use of leverage (for example, outliers in each fund category even if they are below the size threshold).

In a second step, we assess the risks posed by those funds, individually or collectively. Risks to financial stability especially include:

a) risk of market impact;

b) risk of fire sales;

c) risk of direct spill-over to financial institutions;

d) risk of interruption in direct credit intermediation

This article combines findings from the risk assessments reported by NCAs for AIFMs in their jurisdiction and the risk assessment performed by ESMA at the EU level. Unless otherwise specified, figures below refer to ESMA's assessment while the qualitative assessment includes both ESMA and NCA findings.

Key developments since the last risk assessment

In 2024, authorities have included more funds in their risk assessment than in 2023. The sample of funds comprises 3,144 AIFs, representing a total net asset value (NAV) of EUR 3.6tn and Assets under Management (AuM) of EUR 5.4tn. This is an increase of 342 AIFs and 10% of NAV. This increase in the sample size affects all AIF types though the overall landscape remains unchanged compared to the previous exercise. The ancillary fund category called 'Other AIFs' represents nearly half the size of the industry (49% of NAV). RE funds are also significant (20% of NAV) followed by funds of funds (14% of NAV), private equity (10% of NAV) and hedge funds (1% of NAV). Finally, 6% of the funds ('None') are not reported under any of these categories.

What stands out more than the increase in the number of funds is the rise in leverage. The vast majority of the reported funds remain not substantially leveraged (91% of NAV). This broadly holds across different AIF fund types except for hedge funds, for which the proportion of substantially leveraged funds is much higher (23% of NAV). As a result, the overall level of leverage of funds included in the sample is limited, with 90% of funds reporting a leverage ratio below 159%.

But at the extremity of the sample, substantially leveraged funds increased their leverage further. The median leverage ratio of the substantially leveraged funds increased from 450% to 530% at the end of 2023. Moreover, the quartile and decile of those funds with the highest leverage display levels of leverage of 1,018% and 3,633% respectively, a marked increase since end 2022 (841% and 2,344%). This trend is particularly visible for funds of funds, hedge funds, real estate funds and private equity funds (Chart 1).

Authorities assessed systemic risk in light of these developments. Especially, they looked at leverage in combination with the sources of financial stability risk: risk of market impact; risk of fire sales; risk of direct spill-over to financial institutions and risk of interruption in direct credit intermediation.

Diversified exposure

To assess the risk of market impact posed by leveraged AIFs, NCAs identify groups of funds exposed to the same assets. Due to the diversity of investment policies, common exposure critically depends on the type of AIF and their investment policy: RE funds are heavily exposed to physical assets, PE funds to (unlisted) securities and FoFs are primarily exposed to collective investment schemes. HF exposures

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5 The high-level group on financial supervision in the EU. De Larosière report, 2009.

6 Leverage ratio measured under the commitment method above 300%.

are overwhelmingly biased towards fixed income derivatives (CDS and interest rate swaps) because exposures are reported using gross notional values. Finally, the exposures of "other AIFs" are more diversified, reflecting the range of strategies used in this residual category.

Overall, non-derivative exposures of AIFs consist mainly of securities (EUR 4.8tn), of which 20% of unlisted equities (EUR 973bn), followed by collective investment schemes (EUR 2tn) and physical assets (EUR 1tn mainly related to RE funds). Derivatives represent EUR 2.1tn, largely foreign exchange (FX) derivatives (EUR 1tn) and interest rate derivatives (IRDs) (EUR 695bn).

A majority of assets are located in the EEA (58%), thereby contributing to EEA financing. Accordingly, potential market impact is likely to affect primarily EEA markets.

Liquidity profile varies across fund types

AIFs are exposed to a liquidity mismatch when they offer liquidity to their investors that exceeds the liquidity of their assets. At the aggregate level, 66% of AIFs fund shares can be redeemed on a weekly basis. This results in a liquidity mismatch when the portfolio cannot be liquidated over the same time period. For example, 21% of RE funds can be redeemed on a weekly basis while real estate assets are typically not liquid.

However, the assessment of the liquidity profile of a fund should also take into account the availability of liquidity management tools such as notice periods or deferral of redemptions, which can mitigate a liquidity mismatch. Notice periods especially ensure that, while the fund can still redeem on a regular basis, each redemption order is executed with a delay, thus providing the fund with more time to liquidate assets. In the case of RE funds, 60% of the funds offering daily or weekly redemptions have long notice periods of six months or more.

Once all the elements have been taken into account, the aggregated liquidity mismatch over one week for the funds in our sample represents around 6% of NAV (42% of the NAV can be redeemed within a week without notice while only 36% of the assets can be liquidated over that time horizon). The overall liquidity mismatch mostly originates from three AIF categories (Chart 3): FoFs investors can redeem up to 42% of the NAV within a week compared with portfolio liquidity of 31%; real estate funds investors can redeem 7% of the NAV over the same period compared with a portfolio liquidity of 1% and investors in other AIFs can redeem 57% of the NAV compared with a portfolio liquidity of 51%.

AIFs particularly interconnected

The fund sector is interconnected with other financial institutions through their investment strategies, recourse to borrowing and investor base.

Institutional investors (financials) hold around 76% of the NAV (Chart 5). However, retail investor participation might be underestimated since they could purchase banking or insurance products that are invested in AIFs. In terms of investor types, pension funds and insurance companies remain the main investors (24% and 16% of the NAV respectively), followed by investment funds (17%), non-financial corporations (9%), other financial institutions (11%) and banks (8%). Consequently, while AIFs are interconnected with the rest of the financial sector their investor base is diversified, limiting the risk of contagion from a sectoral shock.

AIFs are also interconnected to the financial system through their use of borrowing. Hedge funds borrowings amount to 40% of their assets, mostly through borrowing embedded in derivatives (32%). Other AIFs (14%), RE funds (11%) and PE funds (11%) also make use of borrowing; other AIFs and PE funds mainly using derivatives while RE funds primarily borrow cash.

On the asset side, one of the main channels of contagion is the counterparty exposure through derivatives. Derivatives exposures represent EUR 2.1tn, of which EUR 1tn of FX derivatives and EUR 0.6tn IRDs. HFs have the highest derivative exposure (56% of all AIF derivatives exposures) and other AIFs (25%).

Credit provision to the economy not negligible

AIFs directly contribute to the funding of the real economy through investments in corporate bonds and loan provisions. Most of the funds providing credit to the real economy are other AIFs, which hold around 20% of all EU non-financial corporate (NFC) debt securities (issued by EU and non-EU corporations). As a comparison, this is the equivalent to 9% of the total outstanding loans to NFCs in the EU.

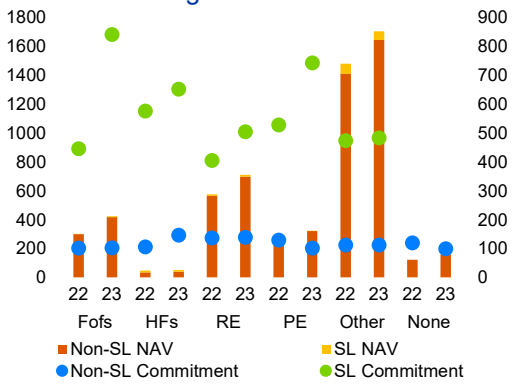
Against the backdrop of the growing contribution of the non-bank sector to the real economy, shocks affecting the AIF sector could have consequences on the provision of credit to the economy.

Leveraged AIFs

Risk indicators

Chart. 1

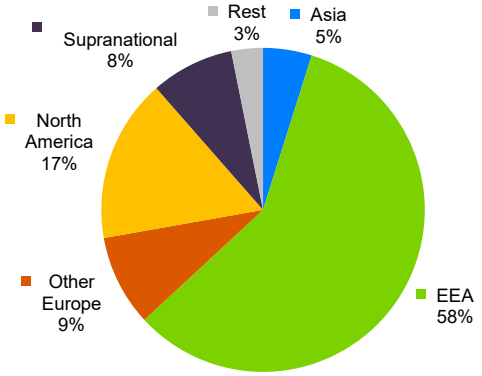
Size and leverage



Note: NAV of substantially leveraged (SL) and large but non-substantially leveraged (non-SL) AIFs, in 2023 (lhs, in EUR bn); median commitment leverage of substantially leveraged and non-substantially leveraged AIFs, in 2023 (rhs, in %).
Sources: AIFMD, ESMA.

Chart. 2

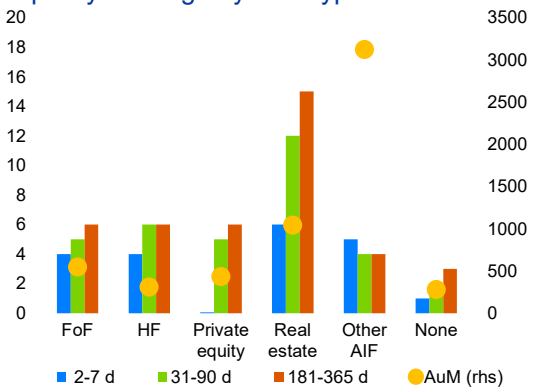
Geographical investment focus



Note: Regional investment focus of EU AIFs managed and/or marketed by authorised AIFMs and sub-threshold managers registered only in national jurisdictions, end of 2023, in % of NAV. Geo-focus determined according to the domicile of investments and the supranational category including investments without a predominant geo-focus. Data for the EEA30.
Sources: AIFMD database, National Competent Authorities, ESMA

Chart. 3

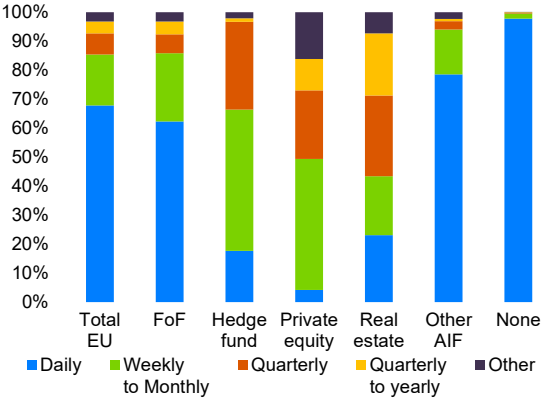
Liquidity shortage by fund type



Note: Liquidity shortage of AIFs included in the Article 25 sample over 1 week, 3 months and 1 year, in % of NAV (lhs). Liquidity shortage is defined as the sum of liquidity deficits at the level of the funds, as not compensated by liquidity surplus; AuM of AIFs in Article 25 sample, in EUR bn (rhs).
Sources: AIFMD database, National Competent Authorities, ESMA.

Chart 4

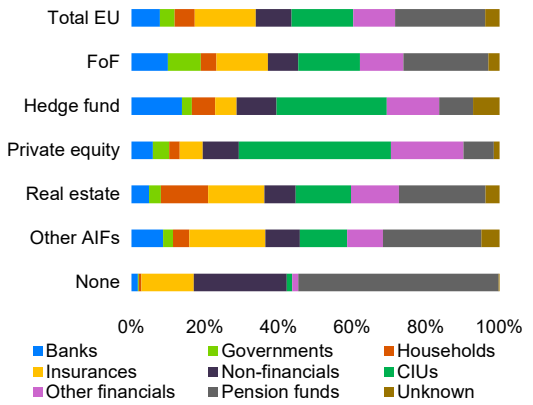
Redemption frequency



Note: Investor redemption frequencies allowed by open-end AIFs included in the Article 25 sample managed and/or marketed by authorised AIFMs, end of 2023, in % of NAV. EEA30 and non-EEA30 AIFs by authorised AIFMs marketed, respectively, w/ and w/o passport. FoF=Fund of Funds, None=No Predominant type. Data for the EEA30
Sources: AIFMD database, National Competent Authorities, ESMA.

Chart. 5

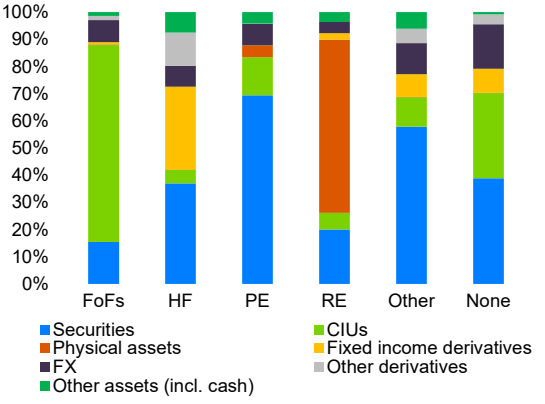
Ownership



Note: Ownership of units in AIFs managed and/or marketed by authorised AIFMs and sub-threshold managers registered only in national jurisdictions, end of 2023, in % of NAV. FoF=Fund of Funds. Data for the EEA30.
Sources: AIFMD database, National Competent Authorities, ESMA.

Chart 6

Gross exposures



Note: Exposure by type of AIF included in the Article 25 sample managed and/or marketed by authorized AIFMs and sub-threshold managers registered only in national jurisdictions, in %. FoFs=Funds of funds, HF=Hedge funds,, PE=Private equity funds, RE=Real estate funds, None=No predominant type.
Sources: AIFMD database, National Competent Authorities, ESMA.

Funds of Funds

Overview

Generally, NCAs regarded risks posed by funds of funds (FoFs) as low, although existing data gaps may warrant caution. ESMA shares this assessment as FoFs pose limited risks of market impact due to their limited leverage (except for a few smaller funds) and lack of exposure to the underlying market.

Moreover, the risk of spillovers to other financial institutions appears to be limited despite their interconnectedness with financial institutions. Especially, the FoF investor base is diversified, thus reducing the likelihood of a shock spreading to another sector.

Nevertheless, FoFs may warrant more attention in jurisdictions where they are exposed to liquidity mismatches.

Market impact

FoFs in the sample manage a total of EUR 423bn, with about 80% of the funds reporting a leverage ratio below 150% under the commitment method (Chart 7). However, the median leverage ratio of substantially leveraged FoFs has nearly doubled, from 446% in 2022 to 842% in 2023.

The risk posed by highly leveraged funds is qualified by their small size in terms of AuM, with substantially leveraged funds managing a mere EUR 5.3bn of assets in total. Conversely, the funds that are larger in terms of AuM are not substantially leveraged.

In addition, the assessment could not find any sizable market footprint in the underlying market. This is due to the fact that FoFs strategy expose them to other funds, but not directly to underlying assets. However, a look-through approach would be necessary to verify this further.

Risk of fire sales

FoFs are more exposed to liquidity mismatches than other AIFs, as the liquidity offered to investors is superior to the liquidity of the assets under management (Chart 9). Investors holding 42% of FoF assets can redeem their fund shares within one week while 31% of assets can be liquidated over the same period.

But this does not reflect the wide heterogeneity of liquidity profiles across EU member states. Among the largest jurisdictions, German FoFs reported an average liquidity shortfall of 28%, far ahead of LU (9%), FR (2%) and NL (0%) FoFs. For example, more than 90% of investors in German FoFs benefit from weekly redemption, while only 58% of assets can be liquidated at the same time (Chart 10).

In addition, some NCAs reported that some LMTs used by FoFs, such as redemption deferrals, were not necessarily reflected in the AIFMD data and were in practice reducing the liquidity mismatches. Finally, some FoFs have a single investor setup and are therefore not exposed to the risk of first mover advantage.

Risk of direct spillovers to financial institutions

FoFs are interconnected with other financial institutions through their investment strategies and investor base (Chart 11 and 12). FoFs invest in other funds, which implies that liquidity pressures or redemption requests could be transmitted to the underlying funds. This is especially the case if those underlying funds are exposed to liquidity mismatches themselves. In addition, 25% of FoF assets are invested in PE funds which are closed-ended (Chart 12). Therefore, asset sales are likely to affect more than proportionally the liquid part of FoF portfolio holdings, composed of open-ended funds.

In terms of investor base, FoFs are highly interconnected, with financial institutions amounting to 75% of investors. However, investors are also diversified, with pension funds representing 23% of investors, before CIU (17%), insurers (14%), banks (10%) and other financial institutions (8%). This limits the risk of a sectoral shock spreading to FoFs, or the likelihood of a shock affecting FoFs significantly impacting another sector.

Risk of interruption to direct credit intermediation

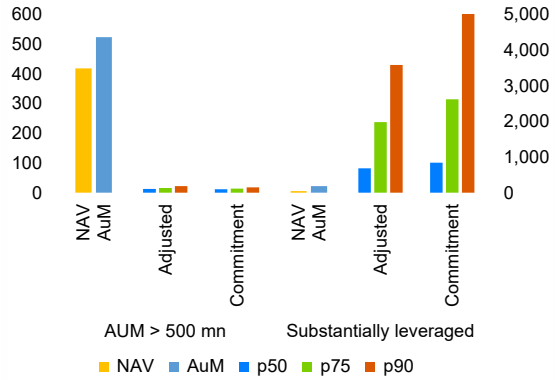
FoFs have limited exposure to loans and fixed income assets.

Funds of Funds

Risk indicators

Chart. 7

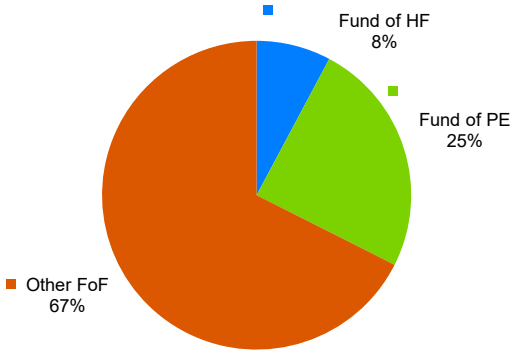
Some small FoFs highly leveraged



Note: NAV and AuM of EU AIFs using leverage on a substantial basis and leveraged AIFs managing more than EUR 500mn, in EUR bn (LHS); leverage measured by the adjusted method and the commitment method, for the median, the 75percentile and the 90 percentile, in % (rhs). Data for the EEA30, in 2023.
Sources: AIFMD database, National Competent Authorities, ESMA.

Chart. 8

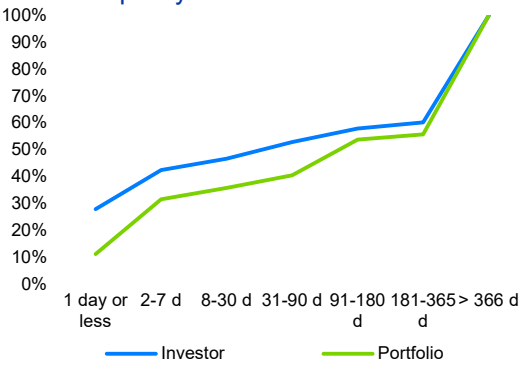
Only a minority of specialised FoFs



Note: Investment strategies of funds of funds, end of 2022, in % of NAV. Funds of funds managed and/or marketed by authorised EU AIFMs and sub-threshold managers registered only in national jurisdictions. FoF=Fund of funds, PE=Private equity fund, HF=Hedge fund. Data for 28 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

Chart 9

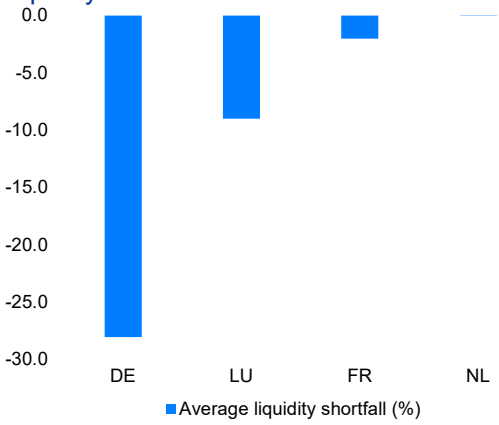
Material liquidity mismatches



Note: Portfolio and investor liquidity profiles of funds of funds included in the Article 25 sample, end of 2023. Portfolio liquidity defined as the percentage of the funds' assets capable of being liquidated within each specified period, investor liquidity defined as the shortest period for which investors can redeem.
Sources: AIFMD database, NCAs, ESMA.

Chart 10

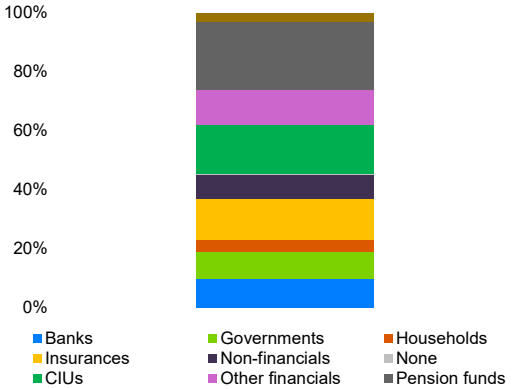
Liquidity shortfall varies across MSs



Note: FoF Liquidity shortfall, in % of NAV
Sources: AIFMD database, ESMA

Chart 11

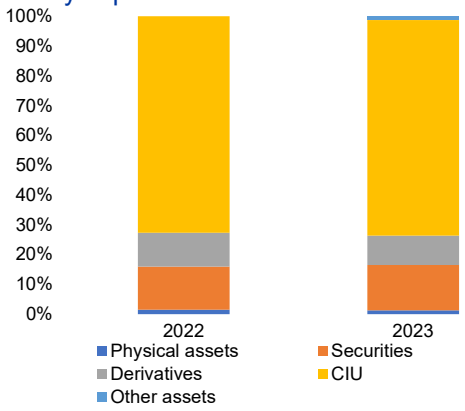
Diversified investor base



Note: Ownership of units in funds of funds, by investor type. Data for the EEA30. Data as of end 2023.
Sources: AIFMD database, ESMA.

Chart 12

Mainly exposures to other funds



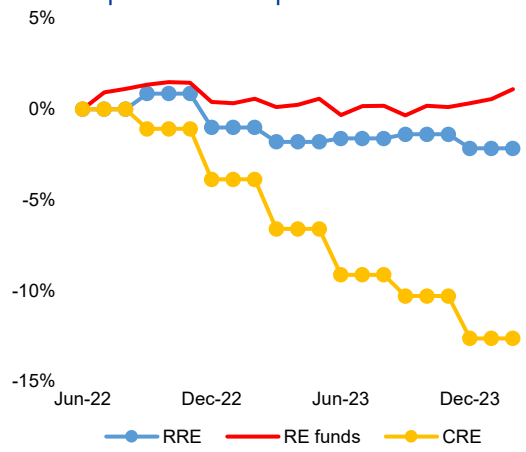
Note: Share of exposures of funds of funds, by exposure type, in % of total. AIFs managed and/or marketed by authorised AIFMs. Data for the EEA30.
Sources: AIFMD database, National Competent Authorities, ESMA.

Real Estate Funds

Overview

In 2023, RE funds have faced adverse developments in the real estate market. Higher interest rates and tighter lending standards have led to falls in prices of both residential real estate (RRE) and commercial real estate (CRE). While the downturn may be bottoming out in the residential real estate market, concerns now concentrate on CRE, where prices dropped by 13% in the EA since June 2022 (Chart 13).

Chart 13
RE fund valuation
Limited impact of market prices declines



Note: CRE and RRE prices and valuation of RE funds in EA jurisdictions since June 2022, in %.
Sources: ECB.

At EU level, real estate fund values were more resilient, but there still is a risk of losses for funds that have not adjusted the value of their portfolio.

Overall, the combination of declining real estate prices and outflows put pressure on RE funds in some jurisdictions. From a macroprudential standpoint, RE funds could be systemically relevant in jurisdictions where groups of RE funds own a large share of the RE market on aggregate and are susceptible to fire sales owing to their use of leverage or exposure to liquidity mismatches.

Several NCAs reported dedicated investigations with respect to RE funds in 2023 which resulted in increased monitoring of the sector, as recommended by the ESRB.[7]

Market impact

ESMA has included 786 RE funds in its sample representing a total NAV of EUR 711bn and an AuM of EUR 1,041bn (67% of the AuM of all EU RE funds). RE fund managers are concentrated from a geographical perspective, with more than 90% of the assets managed in five jurisdictions (DE, LU, FR, NL and IT).

In comparison with other fund categories, many RE funds (244) report using leverage on a substantial basis, but they are generally small and only represent 2% of the total NAV of RE funds in the sample (Chart 17).

While most RE funds exhibit a low level of leverage on an individual basis, their market footprint at an aggregated level can make them more systemically relevant. The RE fund sector in general (including both leveraged and unleveraged funds) manages approximately 22% of CRE assets in the EU, with 2 countries representing more than 5% of the market: Germany (8%) and Luxembourg (6%) (Chart 18).

The market footprint on the national market is more significant but also difficult to interpret. For example, the size of asset managed in Ireland represents the bulk of the national market but is not meaningful in Luxembourg, as assets are invested in other EU countries and AIFMD data do not allow for the identification of the location of the physical RE assets. However, the estimated market share of RE funds in Germany (38%), the Netherlands (30%), Italy (25%) and France (14%) points to a potential systemic relevance of RE funds in those jurisdictions.

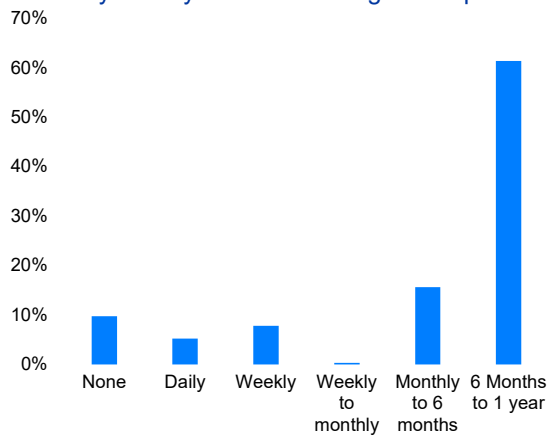
Risk of fire sales

RE funds are the fund category which is the most exposed to less liquid assets (79% of the portfolio cannot be liquidated within 3 months). However, their liquidity profiles are heterogeneous, reflecting the diversity of RE fund set-ups across the EU.

[7] Recommendation of the ESRB on vulnerabilities in the commercial real estate sector in the European Economic Area, 2022, ESRB.

For funds offering frequent redemption, the use of notice periods is an efficient way to manage redemption requests and proceed with asset sales, if needed: overall, 60% in terms of the NAV of the RE funds offering daily or weekly redemptions have long notice periods (more than 6 months; Chart 14).

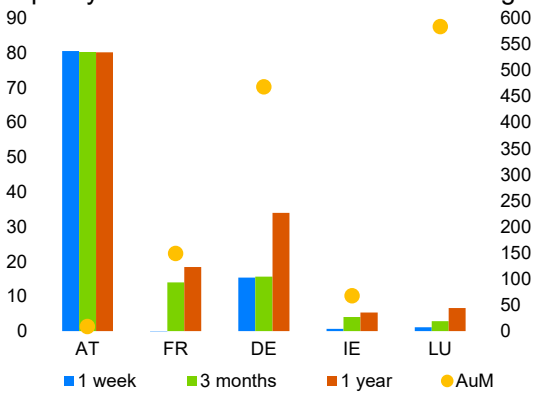
Chart 14
Notice period frequencies
Most daily/weekly funds have long notice periods



Note: Notice periods arrangements by frequency, as a % of NAV. Sample includes only daily or weekly redeeming REIFs
Sources: AIFMD Database, ESMA

However, at country level differences are significant. Daily and weekly redeeming RE funds with none or up to 7 days' notice periods are mostly domiciled in Germany (45% in terms of NAV), France (22%) and Austria (21%).

Chart 15
RE liquidity shortage
Liquidity mismatches reflect national settings



Note:Liquidity shortage of RE funds included in the Article 25 sample over 1 week, 3 months and 1 year, in % of NAV (lhs). Liquidity shortage is defined as the sum of liquidity deficits at the level of the funds, as not compensated by liquidity surplus; AuM of RE funds in Article 25 sample, in EUR bn (rhs).
Sources: AIFMD database, ESMA.

In those jurisdictions, funds are more exposed to liquidity mismatches, measured as the difference ("shortage") between the percentage of the NAV that can be redeemed and the percentage of assets that can be liquidated over the same period do (Chart 15).

– In Austria the average liquidity mismatch represents 81% of NAV within 1 week. This reflects that most Austrian RE funds are open-ended funds with daily redemption rights that are primarily marketed to retail investors.

– In Germany, liquidity mismatches are relatively high (16% of NAV within 1 week) and become significantly higher over 1 year (34%). This reflects the fact that property funds (representing close to half of the market), are subject to a statutory notice period of 1 year. This restriction does not apply to "Spezialfonds" (special funds) which offer daily redemption with a short notice period and are exposed to liquidity mismatches below 1 year.

– In France, the average mismatch between redemption frequency and asset liquidity is limited for most funds (3-month shortage of 14% overall), as the market comprises a mix of open-ended and closed-ended RE funds.

Finally, liquidity mismatches are limited in jurisdictions where RE funds are closed-ended or subject to long notice periods (e.g. Belgium, Italy, the Netherlands, and Poland).

Despite the difficult market environment, NCAs reported a limited materialisation of the risks in 2023. Real estate prices dropped in the commercial and residential property markets by 13% and 2% respectively, since June 2022. However, the value of EA RE funds remained relatively stable over the same period (Chart 13).

In fact, the average trend in the EA does not reflect the diversity of the developments in national markets, with RE fund valuations dropping by around 10% both in France and in the Netherlands, while increasing by around 7% in Germany since 2022.

The combination of declining real estate prices and outflows created pressure on RE funds in some jurisdictions:

– In Austria, funds experienced redemptions amounting to 22% of the sector NAV since June 2022. Austrian funds are particularly exposed to redemption pressure as most of

them are retail open-ended funds offering daily redemption.[8]

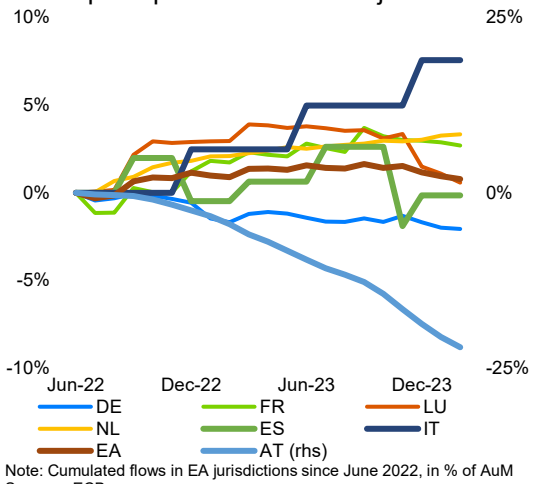
– The recourse to LMTs increased across jurisdictions, although remaining limited in value. At the end of 2023, EU managers suspended the redemption of AIFs representing EUR 5.9bn NAV and imposed gates and deferred redemption on AIFs representing EUR 12.8bn. Funds that had suspended redemption or imposed gates were RE funds domiciled in Austria, Germany, France and Finland.

Jurisdictions were prices adjusted rapidly experienced inflows representing around 3% of NAV in France and in the Netherlands. This is also the case in Italy where funds are closed-ended (+7%), thus strictly limiting the risk of first mover advantage. On the other hand, the valuation of German funds has increased but they have experienced outflows (-2.1% of NAV).

Chart 16

Cumulated RE fund flows since 2022

Redemption pressures in some jurisdictions



Note: Cumulated flows in EA jurisdictions since June 2022, in % of AuM
Sources: ECB.

Against this background, ESMA highlights the importance of ensuring a fair valuation of assets both under normal and stressed market conditions. Especially for less liquid assets, incorrect valuations can create situations of unfair treatment of investors [9] and destabilizing incentives to redeem.

Risk of direct spillovers to financial institutions

The investor base of RE funds is diverse but primarily consists of institutional investors (80% at end 2022). Insurances and pension funds are the main investors accounting for 16% and 22% of the NAV, respectively. Households play an important role for CRE funds, owning 21% of their NAV.

Hence, there is a risk of contagion to financial institutions in the case of financial stability issues affecting RE funds. The risk of spillovers is less pronounced in funds owned by retail investors, although this may in turn pose investor protection concerns. For RE funds presenting liquidity mismatches, a key risk is the stability of institutional investor commitments, which may be tested in the context of high liquidity demands.

Risk of interruption to direct credit intermediation

NCAs did not identify significant risks of interruption of credit intermediation.

[8] In 2021 the national legislation introduced a minimum notice period of 12 months, that will enter into force for open ended Austrian RE funds at the latest in 2027 and should address the liquidity mismatch.

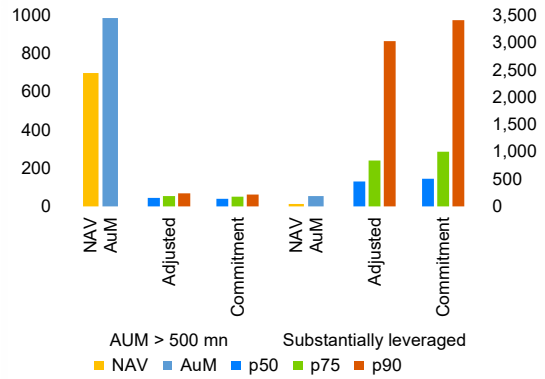
[9] Final Report on the 2022 CSA on valuation, ESMA, 2023.

Real Estate Funds

Risk indicators

Chart 17

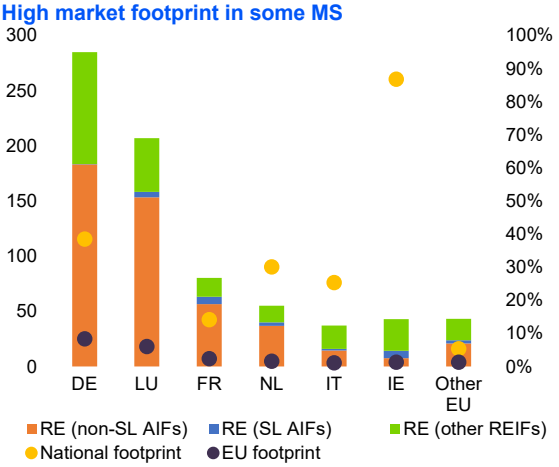
Most funds not substantially leveraged



Note: NAV and AuM of EU AIFs, in EUR bn (LHS); leverage measured by the adjusted method and the commitment method, for the median, the 75percentile and the 90 percentile, in % (rhs). Data for the EEA30
Sources: AIFMD database, National Competent Authorities, ESMA.

Chart 18

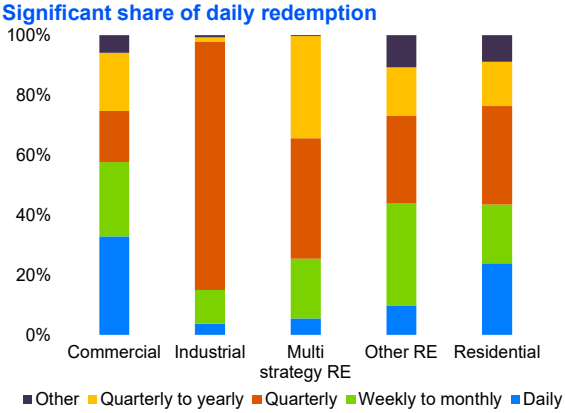
High market footprint in some MS



Note: RE exposures and non-RE exposure of substantially leveraged and non-substantially leveraged AIFs, in 2023 (lhs, in EUR bn); Leveraged funds RE exposure in proportion of the national and EU market, in 2023 (rhs, in %).
Sources: AIFMD Database, MSCI, ESMA.

Chart 19

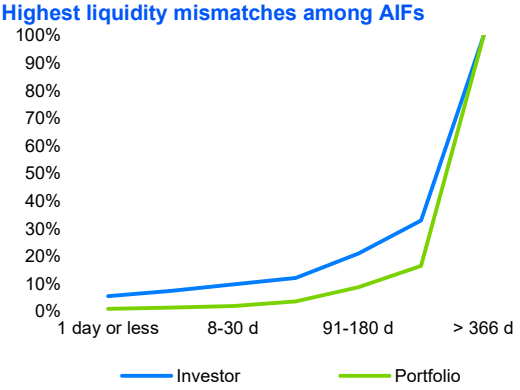
Significant share of daily redemption



Note: Investor redemption frequencies allowed by open-end real estate funds managed and/or marketed by authorised AIFMs, end of 2023, in % of NAV. EEA30 and non-EEA30 AIFs by authorised AIFMs marketed, respectively, w/ and w/o passport. RE=Real estate. Data for the EEA30.
Sources: AIFMD database, National Competent Authorities, ESMA

Chart 20

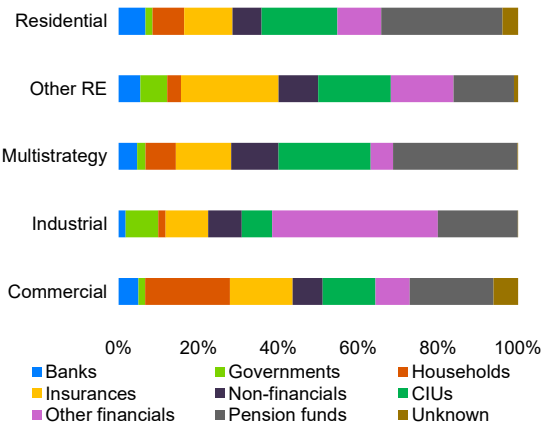
Highest liquidity mismatches among AIFs



Note: Portfolio and investor liquidity profiles of real estate funds included in the Article 25 sample, end of 2023. Portfolio liquidity defined as the percentage of the funds' assets capable of being liquidated within each specified period, investor liquidity defined as the shortest period for which investors can redeem.
Sources: AIFMD database, NCAs, ESMA.

Chart 21

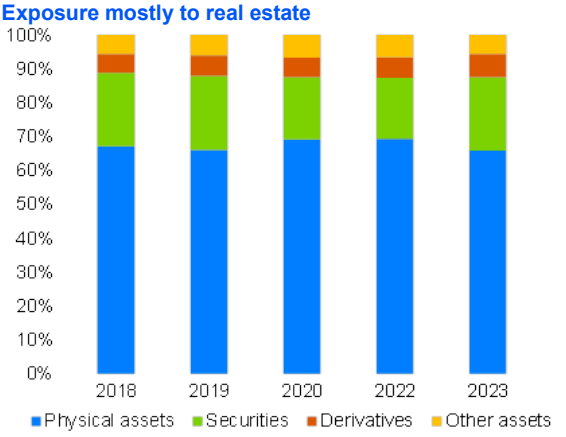
Majority of institutional investors



Note: Ownership of units in real estate funds, by investor type. Data for the EEA30. Data as of end 2023.
Sources: AIFMD database, ESMA.

Chart 22

Exposure mostly to real estate



Note: Share of exposures of real estate funds, by exposure type, in % of total. AIFs managed and/or marketed by authorised AIFMs. Data for the EEA30.
Sources: AIFMD database, National Competent Authorities, ESMA.

Hedge Funds

Overview

Generally, NCAs monitor HFs on an individual basis, owing to their high level of leverage and specific strategy. Due to their diversity, it is difficult to identify groups of funds collectively posing systemic risk. However, HFs collectively have considerable exposures to sovereign bonds across strategies, which may pose a risk of market impact.

Most HFs are not visibly exposed to liquidity mismatches, due to their management of liquidity risk stemming from derivatives and reserves of liquid assets. However, aggregate analysis conceals heterogeneity in our sample. A subset of HFs has low cash holding to meet margin calls which may expose them to the risk of fire sales.

Other risks are deemed low, including counterparty risk, which is mitigated by to the diversification of counterparties.

Market impact

139 hedge funds (HF) are included in ESMA's sample (EUR 309 AuM) and are among the most leveraged AIFs. This is the only fund category for which the AuM of substantially leveraged funds exceeds the AuM of non-substantially leveraged funds. 60% of HFs in the sample are substantially leveraged, with a median commitment of leverage 653% and 20 funds exhibit a leverage ratio above 1,800%. In aggregate, their AuM is six times higher than their NAV.

HFs may pose a risk of market impact, due to their leverage and the size of their positions, with 84 funds managing EUR 210bn assets alone (including derivatives). Overall, AIFMD data do not single out a particular strategy. However, when looking at derivatives exposures, the vast majority of derivatives (EUR 350bn notional) relates to macro strategies, which are broad strategies aiming at taking advantage of relative economic and political dynamics across countries (Chart 27).

Furthermore, our sample of HFs has considerable exposures to sovereign bonds (27% of NAV), which reflects the growing presence of HFs in the sovereign bond market, as highlighted in recent studies (ECB, 2024). HF involvement in sovereign bonds may be linked to various investment strategies, including leveraged directional trades and basis trading, particularly in futures and repo markets. Basis trading involves exploiting price differences between cash bonds and futures, which can amplify market movements, especially in times of market stress. Uncertainty remains about the stability of HF participation in sovereign bond markets, particularly during periods of market stress. HF trading behaviour might raise concerns about potential volatility spikes and disruptions from abrupt strategy shifts (ECB, 2024).

Risk of fire sales

Most HFs are liquid although some NCAs issue reservations on data quality, which does not allow to draw firm conclusions on the risk of fire sales (esp. from margin calls).

Liquidity risks can stem from potential margin calls and concentration or interconnectedness, especially in presence of excessive leverage. In this sense, the Financial Stability Board has recently published a consultation report (FSB, 2024) on leverage in non-banks, outlining a series of risk metrics that capture liquidity risks arising from the use of leverage, including indicators tied to initial margins.

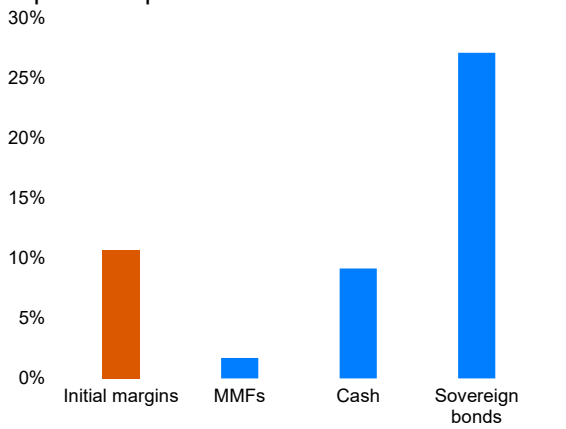
Initial margins (IM) represent the upfront collateral posted by the fund to open a position in a derivative contract. These margins enable funds to leverage their positions, gaining large exposure to various asset classes with relatively limited capital. At the end of 2023, HFs have relatively high initial margin requirements, standing at 11% of NAV (Chart 23), [10] reflecting their high derivatives exposures.

To meet variation margin requirements or collateral calls hedge funds typically rely on liquid assets such as unencumbered cash and other liquid assets or the liquidation of money market fund (MMF) shares. At the end of 2023, these liquid assets accounted for 11% of HFs' NAV, indicating that HFs maintain an important share of liquidity buffers. Additionally, sovereign bonds can also serve as eligible collateral, though depending on counterparties' requirements and

[10] For the analysis in this sub-section, only funds with available derivatives notional data in the EMIR trade repository have been included. The aggregated NAV of the sample amounts to EUR 60 billion.

market conditions. This is particularly relevant when a fund needs to access the repo market to raise immediate liquidity.

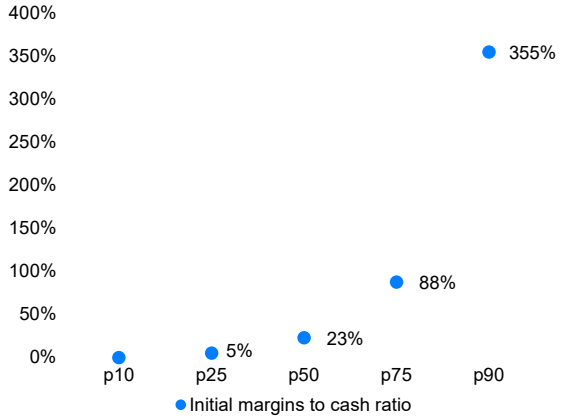
Chart 23
IM and liquid assets
IM posted equal 11% of HFs NAV



Note: Initial margins posted on derivatives exposures, and exposures to MMFs, unencumbered cash and sovereign bonds for hedge funds AIFs, in % of NAV.
Sources: AIFMD database, EMIR, ESMA.

Aggregate measures of liquidity might conceal heterogeneity within funds. Consequently, we look at the distribution of the ratio of initial margins to cash,[11] which can be used as a proxy for HFs' ability to meet future margin calls (Chart 24). While the median ratio of IM to cash is relatively low at 23%, the top 10% of HFs have margins which are three times higher than their cash holdings (355% of cash), indicating potential liquidity risks for this cohort of HFs.

Chart 24
IM to cash distribution
Relatively high IM compared to cash holdings



Note: Distribution of ratio of initial margins to cash, calculated as the ratio of the sum of all initial margin posted on derivatives exposures to the fund's unencumbered cash, by percentile. Data as of end 2023.
Sources: AIFMD database, EMIR, ESMA

HFs are exposed to a wide range of derivatives asset classes (IR, currency, equity, credit). Their composition varies based on the investment strategy (Chart 27). Macro and relative value HFs mostly use IRDs. Event driven funds make extensive use of currency derivatives, whereas multistrategy HFs mainly rely on equity derivatives.

The higher the derivatives complexity, the more difficult and costly it may be to unwind positions during periods of market downturns. We follow a similar approach to the US Office of Financial Research (see OFR, 2024), and measure complexity by using the number of investment positions and the amount of over-the-counter (OTC) derivatives contracts held by the fund. HFs have a large number of derivatives positions open at end-2023 (44,619 contracts), with a share of OTC over the total what is equal to 75%, indicating a use of more sophisticated and tailored derivatives.

Risk of direct spillovers to financial institutions

HFs pose relatively low risk of spillovers to financial institutions, as their exposures, including through derivatives, are generally diversified across multiple counterparties, with relatively small individual exposures in absolute terms.

For derivatives, counterparty concentration is high only for credit derivatives (Chart 30), with the share of outstanding notional amount held by the top five largest counterparties standing at 66% at end-2023. For equity, interest rate and currency derivatives the concentration is lower, with the top five largest counterparties accounting for 39%, 31% and 29%, respectively.

A second metric of concentration, the HHI (the normalised sum of the squares of the distribution of notional amounts) also displays a similar pattern as the top five metric.

Risk of interruption to direct credit intermediation

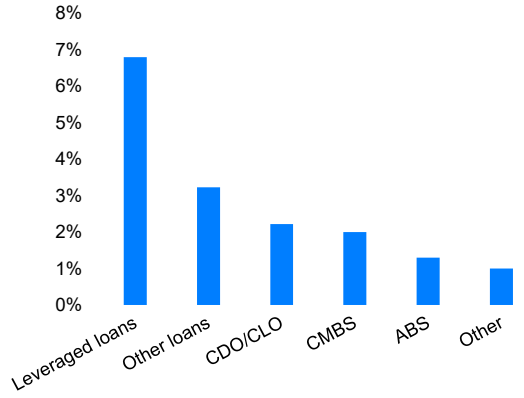
The risk assessment didn't identify material risk of interruption to direct credit intermediation, with loans and securitised products representing a mere EUR 20bn. While limited in absolute terms, these exposures still represent 17% of HFs NAV, thus indicating an exposure to credit risk.

[11] We take a conservative approach in calculating the IM to cash ratio by only adding unencumbered cash. This is because in times of market stress even normally liquid assets like MMFs or sovereign bonds may be harder to sell quickly, without price impact, in order to meet potential margin calls.

Chart 25

HFs exposures to loans and structured products

Leveraged loans predominant



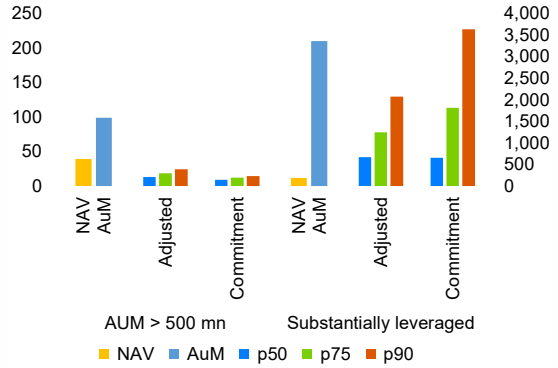
Note: HFs' exposures to loans and structured/securitised products, in % of NAV. Data for the EEA30. Data as of end 2023. ABS=Asset-Backed Security, CDO=Collateralized Debt Obligation, CLO=Collateralized Loan Obligation, CMBS=Commercial Mortgage-Backed Security.
Sources: AIFMD Database, ESMA.

Hedge Funds

Risk indicators

Chart 26

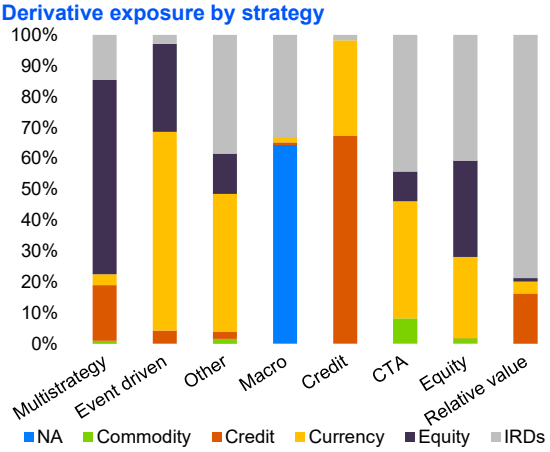
Size and Leverage



Note: NAV and AuM of EU AIFs using leverage on a substantial basis and leveraged AIFs managing more than EUR 500mn, in EUR bn (LHS); leverage measured by the adjusted method and the commitment method, for the median, the 75percentile and the 90 percentile, in % (rhs). Data for the EEA30, in 2023.
Sources: AIFMD database, National Competent Authorities, ESMA.

Chart 27

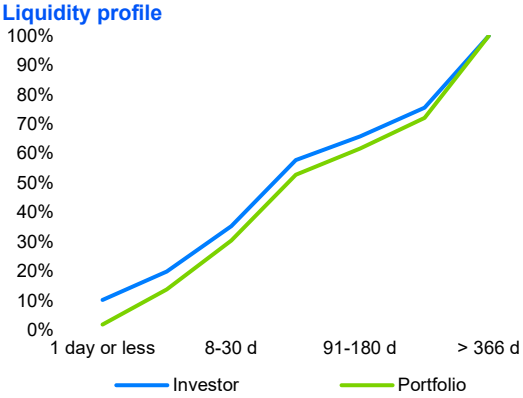
Derivative exposure by strategy



Note: Derivatives gross notional, by HF strategy, in % of total.
Sources: EMIR, AIFMD database, ESMA.

Chart 28

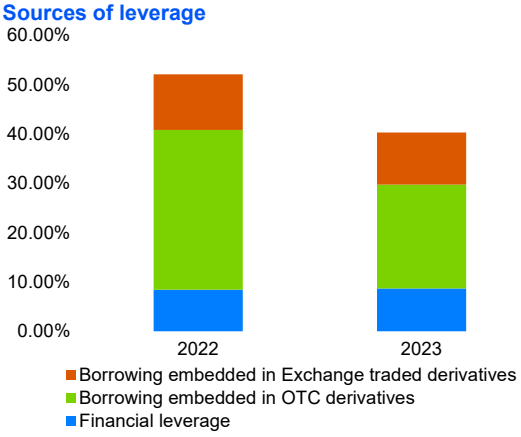
Liquidity profile



Note: Portfolio and investor liquidity profiles of hedge funds included in the Article 25 sample, end of 2023. Portfolio liquidity defined as the percentage of the funds' assets capable of being liquidated within each specified period, investor liqiudity defined as the shortest period for which investors can redeem.
Sources: AIFMD database, NCAs, ESMA.

Chart 29

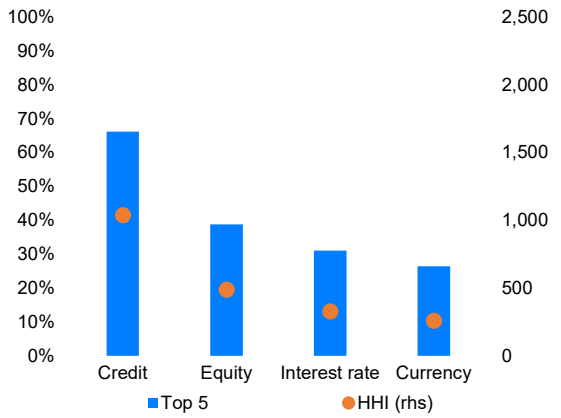
Sources of leverage



Note: Share of HF borrowing, by source, in % of total exposure. AIFs managed and/or marketed by authorised AIFMs. Data for the EEA30.
Sources: AIFMD database, National Competent Authorities, ESMA.

Chart 30

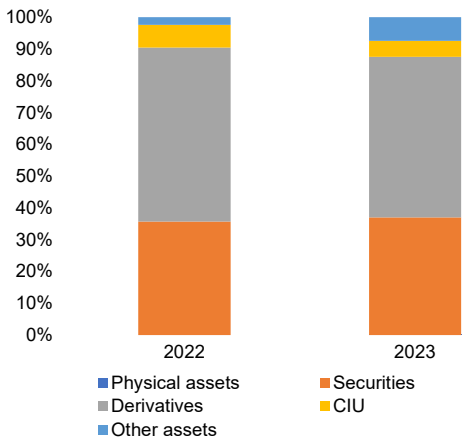
Derivative exposure by counterparty



Note: Herfindahl-Hirschman Index (HHI) and notional amount share in % of top-five counterparties calculated on aggregated notional positions of counterparties, by asset type, as of 4Q23.
Sources: AIFMD Database, EMIR, ESMA.

Chart 31

Exposures mostly to securities and derivatives



Note: Share of exposures of hedge funds, by exposure type, in % of total. AIFs managed and/or marketed by authorised AIFMs. Data for the EEA30.
Sources: AIFMD database, National Competent Authorities, ESMA.

Private Equity Funds

Overview

The risk assessment does not reveal significant risks from private equity funds due to their low use of leverage and liquidity transformation. However, the growth of the PE fund sector, and the opacity regarding the leverage of their exposures warrant some caution.

Leverage remains opaque

The NAV of PE funds in the sample represents EUR 323bn. 99% of PE funds are not substantially leveraged, and 90% of PE funds have a leverage ratio below 113%. While a few funds display very high level of leverage, their size remains limited, with a total of EUR 11bn assets managed by substantially leveraged funds (Chart 33).

However, as recalled in our previous risk assessment of leverage AIFs, the reported leverage of PE can be underestimated.[12] This is due to the fact that PE leverage is generally not borne directly by the fund but by a holding company or special purpose vehicle (SPV) that the fund invests in. Moreover, the target companies in which the fund invests (directly or through a structure) are typically leveraged. Since PE funds do not have to report leverage at the level of the structures they invest in, it implies that gross exposures and NAV are not consolidated, and the leverage of PE funds can be underestimated.

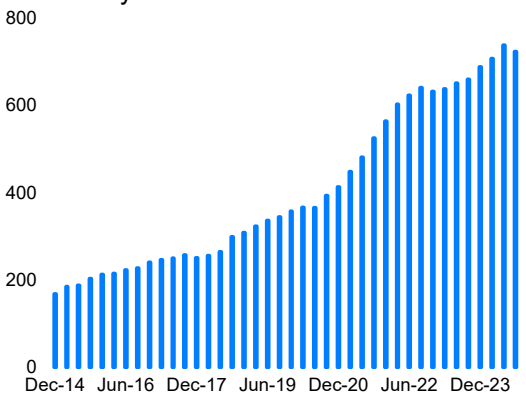
Limited risk of market impact, but rapid growth of PE market

Around 70% of PE fund assets in the sample are unlisted equity. This represents EUR 228bn, out of a total of 556bn of unlisted equity holdings held by all EU PE funds, representing around 2.5% of unlisted equity issued in the EU (Chart 34). Against this background the risk of market impact appears to be limited but the growth of the PE sector calls for attention. Indeed, the size of the PE fund sector as a whole has nearly doubled since 2020, to EUR 722bn assets (chart 32). In the context of the Saving and Investment Union (SIU), this growth is expected to continue. As a result, the sector may become increasingly systemically relevant.

Chart 32

PE fund sector

Size nearly doubled since 2020



Note: AuM of EA private equity fund, in bn EUR.
Sources:ECB, ESMA.

Other risks are generally considered low. The majority of PE funds are closed ended and most of open-ended PE funds have redemption longer than three months, thus significantly limiting the risk of fire sales from heightened redemptions.

Due to the low redemption frequency, the risk of distressed sales is limited. Therefore, financial institutions cannot transmit stress to PE funds through redemption requests. Similarly, PE funds have a limited risk to transmit risks to financial institutions through the sale of common exposures. In the case of private equity, 41% of investors are other funds. Since PE funds do not offer frequent redemption, the liquidity risk is born by those FoFs, which need to align the redemption terms offered to their investors to the liquidity of their assets.

Finally, PE funds do not contribute to credit intermediation. Moreover, their contribution to equity financing of EU NFCs does not imply rollover, thus limiting the risk of interruption of funding to the real economy.

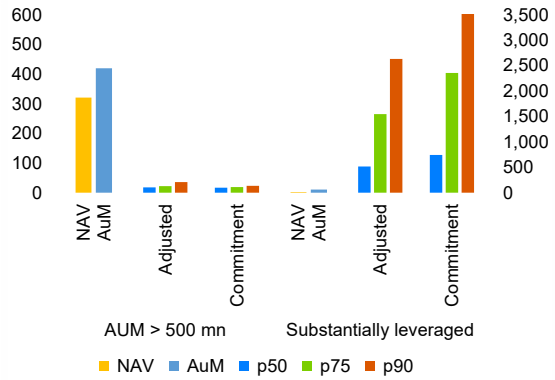
[12] Assessing risks posed by leveraged AIFs in the EU, ESMA, 2024.

Private Equity Funds

Risk indicators

Chart 33

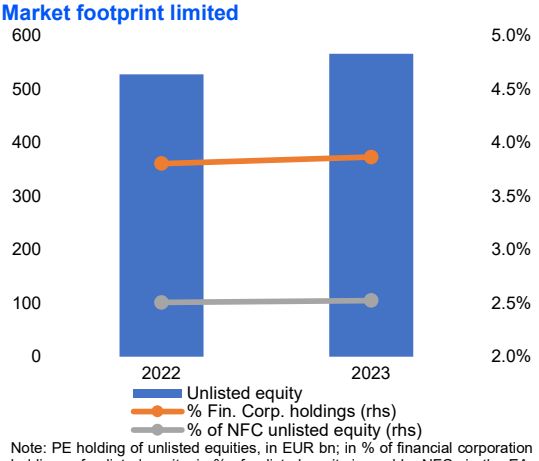
Leverage low but opaque



Note: NAV and AuM of EU AIFs using leverage on a substantial basis and leveraged AIFs managing more than EUR 500mn, in EUR bn (LHS); leverage measured by the adjusted method and the commitment method, for the median, the 75percentile and the 90 percentile, in % (rhs). Data for the EEA30, in 2023.
Sources: AIFMD database, National Competent Authorities, ESMA.

Chart 34

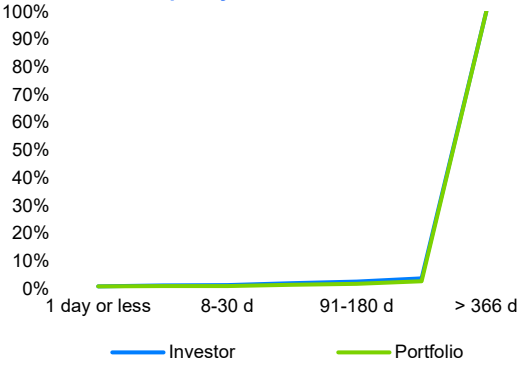
Market footprint limited



Note: PE holding of unlisted equities, in EUR bn; in % of financial corporation holdings of unlisted equity; in % of unlisted equity issued by NFCs in the EA. AIFs managed and/or marketed by authorised AIFMs. Data for the EEA30.
Sources: AIFMD database, National Competent Authorities, ESMA.

Chart 35

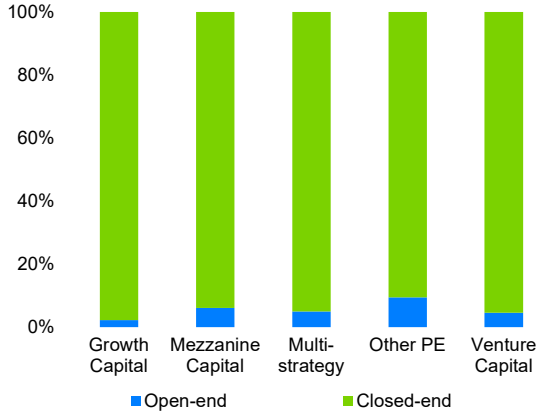
No discernible liquidity mismatches



Note: Portfolio and investor liquidity profiles of private equity funds included in the Article 25 sample, end of 2023. Portfolio liquidity defined as the percentage of the funds' assets capable of being liquidated within each specified period, investor liqiudity defined as the shortest period for which investors can redeem.
Sources: AIFMD database, NCAs, ESMA.

Chart 36

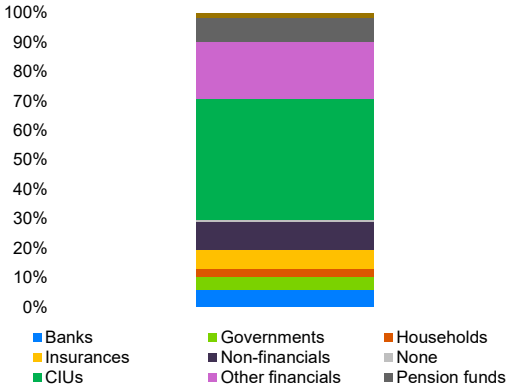
Most PE funds closed-ended



Note: Redemption rights provided in the ordinary course to investors in private equity funds managed and/or marketed by authorised AIFMs, end of 2023, in % of NAV. PE=Private equity fund. Data for the EEA30.
Sources: AIFMD Database, National Competent Authorities, ESMA.

Chart 37

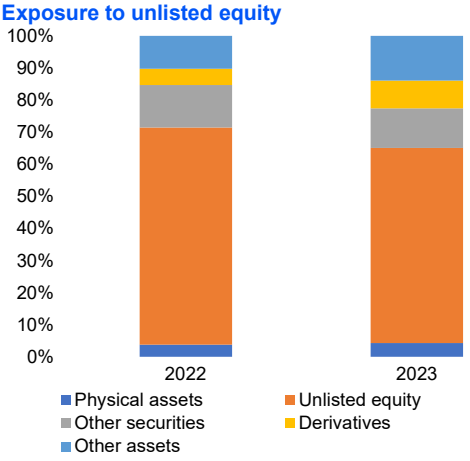
Majority of investors through FoFs



Note: Ownership of units in private equity, by investor type. Data for the EEA30. Data as of end 2023.
Sources: AIFMD database, ESMA.

Chart 38

Exposure to unlisted equity



Note: Share of exposures of private equity funds, by exposure type, in % of total. AIFs managed and/or marketed by authorised AIFMs. Data for the EEA30.
Sources: AIFMD database, National Competent Authorities, ESMA.

Other AIFs

Overview

Other AIFs represent, by far, the largest and most heterogeneous AIF category. ESMA's sample comprises 1,958 other AIFs representing EUR 1.76tn NAV. In terms of leverage, the "other AIFs" do not stand out in terms of risk profile compared to other categories: 3% of other AIFs are substantially leveraged (by NAV), with a lower median ratio than other fund categories (484%). However, at the upper end of our sample, 24 other funds report a leverage above 1,775%.

The heterogeneity of other AIFs necessitates an analysis by sub-strategy. Other AIFs include 40% of fixed income AIFs, 20% of equity AIFs, 5% of infrastructure AIFs and 35% of other funds. Within those categories NCAs identified fund types with a similar risk profile. In the remainder of this section, we look in more detail at Liability-driven investment (LDI) funds and corporate bond funds.

LDI funds

LDI funds gain leverage via the government bond repo market, or via interest swaps. Ireland, Luxembourg and the Netherlands have reported their assessment of, LDI funds. 260 LDI funds have been included in the sample, representing EUR 135bn NAV and around EUR 500bn in AuM in these three jurisdictions. A large portion of EU domiciled LDI funds mostly have exposures to GBP-denominated assets.

Limits applying to GBP LDI funds

LDI funds exposed to the UK gilt market were under severe stress in September 2022: as a result of the sharp rise in UK sovereign yields LDI funds experienced a surge in collateral and margin requirements stemming from their repo and derivative positions, which forced them to liquidate their assets, thus exacerbating the market stress.

Following that event, NCAs in Ireland, Luxembourg and the Netherlands recommended minimum resilience requirements to a rate increase ("yield buffer"). Practically, GBP LDI funds shall maintain a buffer of liquid assets available to meet margin or collateral calls that result from a rise in interest rates, and ensure that their NAV remain positive even after a significant interest rate surge. In April 2024, Ireland and Luxemburg decided to transform this requirement into a restriction under Article 25 AIFMD, with a requirement to maintain a minimum buffer level of 300 bps. ESMA agreed with the measures taken by the two authorities.

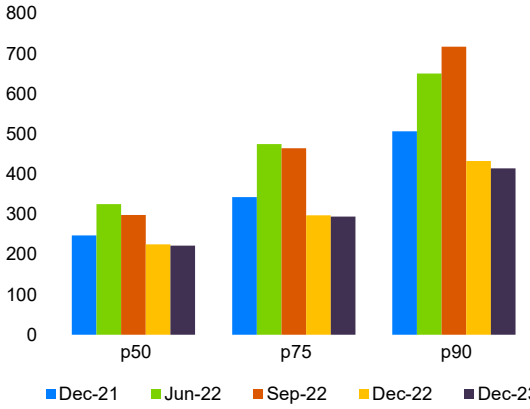
Risk assessment

LDI funds typically use leverage to increase their exposure to sovereign bonds. In the context of the September 2022 stress, this contributed to increased LDI fund exposure to interest rate risks. Since then, the resilience requirements imposed to GBP LDI funds have reduced their exposure to interest rate risks. While this is not a direct leverage limit, it may also indirectly limit the level of leverage for a given portfolio duration.[13]

Chart 39

IE LDI fund leverage

Decrease since yield buffer introduction



Note: Leverage of all LDI funds domiciled in Ireland, measured by the commitment method, for the median, the 75percentile and the 90 percentile, in %.
Source: Central Bank of Ireland, AIFMD.

This can be seen for LDI funds domiciled in Ireland. Their median leverage has decreased. However, this decrease is particularly visible for Irish LDI with the highest leverage. The leverage at the 90th percentile decreased from 717% just

[13] The size of a fund's exposures and the duration of those exposures determine the minimum size a fund's NAV needs to be to remain positive after a 300bps increase in UK yields. Therefore, for a given duration, the measure implicitly limits the leverage of the fund, expressed as a ratio of exposures to NAV. The higher the duration is, the less leverage a fund is able to employ. This is particularly relevant for GBP LDI funds, as these target a specific duration that matches the duration of their investors' liabilities.

before the crisis in September 2022 and 507% at the end of 2021 to 414% at the end of 2023.

The Bank of England[14] estimates that LDI funds and pension funds together sold GBP 36bn of gilts during the market stress. NCAs assessment show that LDI funds domiciled in the EU still hold a sizable share of the UK gilt market, thus giving rise to a risk of **market impact**.

LDI funds pose a risk **of fire sale** through the use of derivatives and repos. Repo and interest rate swaps can create demand for additional liquidity as yields and interest rates increase, which may result in funds selling gilts or other assets. However, NCAs consider that the implementation of a yield buffer, and its codification as an "other restriction" under Article 25 AIFMD in LU and IE significantly limits the risk. The yield buffer level of 300 bps was calibrated based on lessons learned during the crisis, where approximately 90% of net gilt sales were attributed to funds with a pre-crisis yield buffer below 300 bps.

LDI funds may expose other financial institutions to **direct spillovers.** Direct links to financial institutions include pension funds on the liability side, which may be called to recapitalise the LDI fund at the request of the manager, and MMFs on the asset side. During the September 2022 market stress, LDI funds made substantial redemptions from their holdings of MMF shares. In Ireland net MMF redemptions by Irish-resident LDI funds amounted to around GBP 3.2bn from MMFs between 23 and 29 September 2022.

GBP denominated LDI funds domiciled in Ireland do not engage in direct credit intermediation in Ireland. This means that the risk of **interruption of credit intermediation** is limited from a domestic perspective. However, spillovers to direct credit intermediation were observed in the UK, as banks and other mortgage lenders paused mortgage origination due to the deterioration in the external funding environment following the UK gilt market crisis.

Corporate bond funds

AIFs exposed to NFCs are relevant from a financial stability perspective. First, because they have a significant **market footprint** in the EU market: in total, other AIFs manage EUR 3.2tn of securities, of which EUR 536bn of corporate bonds, 28% of which are non-investment grade bonds. This represents around 20% of all non-financial corporate debt securities held in the EU (issued by EU and non-EU corporations).

This implies that **fire sales** from AIFs may significantly affect market prices. Moreover, such funds generally offer daily or weekly redemptions in contrast with the less liquid nature of their assets. Additionally, such funds use in-kind redemptions (45%) and notice periods (26%) to mitigate liquidity risk. Moreover, this liquidity mismatch is mitigated by the fact that investors are mostly institutional with a long-term investment horizon and a business relation.

On the other hand, the presence of institutional investors such as insurance companies, pension funds and banks increases the risk of **spillovers** to the wider financial sector.

Finally, corporate bond funds provide significant funding of the economy, at close to 9% of total outstanding loans to NFCs in the EU. While the development of non-bank funding is desirable from an SIU perspective, it may pose a risk of **interruption of credit intermediation** in the event of a shock affecting corporate bond funds in the "other AIFs" category.

Given the risk of contagion that such funds may pose, they are subject to a particular monitoring by regulators. For example, Germany passed a national regulation (i.e. not through Article 25 of the AIFMD) capping the level of leverage of this type of funds to 300% in 2021.

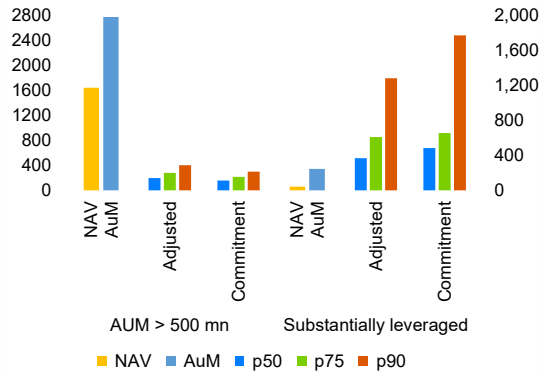
[14] An anatomy of the 2022 gilt market crisis, Bank of England Staff Working Paper No. 1,019, 2023.

Other AIFs

Risk indicators

Chart 40

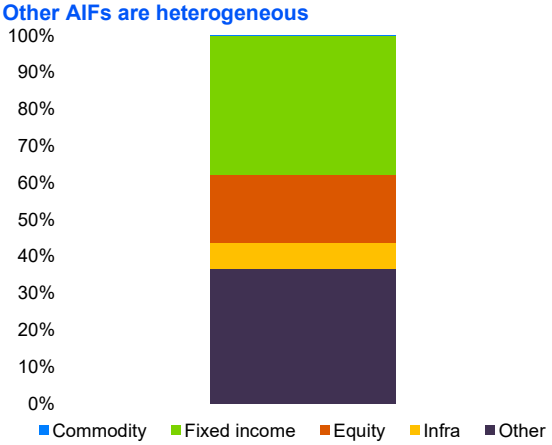
Size and leverage



Note: NAV and AuM of EU AIFs using leverage on a substantial basis and leveraged AIFs managing more than EUR 500mn, in EUR bn (LHS); leverage measured by the adjusted method and the commitment method, for the median, the 75percentile and the 90 percentile, in % (rhs). Data for the EEA30, in 2023.
Sources: AIFMD database, National Competent Authorities, ESMA.

Chart 41

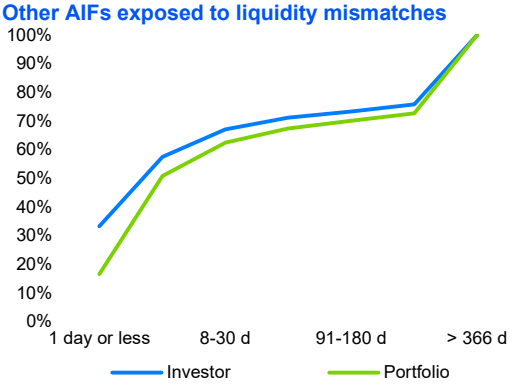
Other AIFs are heterogeneous



Note: Share of NAV of other AIFs by strategy, in %. AIFs managed and/or marketed by EU AIFMs and sub-threshold managers regisered only in national jurisdictions. Data for the EEA30, in 2023. Infra=Infrastructure.
Sources: AIFMD Database, ESMA

Chart 42

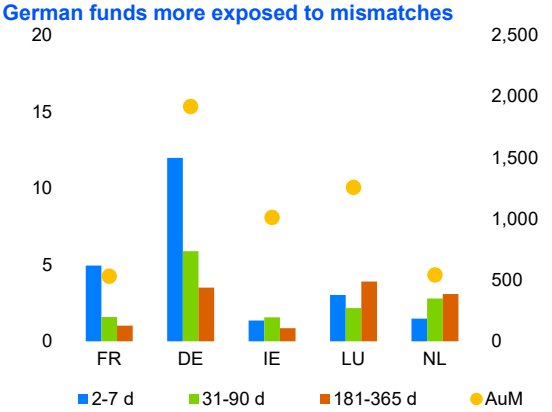
Other AIFs exposed to liquidity mismatches



Note: Portfolio and investor liquidity profiles of 'other AIFs' included in the Article 25 sample, end of 2023. Portfolio liquidity defined as the percentage of the funds' assets capable of being liquidated within each specified period, investor liquidity defined as the shortest period for which investors can redeem.
Sources: AIFMD database, NCAs, ESMA.

Chart 43

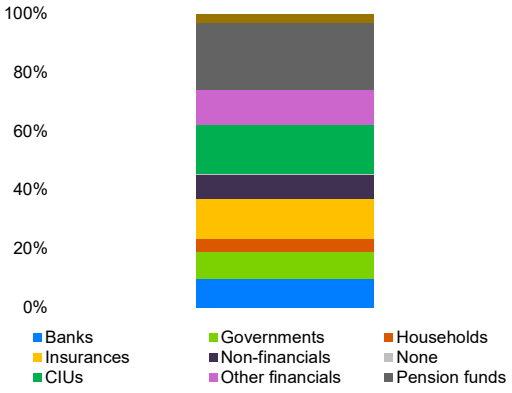
German funds more exposed to mismatches



Note:Liquidity shortage of other funds included in the Article 25 sample over 1 week, 3 months and 1 year, in % of NAV (lhs). Liquidity shortage is defined as the sum of liquidity deficits at the level of the funds, as not compensated by liquidity surplus; AuM of RE funds in Article 25 sample, in EUR bn (rhs).
Sources: AIFMD database, ESMA.

Chart 44

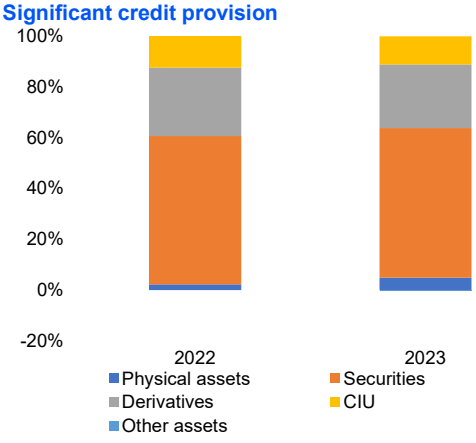
Majority of institutional investors



Note: Ownership of units in funds of funds, by investor type. Data for the EEA30. Data as of end 2023.
Sources: AIFMD database, ESMA.

Chart 45

Significant credit provision



Note: Share of exposures other funds, by exposure type, in % of total. AIFs managed and/or marketed by authorised AIFMs. Data for the EEA30.
Sources: AIFMD database, National Competent Authorities, ESMA.