



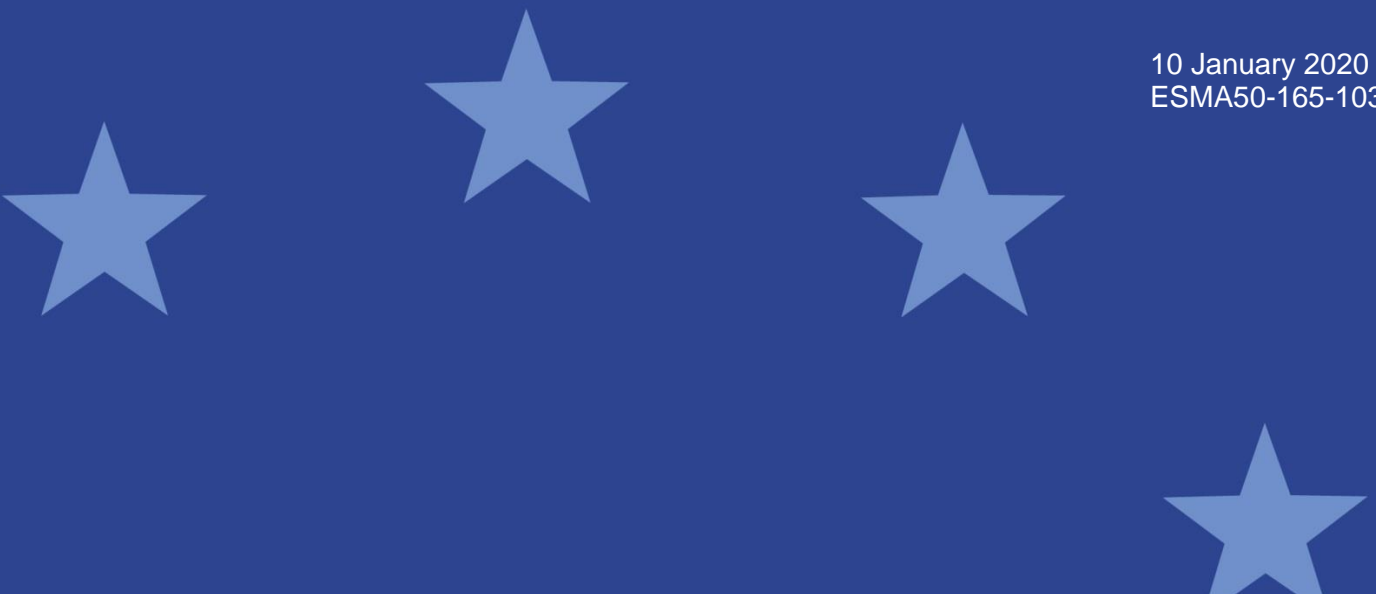
European Securities and
Markets Authority

ESMA Annual Statistical Report

EU Alternative Investment Funds

2020

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ESMA Annual Statistical Report on EU Alternative Investment Funds

2020

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Table of contents

Market monitoring	7
Market structure and developments	8
Funds of Funds	14
Real Estate Funds	17
Hedge Funds	20
Private Equity Funds	24
Other AIFs	27
Non-EU AIFs (NPPR)	30
Statistical methods	34
AIFMD fund classification – shedding light on ‘other AIFs’	35
Exposures of AIFs to leveraged loans and CLOs	42
Definition of the AIF reference sample	45
EU Alternative Investment Funds statistics	46
Market overview	47
Funds of Funds	53
Real Estate Funds	58
Hedge Funds	64
Private Equity Funds	70
‘Other AIFs’	76
Non-EU AIFs (NPPR)	82
Annex	85
Data inventory	86
Glossary	88
List of abbreviations	89

Executive summary

Market structure and developments

The EU Alternative Investment Funds (AIF) market: The size of the EU AIF universe expanded to reach EUR 5.8tn in net asset value (NAV) at the end of 2018, an 11% increase from 2017. The growth of the EU AIF market results mainly from the launch of new AIFs in 2018 rather than from valuation effects. Overall, AIFs accounted for 40% of the EU fund industry at the end of 2018, compared with one third at the end of 2017. Among AIF types, Funds of Funds (FoFs) account for 14% of the NAV (-2 percentage points (pp) compared with 2017), followed by Real Estate (RE) funds (12%, +2pp), Hedge Funds (HFs) (6%, +2pp) and Private Equity (PE) funds (6%, +2pp). The last category of 'other AIFs' accounts for 61% of the NAV (-2pp), pointing to potential classification issues for Alternative Investment Fund Managers (AIFMs). Professional investors own most of the shares of AIFs, yet retail investor share is significant at 16% of the NAV, with more participation in FoFs and RE funds. AIFs invest predominantly in the European Economic Area (EEA) and across a broad range of asset classes. Leverage increased at the aggregate level from 350% to 440%. The aggregate measure masks important differences across AIFs: leverage was stable for most types with the exception of HFs, which leverage increased from 730% to 1,050%. At the aggregate level there are signs of potential liquidity mismatch at short horizons, as the liquidity offered to investors is greater than the liquidity of the assets, especially for RE funds.

Funds of Funds: FoFs account for 14% of the NAV of EU AIFs, at around EUR 840bn. The main characteristics of FoFs remained unchanged in 2018: FoFs are sold mainly to professional investors, yet among AIF types they have the largest proportion of retail investors (31%). They make little use of financial or synthetic leverage. Regarding liquidity risk, more than 70% of FoFs are open-ended, with a majority offering daily redemptions. At the very short end, FoFs face a liquidity mismatch, with investors able to redeem 35% of the NAV within one day, whereas only 24% of assets could be liquidated within this time frame.

Real Estate Funds: RE funds account for 12% of the NAV of AIFs, at EUR 730bn, and high growth was recorded in 2018 (+35% compared with 2017). Compared with 2017, the proportion of retail investors has declined (21%, -4pp) but remains high compared with other AIF categories. RE funds are exposed mostly to illiquid physical assets which take time to sell. Liquidity risk in RE funds remains a concern: around 60% are open-ended, and half of Commercial Real Estate (CRE) funds — the largest category — offer daily liquidity to investors. At the aggregate level, RE funds face liquidity mismatch across all time periods, an indication of a structural vulnerability as the maturities of assets and liabilities are not aligned.

Hedge Funds: The EU HF sector amounted to EUR 333bn at the end of 2018 in NAV, or 6% of all AIFs. However, when measured by gross exposures, HFs account for 67% of AIFs since they rely heavily on derivatives. HFs make limited use of the EU passport, since most of them are domiciled outside the EU. Leverage is very high, particularly for some strategies highly reliant on derivatives. HFs are exposed to little liquidity mismatch, as their assets can be liquidated quickly to meet investor redemptions. HFs are exposed to financing risk, as one third of their financing is overnight, but they tend to maintain large cash buffers, which are also used to meet future margin calls relating to derivatives positions.

Private Equity Funds: PE funds account for 6% of the NAV of all AIFs, or EUR 352bn. Among AIF types, PE funds experienced the largest growth in 2018 (+66% compared with 2017). They follow a range of strategies and are almost exclusively sold to professional investors. PE funds make little use of synthetic and financial leverage and invest mainly in illiquid securities (unlisted securities). Overall, liquidity risk is limited given that PE funds are overwhelmingly closed-ended.

Other AIFs: 'Other AIFs' account for 61% of the NAV of EU AIFs, at EUR 3,553bn. This residual category of the Alternative Investment Fund Managers Directive (AIFMD) reporting regime covers a range of strategies, with fixed income and equity strategies accounting for 67% of NAV and an additional residual category accounting for 29% of NAV. In the additional residual category, 25% of the funds are

leveraged and tend to be more concentrated. Although most types of “other AIFs” have very limited liquidity risk, the residual category faces some liquidity mismatch.

AIFs managed by Non-EU AIFMs: Under Article 42 of the AIFMD, a Member State can allow non-EU AIFMs to market units or shares of AIFs that they manage without benefiting from the AIFMD passport under the National Private Placement Regime (NPPR). The NPPR market stands at EUR 1.7tn NAV and therefore warrants dedicated analysis. NPPR fund marketing is concentrated in a small number of member states and 98% of investors are professional investors. Hedge funds marketed under the NPPR are predominantly domiciled in the Cayman Islands, ‘other AIFs’ marketed under the NPPR are predominantly US-based exchange-traded funds (ETFs). Overall, risk profiles for NPPR funds are comparable to EU AIFs. However, the geographical investment focus is different as NPPR funds invest predominantly in non-EU areas.

Statistical methods

AIFMD fund classification – shedding light on “other AIFs”: Under the AIFMD fund classification the category of “other AIFs” is supposed to be a residual category. However, around half of the reported AIFs accounting for 61% of NAV are classified as “other AIFs”, pointing to a classification issue. This section explores the reasons behind this, and which types of funds belong to this category. Using other data sources, we show that the main strategies are related to fixed income (which includes money market AIFs) and equity. In terms of NAV around 30% of “other AIFs” are part of a further residual category with a non-defined strategy (‘other-’other AIFs”); these could be largely described as mixed funds, investing in both equity and bonds with no prevalent policy in favour of one instrument or the other. These tend to be more leveraged, making use of derivatives, and have a more concentrated ownership.

Exposures of EU AIFs to leveraged loans and collateralised loan obligations (CLOs): The issuance of leveraged loans and CLOs has surged over the last few years. Higher indebtedness of borrowers and looser underwriting standards amid compressed spreads have raised concerns among policymakers, especially given data gaps on ultimate investors into those markets. This section focuses on the exposures of AIFs to leveraged loans and CLOs and analyses potential risks related to these exposures. Overall, exposures have increased by 15% to reach EUR 108bn by the end of 2018, but liquidity risk and leverage remain limited, with the exception of a few funds.

EU AIFs: Essential statistics

	Funds of Funds	Real Estate	Hedge Funds	Private Equity	Other AIFs	All AIFs
Size						
Number of funds (Absolute number)	5,430	3,442	1,449	4,369	15,180	30,357
Number of leveraged funds (Absolute number)	325	1,112	568	91	2,495	4,591
Net Asset Value (EUR bn)	841	731	333	352	3,553	5,860
Average fund size (EUR mn per fund)	150	210	230	80	230	190
Proportion of total market (NAV % of all AIFs)	14%	12%	6%	6%	62%	100%
Distribution						
EU passport (% of total)	76%	75%	30%	60%	80%	76%
Retail participation (% of total)	30%	21%	2%	5%	16%	16%
Exposures						
Main exposures (Asset type)	CIU	PA	IRD	S	S	IRD
Main exposures (% of exposures)	72%	68%	81%	79%	59%	57%
Leverage						
Gross leverage (% of NAV)	118%	132%	5,514%	113%	162%	442%
Adjusted leverage (% of NAV)	118%	130%	1,052%	113%	148%	163%
Borrowing (% of NAV)	1%	8%	284%	3%	5%	21%
Liquidity						
Open ended AIFs (% of total NAV)	71%	52%	78%	5%	69%	65%
Monthly portfolio liquidity (% of NAV)	77%	4%	39%	0%	85%	61%
Monthly investor liquidity (% of NAV)	70%	16%	28%	3%	74%	61%

Note: All values refer to AIFs managed and/or marketed by EU AIFMs at the end of 2018, AIFs reported to ESMA by National Competent Authorities (NCAs). AIFs sold under a National Private Placement Regime (NPPR) are excluded. Statistics for all EU AIFs include 487 funds with no predominant type, for which NAV amounts to EUR 49bn. Open ended AIFs are funds that issue shares which are redeemable on demand by investors. CIU=collective investment units; PA=Physical assets; IRD=Interest rate derivatives; S=Securities.

Sources: AIFMD database, National Competent Authorities, ESMA.

Market monitoring

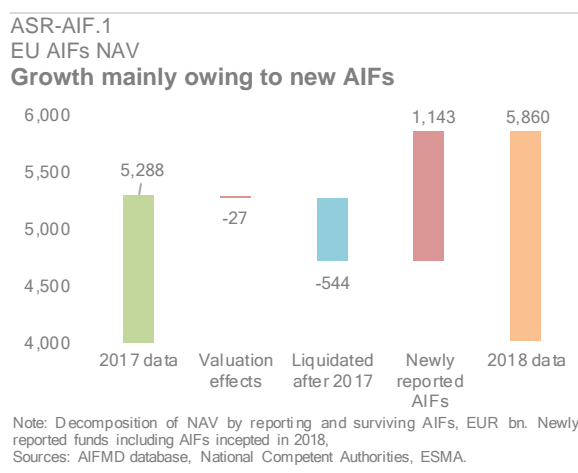
Market structure and developments

The size of the EU AIF universe expanded to reach EUR 5.8tn in net asset value (NAV) at the end of 2018, an 11% increase from 2017. The growth of the EU AIF market results mainly from the launch of new AIFs in 2018 rather than from valuation effects. Overall, AIFs accounted for 40% of the EU fund industry at the end of 2018, compared with one third at the end of 2017. Among AIF types, Funds of Funds (FoFs) account for 14% of the NAV (-2 percentage points (pp) compared with 2017), followed by Real Estate (RE) funds (12%, +2pp), Hedge Funds (HFs) (6%, +2pp) and Private Equity (PE) funds (6%, +2pp). The last category of 'other AIFs' accounts for 61% of the NAV (-2pp), pointing to potential classification issues for Alternative Investment Fund Managers (AIFMs). Professional investors own most of the shares of AIFs, yet retail investor share is significant at 16% of the NAV, with more participation in FoFs and RE funds. AIFs invest predominantly in the European Economic Area (EEA) and across a broad range of asset classes. Leverage increased at the aggregate level from 350% to 440%. The aggregate measure masks important differences across AIFs: leverage was stable for most types with the exception of HFs, which leverage increased from 730% to 1050%. At the aggregate level there are signs of potential liquidity mismatch at short horizons, as the liquidity offered to investors is greater than the liquidity of the assets, especially for RE funds.

EU Alternative Investment Funds 2018: EUR 5.8tn

The AIF industry accounts for a growing proportion of the investment fund activity in the EU: the NAV of AIFs in the EU amounted to around EUR 5.8tn at the end of 2018, an 11% increase from 2017. The growth in the EU AIF market is attributable to the launch of new AIFs in 2018 (ASR-AIF.1). By AIF types, RE funds, PE funds and "other AIFs" contributed the most to the growth (ASR-AIF.2). By comparison, the NAV of Undertakings for the Collective Investment in Transferable Securities (UCITS) amounted to EUR 9.3tn at the end of 2018 according to the European Fund and Asset Management Association (EFAMA). Therefore, AIFs account for around 40% of the EU fund industry (compared with one third in 2017). The relative growth of AIFs compared with UCITS is the combination of two factors. First, the coverage of AIFs in AIFMD reporting has increased from around 80% in 2017 to close to complete in 2018. NAV under AIFMD reporting is EUR 5,860bn compared with EUR 5,873bn according to EFAMA data. Second, the NAV of UCITS declined by 5% in 2018 compared with 2017,

owing to adverse market developments at the end of 2018.



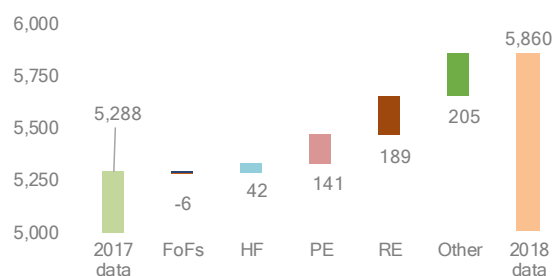
AIF types: The composition of the AIF market by type was broadly stable in 2018, with incremental changes. FoFs account for 14% of the NAV (-2pp compared with 2017), followed by RE funds (12%, +2pp), HFs (6%, +2pp) and PE funds (6%, +2pp). In the last type, 'other AIFs', which accounts for 61% (-2pp compared with 2017) of NAV (see ASR-AIF.12), around 29% of NAV is attributed to a residual category (which amounts to 17% of the NAV of all AIFs), pointing to potential classification issues for AIFMs¹.

¹ See the section on "AIFMD Fund classification – shedding light on 'other AIFs'" for further details.

ASR-AIF.2

EU AIFs NAV by types

Growth mainly owing to RE and PE funds and 'other AIFs'



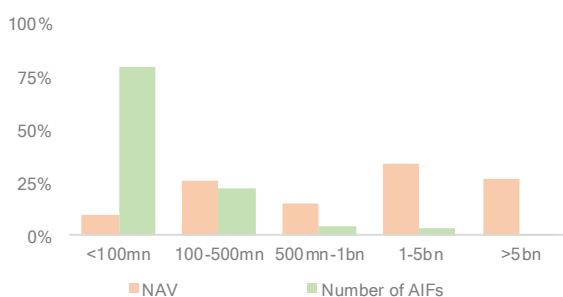
Note: Decomposition of NAV by AIF type, EUR bn.
Sources: AIFMD database, National Competent Authorities, ESMA.

AIF size: The AIF market is highly concentrated, with a few large AIFs accounting for most of the market. In 2018, AIFs with a NAV larger than EUR 1bn accounted for less than 5% of all AIFs but for more than 55% of the NAV (ASR-AIF.3). Smaller AIFs (NAV lower than EUR 500mn) account for 93% of all AIFs but only 32% of NAV. The large concentration implies that by focusing on the largest AIFs, one should be able to monitor a dominant part of the market at a relatively high frequency (as reporting requirements are quarterly for funds from AIFMs with Assets under management (AuM) above EUR 1bn).

ASR-AIF.3

Size and number of AIFs

High concentration among a few large AIFs



Note: Share of AIFs by size, end of 2018, in %. AIFs managed and/or marketed by authorised EU AIFMs and sub-threshold managers registered only in national jurisdictions. Data for 24 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

AIF distribution: In terms of cross-country distribution, the AIF industry is concentrated in a few countries, with the top six accounting for more than 90% of the NAV (ASR-AIF.14). Germany remains the country with the largest AIF industry in the EU, given the role played by German special funds ('Spezialfonds'). Their characteristics are discussed in the section 'AIFMD fund classification – shedding light on 'other AIFs''.

In countries with a large asset management industry such as Germany, Ireland France and Luxembourg, FoFs also account for a significant proportion of NAV. The HF industry remains

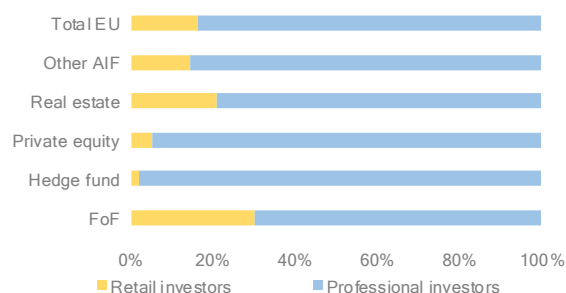
heavily concentrated in the United Kingdom, with more than 80% of the NAV managed by UK AIFMs. UK managers also account for almost half of the NAV of PE funds (47%). In most EU Member States, 'other AIFs' account for most of the NAV. Most AIFs have access to the **EU passport** (76%), allowing AIFs to be sold throughout the EU (see ASR-AIF.14).

AIF investors: The AIFMD provides the regulatory fundament for marketing AIFs primarily to professional investors rather than retail investors, and marketing of AIF to retail investors remains at the discretion of each Member State. Professional investors account for around 84% of the NAV (+3pp compared with 2017), and direct retail investors' participation is slightly declining but remains quite significant at 16% of the NAV (ASR-AIF.4). Retail investors' participation might be underestimated since they could purchase banking or insurance products that are invested in AIFs.

ASR-AIF.4

AIF investors

Mainly professional investors



Note: Clients of AIFs managed and/or marketed by authorised EU AIFMs and sub-threshold managers registered only in national jurisdictions, end of 2018, in % of NAV. FoF=Fund of funds. Data for 24 EEA countries.

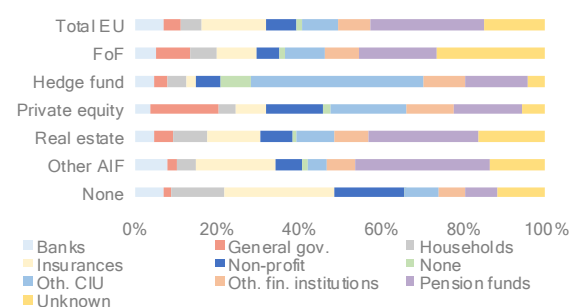
Sources: AIFMD database, National Competent Authorities, ESMA.

Among professional investors, unitholders are diversified across AIF types (ASR-AIF.5). Professional investors, such as pension funds and insurance companies, are the main investors and account for 28% and 16% of the NAV respectively. Banks account for 7%, and funds and other financial institutions account for 8% each. Remaining investor categories are small, except for 'unknown' investors (15% of the NAV). Data issues remain. First, the relatively large proportion of banks might indicate a lack of look-through approach by some AIFMs, since they should report the ultimate owners of the AIF shares. Second, the relatively large proportion of 'unknown' investors is difficult to explain given the highly concentrated ownership of AIFs and warrants further investigation.

ASR-AIF.5

AIF investor types

Diversified investor base



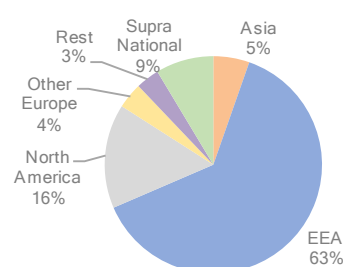
Note: Ownership of units in AIFs managed and/or marketed by authorised EU AIFMs, end of 2018, in % of NAV. FoF=Fund of funds; None=No predominant type. Data for 24 EEA countries.

Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF.6

Regional investment focus

Most exposures towards the EEA



Note: Regional investment focus of AIFs managed and/or marketed by authorised EU AIFMs and sub-threshold managers registered only in national jurisdictions, end of 2018, in % of NAV. Geo-focus determined according to the domicile of investments, supra national category including investments without predominant geo-focus. Data for 24 EEA countries.

Sources: AIFMD database, National Competent Authorities, ESMA.

AIF shares: The ownership of AIFs continues to be highly concentrated: the top five investors account for more than 75% of the NAV across AIF types (ASR-AIF.16). Relatedly, more than 50% of all AIFs are entirely held by their top five investors, as indicated by the median of 100% for all AIF types (except PE funds). The high ownership concentration is explained by the dominant role played by institutional investors. In some cases, AIFs can be set up for a single institutional investor that prefers to hold all of the AIF shares, as the fund can be set up to fulfil its specific investment objective given its risk appetite.

AIF geographical investment focus: AIFs invest mainly in the EEA (63%), followed by North America (16%) and supranational issuers (9%), with the last category also including investments without predominant geographical focus. Other regions account for less than 15% of the NAV (ASR-AIF.6).

Leverage and liquidity risks

Gross exposures: AIFs are exposed to a wide range of asset classes, with variation across AIF types (ASR-AIF.16). RE funds, PE funds and FoFs are by construction heavily exposed to the underlying assets (physical assets for RE funds, (unlisted) securities for PE funds and collective investment units for FoFs). HF exposures are overwhelmingly biased towards interest rate derivatives (IRDs), because of the way IRDs are reported.² The exposures of 'other AIFs' are more diversified, reflecting the diversity of strategies used in this residual category.

Leverage: Leverage increased at the aggregate level from 350% of NAV in 2017 to 440% of NAV in 2018. Part of the increase is owing to higher exposures to IRDs. Using the adjusted leverage measure (where IRDs are excluded), leverage increased from 166% to 189% (ASR-AIF.18). The aggregate measure masks important differences across AIFs: leverage was stable for most types with the exception of HFs. Adjusted leverage for HFs increased from 730% to 1050%. The high leverage of HFs stems mainly from the use of derivatives (synthetic leverage) rather than outright borrowing (financial leverage).

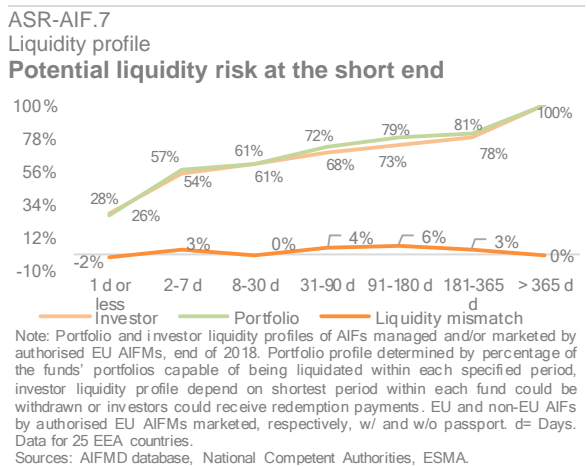
Liquidity risk: Most AIFs are open-ended funds (69% of NAV, +4pp compared with 2017), with variation across types. Around 62% of open-ended AIFs offer daily liquidity to investors (10-percentage point decline compared with 2017), as the proportion of AIFs with weekly redemptions increased from 21% to 28% across AIF types (ASR-AIF.18). AIFs more likely to be

² Gross notional exposures use the gross notional value of the IRDs, with no adjustment for duration. However, under the commitment approach, IRDs are adjusted for duration. The International Organisation of Securities Commissions (IOSCO) has recently published a consultation paper aimed at harmonising the definition of

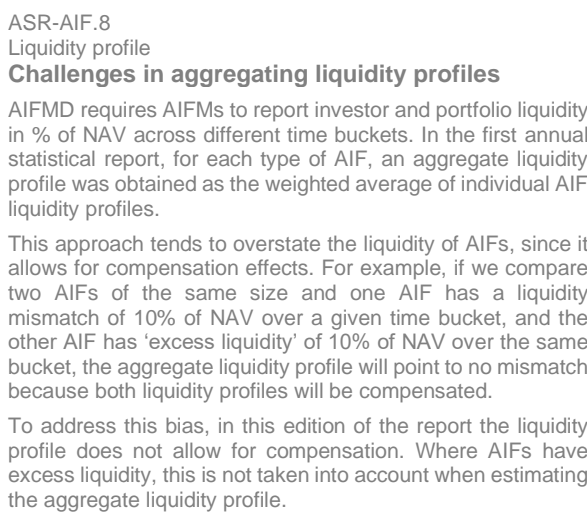
leverage for funds (IOSCO (2018)). The report includes a proposal for an adjustment of gross notional exposures for IRDs based either on duration or on the conversion of IRDs exposures into 10-year bond equivalents.

exposed to illiquid assets such as PE funds, RE funds and HFs tend to have longer redemption frequencies (weekly to monthly), as less than 30% of their NAV is redeemable on a daily basis. Around 70% of FoFs and ‘other AIFs’ offer daily liquidity to investors.

At the aggregate level, the **liquidity profile** of AIFs points to potential liquidity risk at the short end: within one day, investors can redeem up to 28% of the NAV, whereas only 26% of the assets can be liquidated within this time frame (ASR-AIF.7ASR-AIF.7).



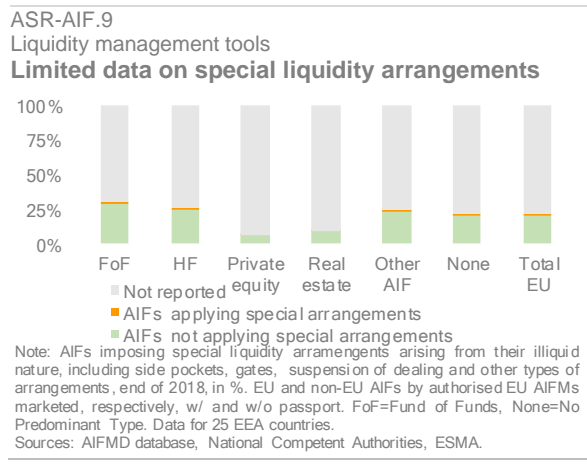
Over longer time horizons, aggregate portfolio liquidity is in line with investor liquidity. However, this liquidity risk profile is very different across AIF types, and subsequent sections show the differences across sub-segments. In addition, relying on aggregate figures may hide individual risks, as funds with excess liquidity might compensate for funds with liquidity mismatch (ASR-AIF.8).



A final assessment of fund liquidity risks requires a supervisory analysis at entity level, along with a review of liquidity management tools (LMTs) available at the fund level. Under Article 24(2),

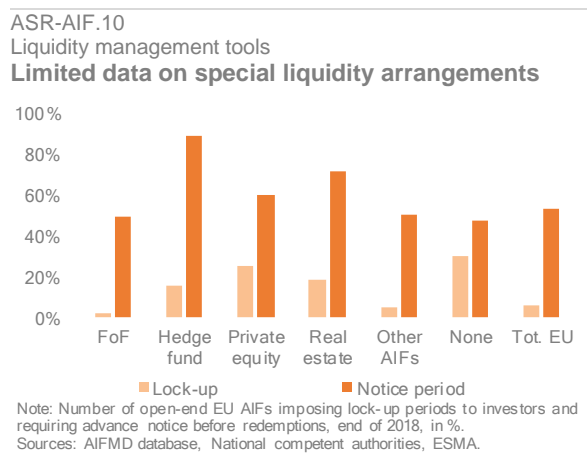
AIFMs have to report the measures adopted to ensure consistency between the redemption policies and the liquidity profiles of the managed AIFs. LMTs are generally communicated upfront in fund disclosure documents.

A variety of LMTs are available to AIFMs, including: the presence of a lock-up and/or a redemption notice period, and special liquidity arrangements such as side pockets, the adoption of redemption gates, the suspension of dealing, and other special arrangements that may arise from illiquid assets.



Data on special liquidity arrangements applied by open-ended AIFs are scarce. Close to 80% of AIFs do not report these data. A total of 20% of all AIFs declare that they do not apply LMTs, and only 1% report applying LMTs (ASR-AIF.9).

More information is available on the contractual definition of an initial amount of time investors are prohibited from withdrawing their investment (i.e. lock-up period) and/or redemption notice periods that specify how many days in advance investors have to notify that they wish to redeem.



Half of the open-ended EU AIFs require a notice period for withdrawals. The widespread adoption of these contractual terms shows that EU AIFMs have a strong preference not only for ‘sticky

money' and term investments, but also to manage liquidity mismatch risks (ASR-AIF.10).

ASR-AIF.11

Liquidity mismatch and liquidity arrangements

Liquidity risk for AIF with no arrangement

AIF type	AIF with liquidity mismatch		AIF with no liquidity mismatch	
	Liquidity arrangements availability			
	Yes	No	Yes	No
FoFs (%)	10.3	11.1	20.7	57.9
HFAs (%)	10.1	2.4	61.4	26.0
RE funds (%)	9.1	8.2	14.0	68.7
PE funds (%)	1.0	5.5	3.8	89.9
Other AIF (%)	11.8	16.9	25.1	46.3
Total AIFs (%)	10.1	12.9	22.6	54.4
Total NAV (%)	17	17	28.3	37.7

Note: Percentage of AIFs presenting a mismatch in liquidity profile and liquidity arrangement availability.

Sources: AIFMD database, National Competent Authorities, ESMA.

At fund level, around one quarter of the analysed funds present a misalignment between the horizon for investor to redeem and the time to liquidation of the assets in its portfolio, including 400 AIFs reported by their AIFMs as leveraged (ASR-AIF.11).

Scope of the report

This report is based on data submitted by National Competent Authorities (NCAs) to ESMA, covering authorised EU and sub-threshold AIFMs on behalf of the AIFs they manage. The data do not cover products marketed by non-EU AIFMs under the NPPR.

The data are based on reports transmitted to ESMA by 25 NCAs. Around 35,000 reports of EU AIFs were transmitted to ESMA. Of those reports, we excluded around 2,800 nil reports (empty reports sent by new AIFs) and 2,220 feeder funds to avoid double counting. The final sample is composed of around 30,350 AIFs.³

The report relies on a set of risk indicators, a subset of the data provided under the AIFMD. The risk indicators were chosen based on their relevance for risk analysis and the quality of the data.⁴ Looking forward, ongoing cooperation with NCAs should allow ESMA to improve the set of risk indicators in future editions.

³ A description of the defined reference sample of AIFs used in the analysis is available in the Annex.

Data quality

AIFMD reporting obligations cover a wide range of indicators with different degrees of complexity in their calculation. Some very important indicators, such as leverage reported by AIFs, cannot be used at this stage owing to data-quality issues. A variety of reporting errors (formatting, monetary values instead of percentages, etc.) prevent us from using the reported leverage indicators. Some other indicators are not always mandatory and may not be requested at national level (e.g. the redemption frequency for open-ended AIFs), which makes the use of aggregate data more difficult. In this report, when the data used for the analysis are based on a subset of our sample, this is specified. A detailed inventory of analysed data and indicators is provided in the inventory section at the end of the report.

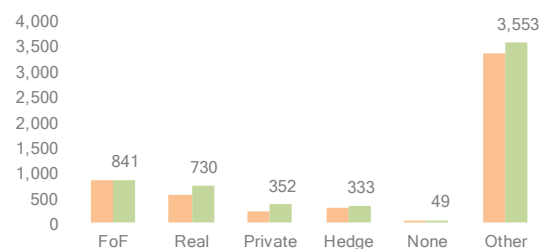
Definition of terms

Under the AIFMD, some concepts have a different meaning from that commonly used in the industry. For clarification a glossary is provided at the end of the report. The main concepts used are the following:

- **Regulatory AuM:** value of all assets in a portfolio, including all assets acquired through use of leverage (borrowing of cash or securities and leverage embedded in derivative positions). This meaning of AuM is different from the typical meaning of AuM in the industry, which relates to the assets on the balance sheet of the AIF;
- **NAV:** the net value of the assets of the AIF (as opposed to the NAV per unit or proportion of the AIF). The NAV is equal to the unit shares of the AIF, i.e. the money placed in the AIF by investors, which corresponds to the concept of total net assets sometimes used in the industry.
- **Leverage:** in this report leverage is measured by the ratio of regulatory AuM to NAV.
- **Adjusted leverage:** This measure excludes IRDs from the computation of leverage, following the approach used in the previous report (ESMA, 2019). Indeed, the use of IRDs tends to inflate leverage measures, since IRDs are measured using notional amount (rather than adjusted by duration as done under the commitment approach).

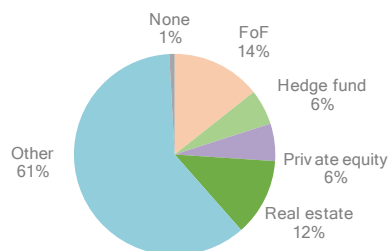
⁴ The data inventory on pp. 86-87 summarises the coverage of each indicator used in this report.

ASR-AIF.12
Size of the AIF industry
Growing market



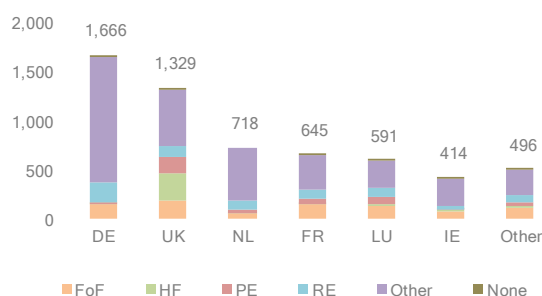
Note: NAV by type of AIFs managed and/or marketed by authorized AIFMs and sub-threshold managers registered only in national jurisdictions, in EUR bn. FoF=Fund of Funds; None=No predominant type.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF.13
AIF industry by type
'other AIFs' largest type



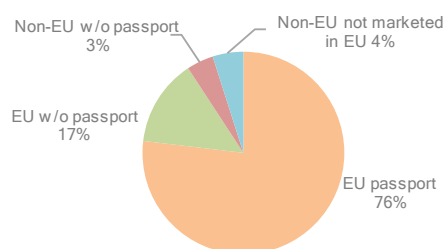
Note: NAV by type of AIFs managed and/or marketed by authorized EU AIFMs and sub-threshold managers registered only in national jurisdictions, end of 2018, in %. FoF=Fund of funds, None=No predominant type. Data for 24 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF.14
Size of AIF by type and country
Concentration in a few countries



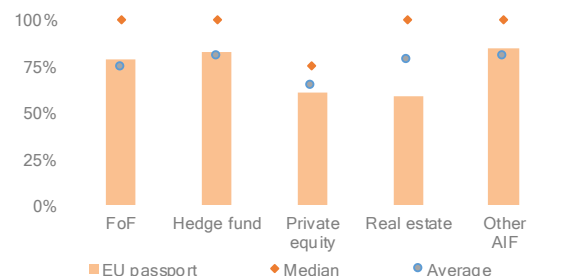
Note: NAV by type of AIFs managed and/or marketed by authorized AIFMs and sub-threshold managers registered only in national jurisdictions, in EUR bn.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF.15
EU passport
Most AIFs can be passported



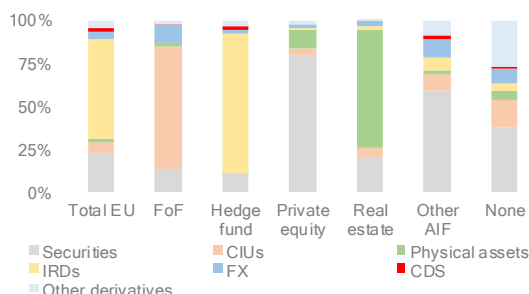
Note: NAV of AIFs by manager's access to AIFMD passport, end of 2018, in %. Authorized EU AIFMs with access to AIFMD passport or marketing non-EU AIFs w/o passport, sub-threshold managers registered only in national jurisdictions w/o passporting rights. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF.16
Distribution of ownership
High concentration of ownership



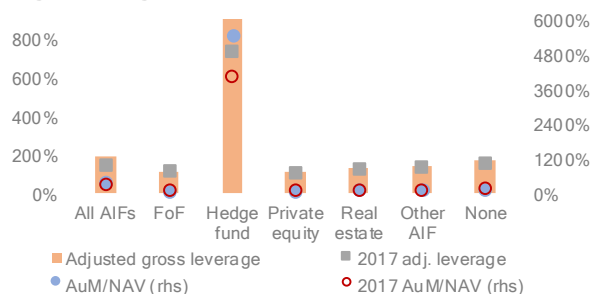
Note: Investor concentration of EU passported AIFs, end of 2018, in % of NAV. Investor concentration computed as share of AIF equity beneficially owned by the 5 largest investors. FoF=Fund of funds. Data for 24 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF.17
Gross exposures
Diverse exposures by AIF type



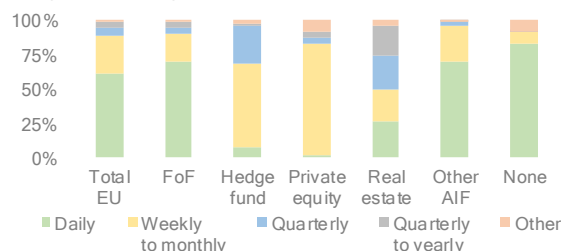
Note: Share of gross exposures by AIF type, end of 2018, in % of total. AIFs managed and/or marketed by authorized EU AIFMs. FoF=Fund of funds, None=No predominant type. Data for 24 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF.18
Leverage
High leverage of HFs



Note: Adjusted gross leverage of AIFs managed and/or marketed by authorized EU AIFMs, end of 2018, in % of NAV. Adjusted gross leverage does not include IRDs. FoF=Fund of funds, None=No predominant type. Data for 24 EEA countries.
Sources: AIFMD database, National competent authorities, ESMA.

ASR-AIF.19
Redemption frequency
Daily frequency for most open-ended AIFs



Note: Investor redemption frequencies allowed by open-ended AIFs managed and/or marketed by authorized EU AIFMs, end of 2018, in % of NAV. EU and non-EU AIFs by authorized EU AIFMs marketed, respectively, w/ and w/o passport. FoF=Fund of Funds, None=No Predominant Type. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

Funds of Funds

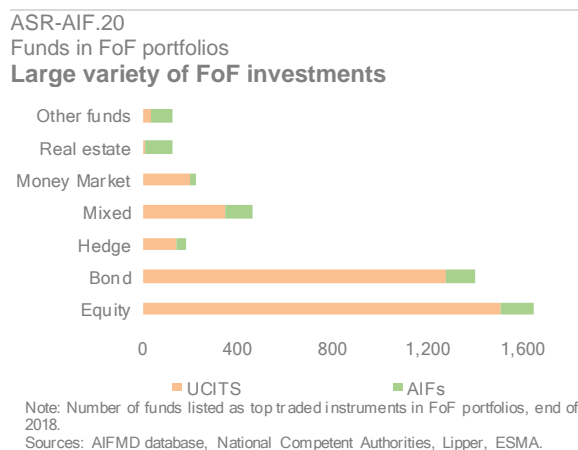
FoFs account for 14% of the NAV of EU AIFs, at around EUR 840bn. The main characteristics of FoFs remained unchanged in 2018: FoFs are sold mainly to professional investors, yet among AIF types they have the largest proportion of retail investors (31%). They make little use of financial or synthetic leverage. Regarding liquidity risk, more than 70% of FoFs are open-ended, with a majority offering daily redemptions. At the very short end, FoFs face a liquidity mismatch, with investors able to redeem 35% of the NAV within one day, whereas only 24% of assets could be liquidated within this time frame.

Funds of Funds: market size and structure

Size: The size of the FoFs sector declined slightly in 2018 to EUR 841bn (EUR -6 bn compared with 2017), resulting in a larger decline in their relative size (-2 pp at 14% of all AIFs). Unlike ‘other AIFs’, FoFs are spread across EU Member States (ASR-AIF.25), with a larger presence in countries with a large asset-management industry (e.g. United Kingdom, Germany, Luxembourg and France).

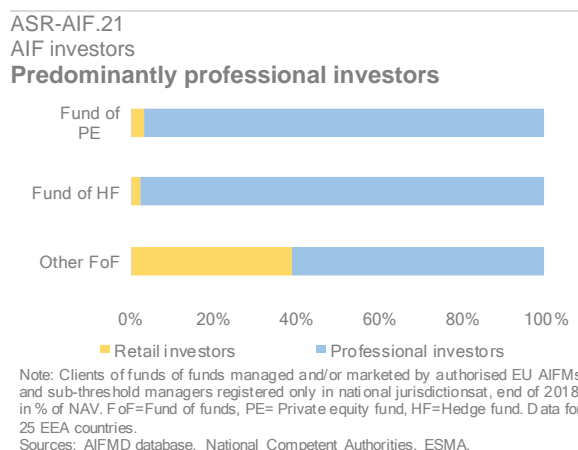
Funds of funds strategies: Most FoFs pursue strategies beyond investing in PE funds or HFs (ASR-AIF.25). However, the proportion of PE and HF strategies increased in 2018 (to 13% and 11% compared with 10% and 9% in 2017 respectively), in line with the growth for both of those AIF types over 2018. To shed more light on FoFs investment, data on the top five instruments in which the AIF is trading can be used. More precisely, using instrument identifiers provided by AIFs, it is possible to classify the funds in which FoFs invest.

For FoFs, the top five instruments account for two-thirds of NAV. Identifiers are available for 77% of the instruments listed as funds by the AIF. Using institutional and commercial data sources more than 60% of the funds in FoFs portfolios are retrieved.⁵ Overall, based on the above sample of identified Collective Investment Units (CIUs), FoFs invest 84% in UCITS and 16% in AIFs, with a preference for EU domiciled equity and bond funds (ASR-AIF.20).



Distribution: Like most types of AIF, FoFs have access to the EU passport to a large extent, with 76% licensed to be sold throughout the EU (ASR-AIF.27).

Funds of Fund investors: FoFs are sold mainly to professional investors (70%), although among AIF types they have the largest proportion of retail investors (ASR-AIF.21).



The proportion of retail investors varies significantly between FoF strategies — below 5% for funds of PE funds and funds of HFs at one end, and close to 40% for ‘other FoFs’. Among professional investors, pension funds and insurance companies are the main investors,

⁵ The European Central Bank (ECB) publishes the list of EU investment funds collected by the European System of Central Banks (ESCB). See the section on AIFMD

Fund classification – shedding light on “other AIFs” for further details.

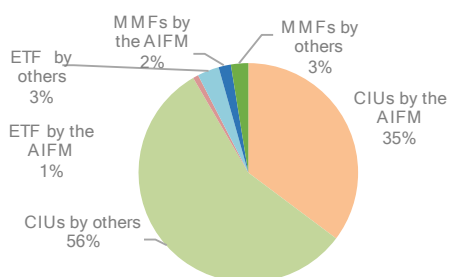
accounting for 19% and 10% of the NAV respectively (ASR-AIF.27), with an even larger proportion for FoFs investing in PE and HFs.

Geographical investment focus. Regional exposures of FoFs remained stable overall, with the EEA accounting for the bulk of exposures at 55% of NAV, despite a slight decline in 2017 (-2pp). Supranational issuers remain the second exposure (24% of NAV), as this category also includes ‘multiple regions’, reflecting FoFs investing in geographically diversified funds, rather than in supranational issuers specifically (ASR-AIF.29).

Leverage and liquidity risks

Gross exposures: FoFs are predominantly exposed to other funds (72% of exposures), in line with the strategy used (ASR-AIF.2930). FoFs have a large proportion of their fund holdings invested in funds from the same manager (38% of all funds holdings including Money Market Funds (MMFs) and ETFs by the same AIFMs, (ASR-AIF.22).

ASR-AIF.22
Proportion of fund holdings for FoFs
Significant cross investment



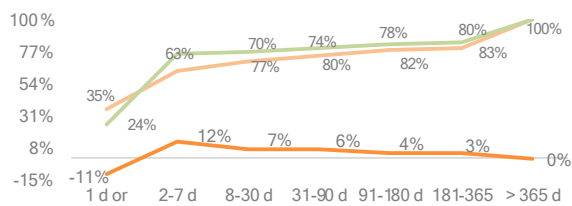
Note: Share of collective investment undertakings held by funds of funds in 4Q18. AIFs managed and/or marketed by authorised EU AIFMs. CIUs=Collective Investment Undertakings. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA

Leverage: FoFs display limited use of leverage: regulatory AuM to NAV is 118% on aggregate, with some variation by type (ASR-AIF.31). Relatively low leverage levels come from limited exposures to derivatives and little use of financial leverage (less than 1% of NAV).

Liquidity risk: Most FoFs are open-ended funds (72%), with the exception of funds of PE funds. Most open-ended FoFs offer daily liquidity to investors (ASR-AIF.31). At the aggregate level, the **liquidity profile** of FoFs points to liquidity mismatch at the very short end: within one day investors can redeem up to 35% of the NAV, whereas 24% of the assets can be liquidated within this time frame (ASR-AIF.23). Given that FoFs invest in UCITS, which offer predominantly daily liquidity to investors, the relatively low

proportion of fund units that can be liquidated in a day and the related liquidity gap may depend on the settlement period required by the underlying funds. Another explanation could be that when FoFs own a large proportion of a fund (more than 10% or 20% of shares), they no longer consider the underlying fund liquidity on a daily basis, since the fund might not be able to convert such large amounts of shares into cash very quickly.

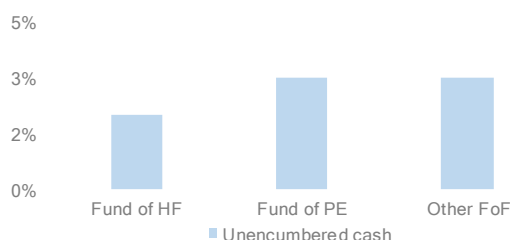
ASR-AIF.23
Liquidity profile
Some liquidity mismatch



Note: Portfolio and investor liquidity profiles of funds of funds managed and/or marketed by authorised EU AIFMs, end of 2018. Portfolio profile determined by percentage of the funds' portfolios capable of being liquidated within each specified period, investor liquidity profile depend on shortest period within each fund could be withdrawn or investors could receive redemption payments. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. d=Days.
Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

Unencumbered cash, i.e. a fund's position in cash or cash-like securities not subject to legal claims by another party (e.g. from collateral pledges or securities lending activities), is an important indicator of a fund's ability to mobilise funds fast to meet redemption claims. FoFs have relatively low levels of unencumbered cash, at around 2.5% of the NAV across types. (ASR-AIF.24).

ASR-AIF.24
Unencumbered cash
Low cash buffers

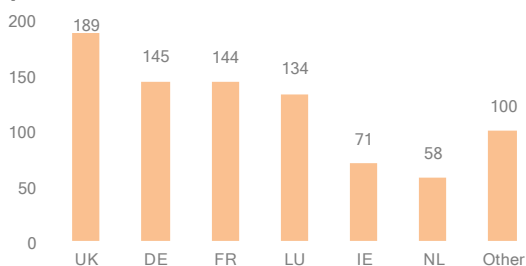


Note: Unencumbered cash held by funds of funds, end of 2018, in % of NAV. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. F of=Funds of funds, HF=Hedge fund, PE=Private equity fund. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF.25

Size of FoFs

Spread across countries

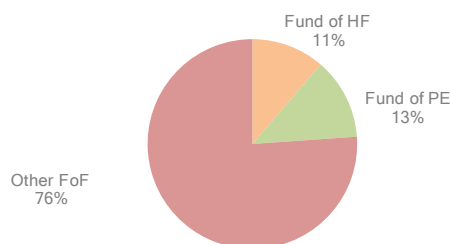


Note: NAV by FoFs managed and/or marketed by authorized AIFMs and sub-threshold managers registered only in national jurisdictions, in EUR bn. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF.26

FoF strategies

Mainly outside of PE funds and HFs

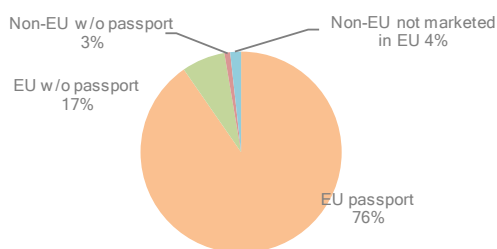


Note: Investment strategies of funds of funds, end of 2018, in % of NAV. Funds of funds managed and/or marketed by authorised EU AIFMs and sub-threshold managers registered only in national jurisdictions. FoF=Fund of funds, PE=Private equity fund, HF=Hedge fund. Data for 24 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF.27

EU passport

Most FoFs can be passported

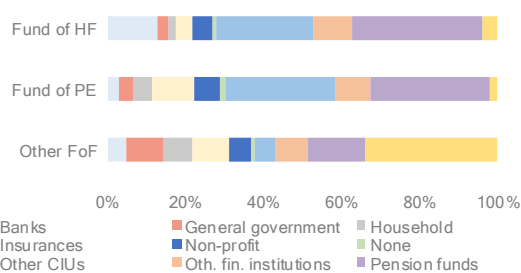


Note: NAV of funds of funds by manager's access to AIFMD passport, end of 2018, in %. Authorised EU AIFMs with access to AIFMD passport or marketing non-EU AIFs w/o passport, sub-threshold managers are registered only in national jurisdictions w/o passporting rights. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF.28

FoFs investors

Mainly professional investors

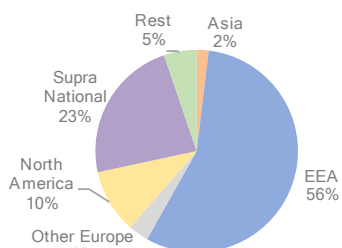


Note: Ownership of units in funds of funds managed and/or marketed by authorised EU AIFMs, end of 2018, in % of NAV. FoF=Fund of funds; PE=Private equity fund, HF=Hedge fund. Data for 24 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF.29

Regional investment focus

Mainly EEA

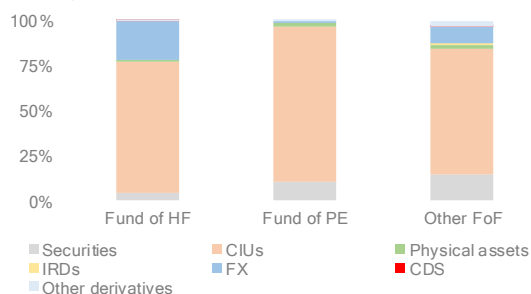


Note: Regional investment focus of funds of funds managed and/or marketed by authorised EU AIFMs and sub-threshold managers registered only in national jurisdictions, end of 2018, in % of NAV. Geo-focus determined according to the domicile of investments and the supranational category including investments without a predominant geo-focus. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF.30

Gross exposures

Mainly investment in funds

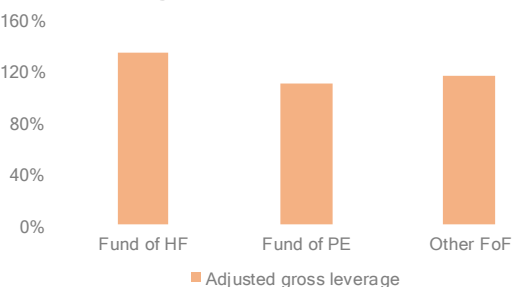


Note: Share of exposures by funds of funds' investment strategies, end of 2018, in % of total. AIFs managed and/or marketed by authorised EU AIFMs. FoF=Fund of funds, PE=Private equity fund, HF=Hedge fund. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF.31

Leverage

Limited leverage

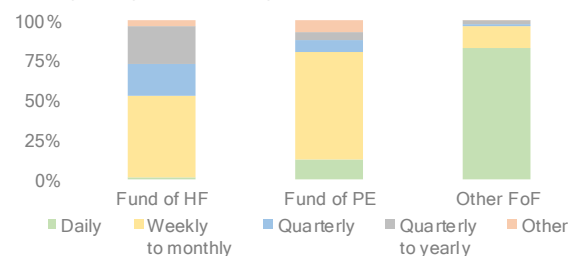


Note: Adjusted gross leverage of funds of funds managed and/or marketed by authorised EU AIFMs, end of 2018, in % of NAV. Adjusted gross leverage computed as total exposure less IRDs with respect to NAV. FoF=Funds of funds, PE=Private equity fund, HF=Hedge fund. Data for 25 EEA countries. Sources: AIFMD database, National competent authorities, ESMA.

ASR-AIF.32

Redemption frequencies

Mostly daily and weekly



Note: Investor redemption frequencies allowed by open-end funds of funds managed and/or marketed by authorised EU AIFMs, end of 2018, in % of NAV. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. FoF=Fund of funds, PE=Private equity fund, HF=Hedge Fund. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

Real Estate Funds

RE funds account for 12% of the NAV of AIFs, at EUR 730bn, and high growth was recorded in 2018 (+35% compared with 2017). Compared with 2017, the proportion of retail investors has declined (21%, -4pp) but remains high compared with other AIF categories. RE funds are exposed mostly to illiquid physical assets which take time to sell. Liquidity risk in RE funds remains a concern: around 60% are open-ended, and half of Commercial Real Estate (CRE) funds — the largest category — offer daily liquidity to investors. At the aggregate level, RE funds face liquidity mismatch across all time periods, an indication of a structural vulnerability as the maturities of assets and liabilities are not aligned.

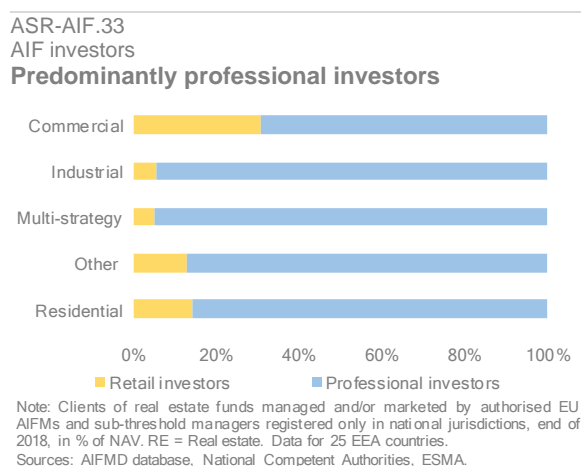
Real Estate Funds: market size and structure

Size: RE funds are the third-largest AIF type by size, with a NAV of EUR 730bn, or 12% of all AIFs. The size of the RE fund industry increased by 35% in 2018, as the result of positive developments in housing markets. The RE fund industry remains concentrated in a few countries (ASR-AIF.38), with the top five accounting for 84% of the NAV. The relatively high proportion of Dutch RE can be explained by the importance of the pension fund industry in the Netherlands, which allocates close to 15% of its AIF investment in RE funds.

Real Estate fund types: RE investment strategies continue to be dominated by CRE with 59% of the NAV (-3pp compared with 2017); and exposure to residential markets increased to 17% of NAV (+5pp, ASR-AIF.38).

Distribution: Among AIFs, RE funds have an extensive access to the EU passport, with 75% able to be sold throughout the EU (ASR-AIF.40).

Real Estate fund investors: RE funds are sold mainly to professional investors (79%), with the proportion of retail investors declining from 25% in 2017 to 21%. The retail investor share is however higher for CRE funds, at 31% of the NAV (ASR-AIF.33). Among professional investors, pension funds and insurance companies are the main investors, accounting for 27% and 14% of the NAV respectively (ASR-AIF.40). Other funds also account for a sizeable percentage of RE fund ownership, with 10% of the NAV. Banks have limited exposures to RE funds, except for residential RE funds for which banks hold 15% of NAV.

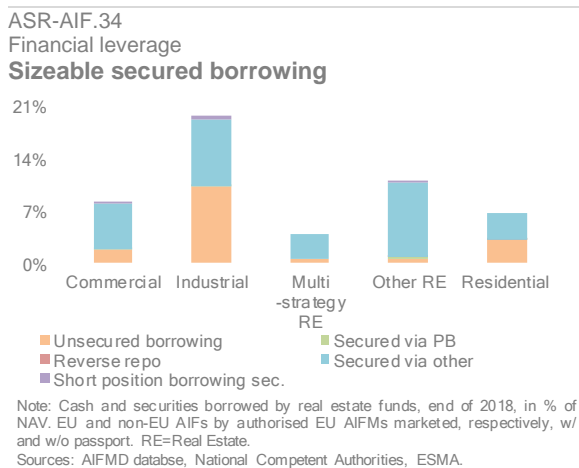


Geographical investment focus: RE funds invest overwhelmingly in the EEA (78%, -5pp compared with 2017, ASR-AIF.42), followed by North America (14%), whose relative proportion nearly tripled over the last year, as RE funds exposures increased from EUR 35bn to EUR101bn.

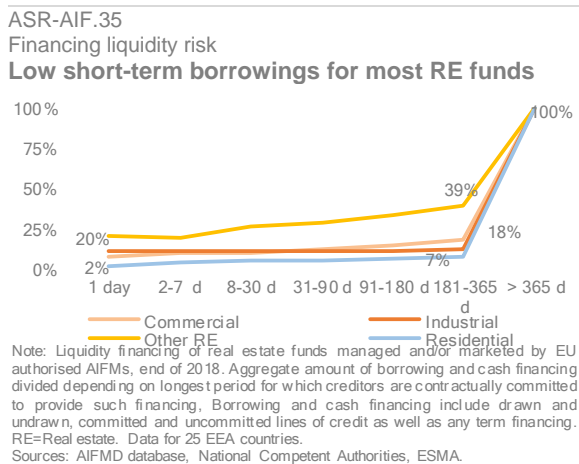
Leverage and liquidity risks

Gross exposures: RE gross exposures are concentrated in physical assets (around 70% of exposures, across most RE types), in line with the strategy used (ASR-AIF.423).

Leverage: RE funds make limited use of leverage. Regulatory AuM to NAV is 134% on aggregate, as they have limited exposures to derivatives, with low dispersion across RE fund types (ASR-AIF.44). However, RE funds do use **financial leverage**, with outright borrowing amounting to 8% of the NAV, the second largest by AIF type (after HFs) (ASR-AIF.34). Most of the borrowing is secured, with non-securities as collateral (possibly real estate assets owned by the fund).



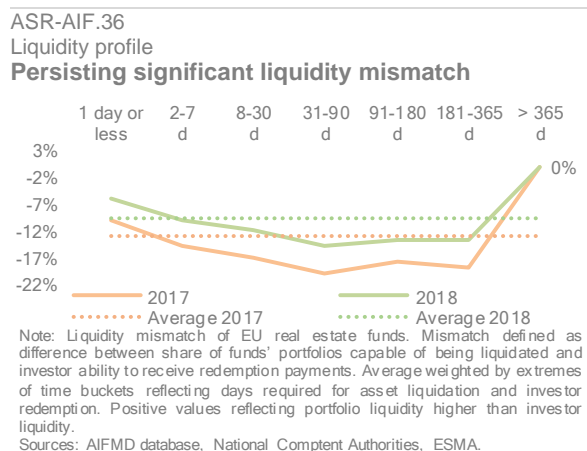
Most borrowing is available for relatively long periods, implying limited financing liquidity risk for most RE funds. For ‘other’ RE funds, very short-term borrowing (overnight) has declined by 10 pps since 2017 but still amounts to 20% of financing liquidity (ASR-AIF.35).



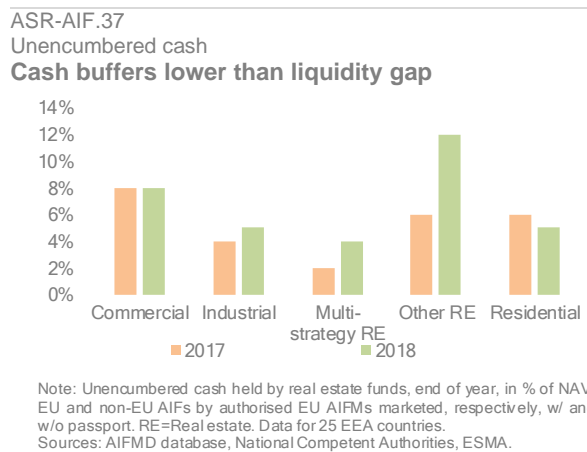
Liquidity risk: In terms of NAV, around 60% of RE funds are open-ended funds compared with 52% in 2017 and there is considerable heterogeneity regarding redemption frequencies for open-ended RE funds (ASR-AIF.445)⁶. RE funds offering daily to monthly liquidity account for 47% of the NAV compared with 63% in 2017, which points to more limited liquidity mismatch. However, 45% of CRE funds still offer daily liquidity to investors (-6pp). At the aggregate level, the **liquidity profile** of RE fund points to significant liquidity mismatch: within a month, investors can redeem up to 16% of the NAV, whereas only 4% of the assets can be liquidated within this time frame. The liquidity mismatch occurs across all time buckets within one year

⁶ The form (open ended vs closed-ended) that RE funds can have is not harmonized at the EU level. Accordingly, in some Member States, RE funds shall be closed-ended

and is most prevalent for the two main strategies (CRE and residential) which account for 76% of NAV (ASR-AIF.36). The aggregate level of liquidity masks important differences across Member States, as in some countries RE funds can only be closed-ended.



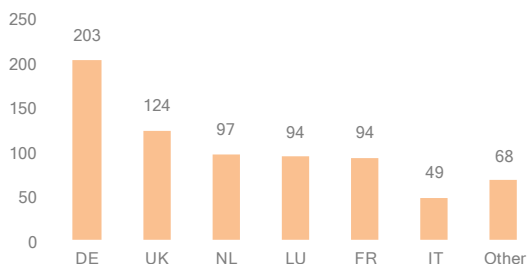
The liquidity mismatch at the short-end can be mitigated by cash to some extent: **unencumbered cash** for RE funds has increased for most RE categories in 2018 (ASR-AIF.37). However, cash buffers are significantly lower than the potential liquidity mismatch that could arise if investors were to redeem over longer time horizons. In that context, funds might have to rely on liquidity management tools, provided that they were available at the fund level. Around 70% of open-ended RE funds require a notice period, which in most cases is at least three months, and 20% have lock-up periods.



based on national law, and in other Member States they can either be open-ended or closed-ended.

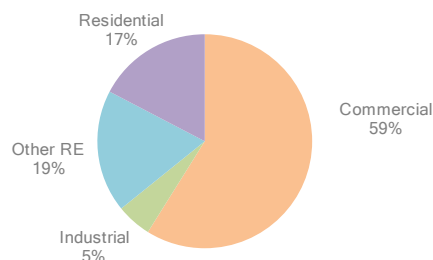
ASR-AIF.38
Size of RE funds

Concentration in a few countries



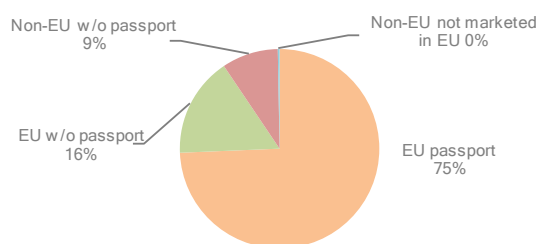
Note: NAV by RE managed and/or marketed by authorized AIFMs and sub-threshold managers registered only in national jurisdictions, in EUR bn.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF.39
RE fund strategies
Mainly CRE



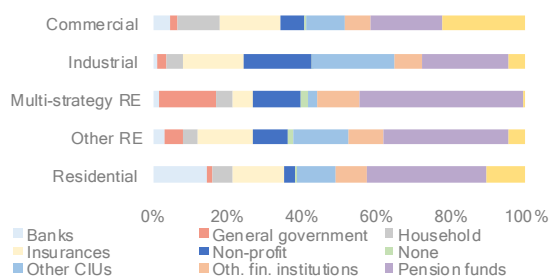
Note: Investment strategies of real estate funds, end of 2018, in % of NAV. Real estate funds managed and/or marketed by full scope EU AIFMs and sub-threshold managers registered only in national jurisdictions. RE= Real estate. Data for 24 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF.40
EU passport
High access to passport



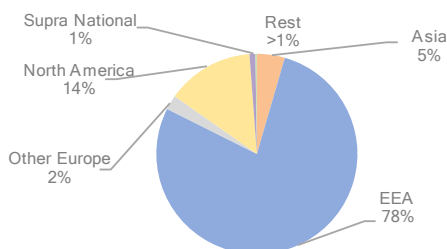
Note: NAV of real estate AIFs by manager's access to AIFMD passport, end of 2018, in %. Authorised EU AIFMs with access to AIFMD passport or marketing non-EU AIFs w/o passport, sub-threshold managers are registered only in national jurisdictions w/o passporting rights. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF.41
RE funds investors
Pension funds as largest investors



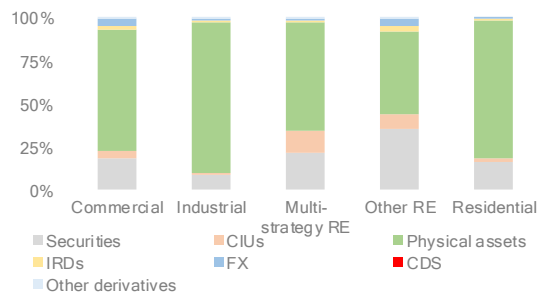
Note: Ownership of units in real estate funds AIFs managed and/or marketed by authorised EU AIFMs, end of 2018, in % of NAV. RE=Real estate. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF.42
Regional investment focus
Investments mainly in EEA



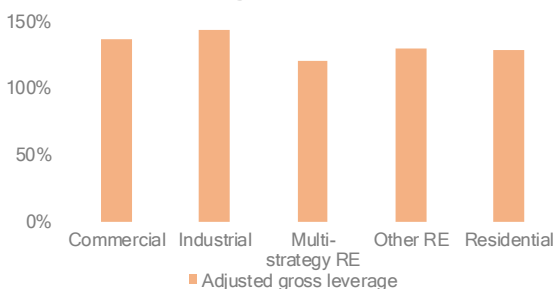
Note: Regional investment focus of real estate funds managed and/or marketed by authorised EU AIFMs and sub-threshold managers registered only in national jurisdictions, end of 2018, in % of NAV. Geo-focus determined according to the domicile of investments and the supranational category including investments without a predominant geo-focus. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF.43
Gross exposures
Mainly physical assets



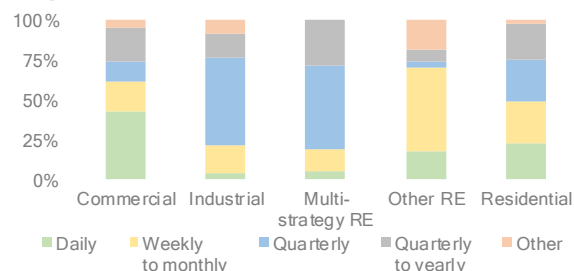
Note: Share of exposures by real estate funds' investment strategies, end of 2018, in % of total. AIFs managed and/or marketed by authorised EU AIFMs. RE=Real estate. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF.44
Leverage
Limited use of leverage



Note: Adjusted gross leverage of real estate funds managed and/or marketed by authorised EU AIFMs, end of 2018, in % of NAV. Adjusted gross leverage computed as total exposure less IRDs with respect to NAV. RE=Real estate. Data for 25 EEA countries.
Sources: AIFMD database, National competent authorities, ESMA.

ASR-AIF.45
Redemption frequencies
Large dispersion



Note: Investor redemption frequencies allowed by open-end real estate funds managed and/or marketed by authorised EU AIFMs, end of 2018, in % of NAV. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. RE=Real estate. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

Hedge Funds

The EU HF sector amounted to EUR 333bn at the end of 2018 in NAV, or 6% of all AIFs. However, when measured by gross exposures, HFs account for 67% of AIFs since they rely heavily on derivatives. HFs make limited use of the EU passport, since most of them are domiciled outside the EU. Leverage is very high, particularly for some strategies highly reliant on derivatives. HFs are exposed to little liquidity mismatch, as their assets can be liquidated quickly to meet investor redemptions. HFs are exposed to financing risk, as one third of their financing is overnight, but they tend to maintain large cash buffers, which are also used to meet future margin calls relating to derivatives positions.

Hedge Funds: market size and structure

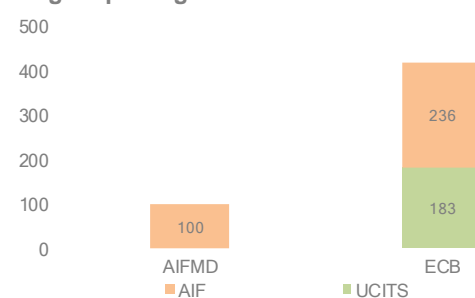
HFs are funds that employ complex strategies, usually through the use of derivatives, and rely on leverage to generate returns.

Size: As of the end of 2018, the NAV of HFs sold in the EU by European AIFMs amounted to EUR 333bn, a 14% increase compared with 2017. Although HFs account for only 6% of the NAV of all AIFs, they account for 67% of regulatory AuM of the AIF industry (at around EUR 17tn).

Most of the European HF industry is concentrated in one Member State: UK AIFMs account for 80% of the NAV of HFs (ASR-AIF.53).

The NAV of AIF HFs domiciled in the euro area amounts to EUR 100bn, based on the definition and regulatory reporting under AIFMD. Outside the AIF framework, funds have been identified that apply investment strategies comparable to hedge funds, whose size has been found to be significant. For example, the ECB estimates the total size of the euro area market for funds pursuing hedge-fund style strategies to amount to EUR 419bn, including EUR 236bn registered as AIFs, and EUR 183bn of funds registered under the UCITS framework (ASR-AIF.46)⁷. Most strikingly, the size of AIF HFs cited by the ECB amounts to more than twice the volume found under formal AIF reporting. This represents a significant case of reporting inconsistencies resulting from the AIF's categorisation, as discussed in detail in the methodological article "AIFMD fund classification – shedding light on 'other AIFs'".

ASR-AIF.46
Classification of EA hedge funds
Large reporting inconsistencies



Note: NAV of the hedge fund sector for funds domiciled in the euro area in EUR bn. Sources: AIFMD database, National Competent Authorities, ECB, ESMA..

There are also HFs which are neither domiciled nor managed in the EU but are sold in individual Members States under NPPR. Those HFs had a NAV of EUR 463bn at the end of 2018. Most of those HFs are domiciled in offshore centres such as the Cayman Islands (64% of NAV) and the British Virgin Islands (13%), and around 12% are domiciled in the United States. Overall, those HFs tend to be less leveraged than their EU counterparts, with a gross leverage of around 2,100% compared with 5,500% for EU HFs.

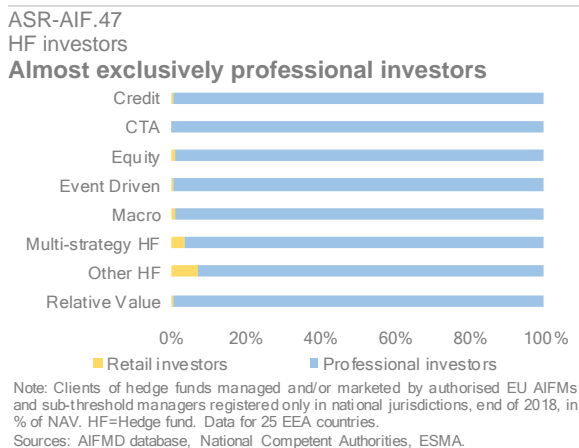
Hedge Fund types: HFs pursue a wide range of strategies (ASR-AIF.53). Strategies relating to equities (such as long/short) remain dominant despite a relative decline (42%, -4pp), followed by macro (12%, -3pp) and commodity trading advisors (CTA) (12%, +1pp), and credit (8%, +3pp).

Distribution: Unlike 'other AIFs', most HFs do not have access to the EU passport, with only 30% able to be sold throughout the EU (ASR-AIF.55). This can be explained by the domicile of HF AIFs, since most of them are domiciled outside the EU but managed by sub-threshold AIFMs under national law.

⁷ The ECB defines hedge funds as funds "which apply relatively unconstrained investment strategies to achieve positive absolute returns, and whose managers, in

addition to management fees, are remunerated in relation to the fund's performance' (ECB, 2017).

Hedge Fund investors: HFs are almost exclusively owned by professional investors, with retail investors accounting for less than 2% of NAV (ASR-AIF.47). Among professional investors, 'Other collective investment units' are the main holders of HF shares at 42% (+3pp), followed by pension funds (15%) and other financial institutions (11%). Similarly, for other types of AIFs, the ownership of HF shares is highly concentrated, with the top five holders accounting for around 80% of the NAV, across strategies.

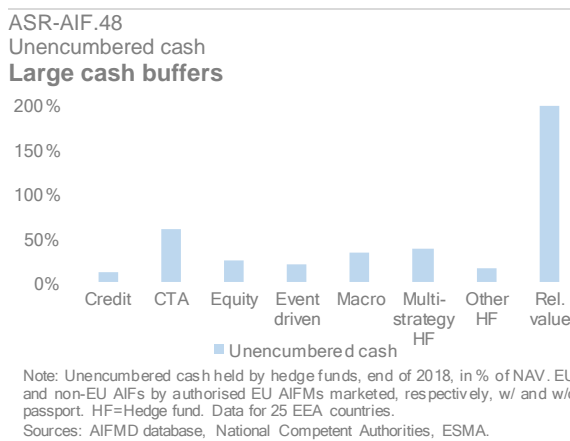


Investment focus: HFs invest primarily in North America (47%, +2pp), followed by the EEA (33%, +2pp) and Asia (7%, -2pp). (ASR-AIF.556).

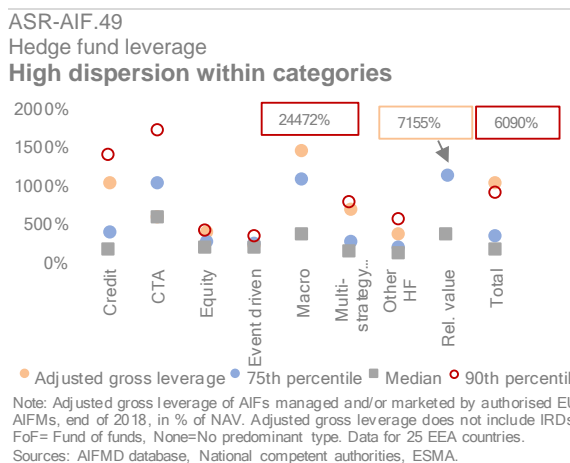
Leverage and liquidity risks

Gross exposures: Gross exposures of HFs are diverse and heterogeneous across strategies (ASR-AIF.57). Macro, CTA and relative value and HFs have high exposures relating to interest-rate derivatives, while credit HFs are exposed mainly to credit derivatives (79% of exposures, +66pp). Securities account for the main part of gross exposures for event-driven and equity HFs (67% and 49% respectively).

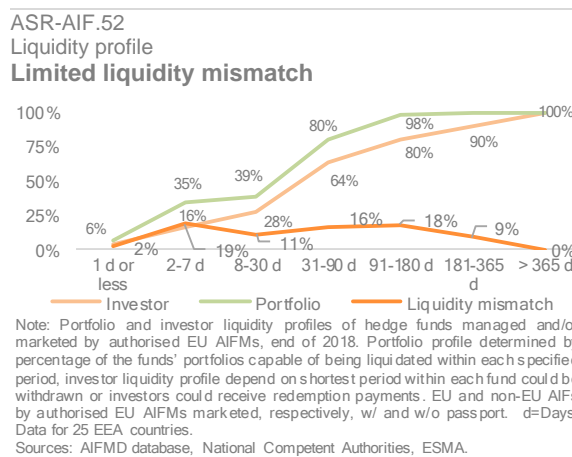
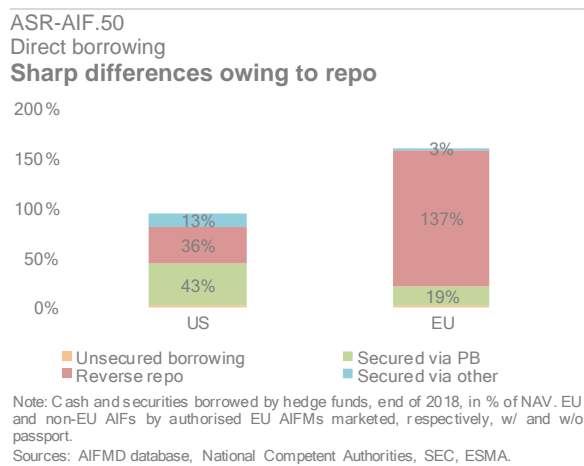
HFs have high levels of **unencumbered cash** compared to other types of AIFs (38% for HFs versus 8% for all AIFs). The highest levels of cash are for strategies that have the highest exposures to interest-rate derivatives, such as relative value, macro, credit and CTA (ASR-AIF.48). This suggests that part of the cash buffers is used to cover future margin calls.



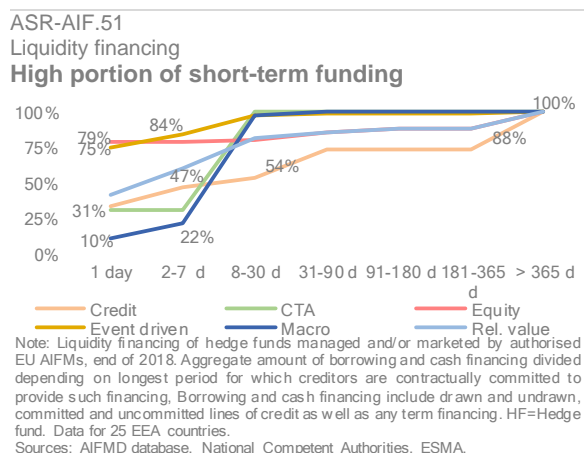
Leverage: HFs are in general strongly leveraged (ASR-AIF.57) and leverage increased in 2018. Among HF strategies, relative value and macro have the highest levels of adjusted leverage (excluding IRDs exposures) at 7,155% (+3,150pp compared with 2017) and 1,479% (+438pp) respectively. These aggregate leverage measures are biased by very large outliers: the median adjusted leverage for relative value and macro stands at around 360% and 367% respectively (ASR-AIF.49).



Although most of the leverage is synthetic leverage, i.e. due to the use of derivatives, **financial leverage** is also significant for HFs (ASR-AIF.50), amounting to around 160% of the NAV (compared with 6% for all AIFs). Secured borrowing through repo and reverse repo accounts for 60% of the NAV and funding from prime brokers accounts for 12% of the NAV.



Liquidity risk: HFs reliant on short-term borrowings are exposed to **financing liquidity risk** (ASR-AIF.51). The risk would crystallise if HFs were to use most of their available financing, and then their counterparts were to cut or reduce their funding. Overall, 30% of the funding is overnight, with heterogeneity across strategies. For some strategies, such as credit and event driven, most of their available borrowing is overnight (79% and 49% respectively), exposing them to potential rollover risk.

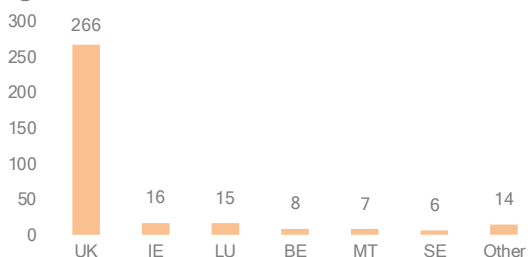


Regarding liquidity risk, most HFs are open-ended funds (78% of NAV) which offer weekly to monthly liquidity to investors (ASR-AIF.59). HFs offering daily liquidity account for only 8% of the NAV. At the aggregate level, the **liquidity profile** of HFs points to very little liquidity mismatch: within one week, investors can only redeem up to 16% of the NAV, whereas 35% of the assets can be liquidated within this time frame (ASR-AIF.52). This pattern is evident across all HF strategies, despite different levels of portfolio and investor liquidity. In addition, among AIFs, HFs make the most use of notice periods (close to 90%), which are on average around one month.

ASR-AIF.53

Size of HFs by country

High concentration in the UK

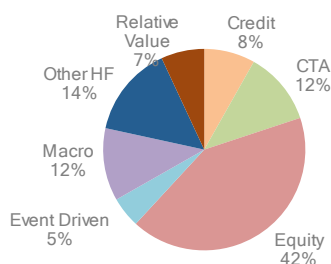


Note: NAV by HFs managed and/or marketed by authorized AIFMs and sub-threshold managers registered only in national jurisdictions, in EUR bn.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF.54

HF strategies

Mainly equity strategies

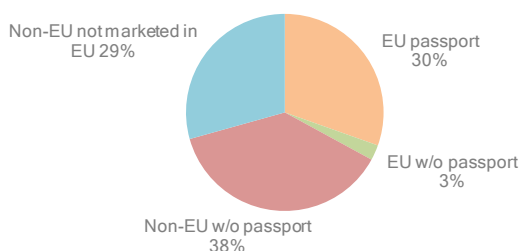


Note: Investment strategies of hedge funds, end of 2018, in % of NAV. Hedge funds managed and/or marketed by authorised EU AIFMs and sub-threshold managers registered only in national jurisdictions. HF=Hedge fund. Data for 24 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF.55

EU passport

Lower use of passport

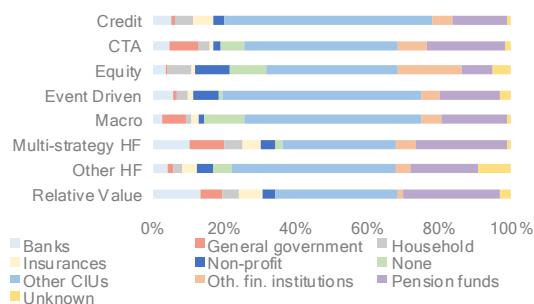


Note: NAV of hedge funds by manager's access to AIFMD passport, end of 2018, in %. Authorised EU AIFMs with access AIFMD passport or marketing non-EU AIFs w/o passport, subthreshold managers are registered only in national jurisdictions w/o passporting rights. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF.56

Investor types

High ownership of FoFs

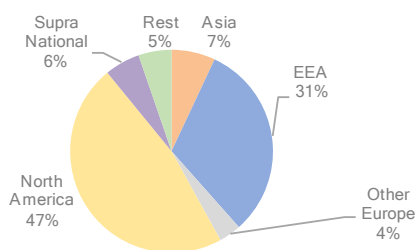


Note: Ownership of units in hedge funds managed and/or marketed by authorised EU AIFMs, end of 2018, in % of NAV. HF=Hedge fund. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF.57

Regional investment focus

Mainly exposed to North America

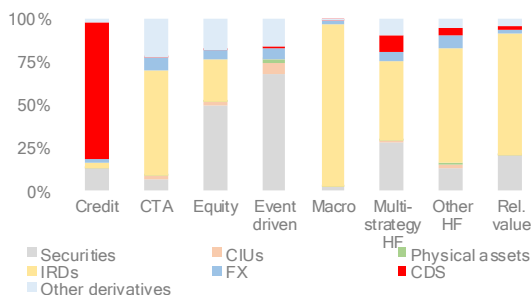


Note: Regional investment focus of hedge funds managed and/or marketed by authorised EU AIFMs and sub-threshold managers registered only in national jurisdictions, end of 2018, in % of NAV. Geo-focus determined according to the domicile of investments, and the supranational category including investments without a predominant geo-focus. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF.58

Gross exposures

Heterogeneity across HF strategies

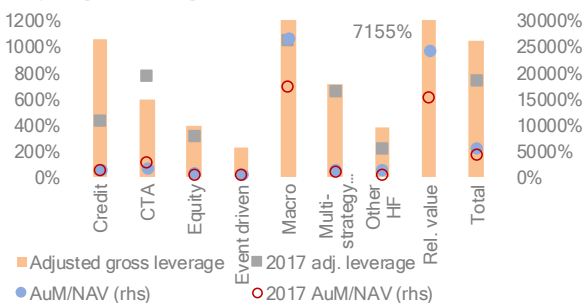


Note: Share of exposures by hedge funds' investment strategies, end of 2018, in % of total. AIFs managed and/or marketed by authorised EU AIFMs. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF.59

Leverage

Very high leverage

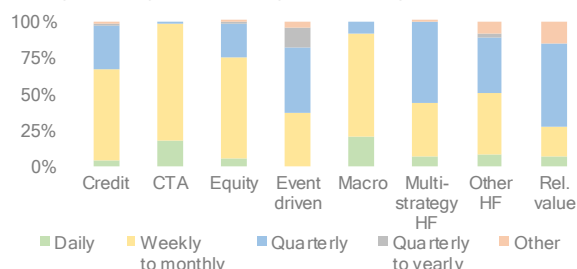


Note: Adjusted gross leverage of AIFs managed and/or marketed by authorised EU AIFMs, end of 2018, in % of NAV. Adjusted gross leverage does not include IRDs. FoF= Fund of funds, None=No predominant type. Data for 25 EEA countries.
Sources: AIFMD database, National competent authorities, ESMA.

ASR-AIF.60

Redemption profile

Mostly weekly to monthly frequency



Note: Investor redemption frequencies allowed by open-end hedge funds managed and/or marketed by authorised EU AIFMs, end of 2018, in % of NAV. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. HF=Hedge fund. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

Private Equity Funds

PE funds account for 6% of the NAV of all AIFs, or EUR 352bn. Among AIF types, PE funds experienced the largest growth in 2018 (+66% compared with 2017). They follow a range of strategies and are almost exclusively sold to professional investors. PE funds make little use of synthetic and financial leverage and invest mainly in illiquid securities (unlisted securities). Overall, liquidity risk is limited given that PE funds are overwhelmingly closed-ended.

Private Equity Funds: market size and structure

Size: PE funds surged in 2018 with a 66% rise in NAV at EUR 352bn, or 6% of all AIFs (+2pp compared with 2017). The increase reflects a combination of three factors: higher coverage of AIFs, valuation effects and net inflows into PE funds. The PE fund industry is concentrated in a few countries (ASR-AIF.64), with the top five accounting for 87% of the NAV and the UK accounting for almost half of the NAV (47%, +9pp).

Private Equity Fund types: PE investment strategies are diversified, with 39% of the NAV invested in growth capital, followed by venture capital (12%) and mezzanine capital (4%). Almost half of the NAV (45%) is related to other unspecified strategies (ASR-AIF.64). The large residual category can be explained by classification issues, as PE fund types do not include leveraged buyouts, which account for a significant proportion of the PE industry (around 70% of fundraising in 2018 according to Invest Europe)⁸.

Distribution: As for other types of AIFs, the majority of PE funds have access to the EU passport, with 60% able to be sold throughout the EU (ASR-AIF.66).

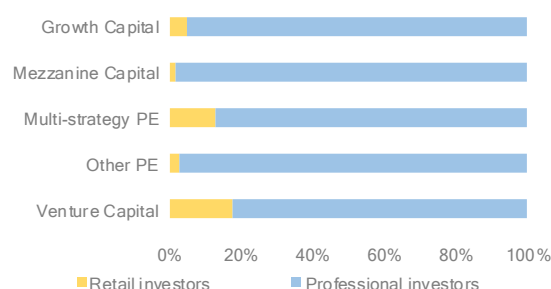
Private Equity Fund investors: Among AIFs, PE funds have the lowest proportion of retail investors (5%). Among PE fund types, venture capital has a larger proportion of retail investors, at 17% of the NAV (ASR-AIF.61). Among professional investors, important shifts in composition occurred in 2018. Investment funds and pension funds experienced a sizeable decline in their proportion (-7pp at 18% and -2pp at 17% respectively), as the proportion of general government surged 11pp to 16% of the NAV in 2018 (ASR-AIF.62). General government includes public agencies, which invest primarily in

PE funds targeting newly created firms (venture capital and growth strategies).

ASR-AIF.61

AIF investors

Predominantly professional investors



Note: Clients of private equity funds managed and/or marketed by authorised EU AIFMs and sub-threshold managers registered only in national jurisdictions, end of 2018, in % of NAV. PE = Private equity fund. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

Geographical investment focus: PE funds continue to invest mainly in the EEA, (68% of NAV, (ASR-AIF.68), but the relative share has declined by 9pp, as funds have readjusted their portfolio towards North America (19%; +9pp)

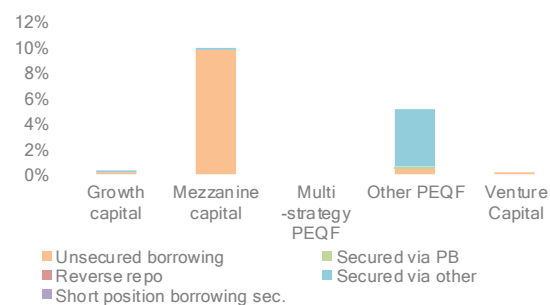
Leverage and liquidity risks

Gross exposures: PE gross exposures are concentrated in securities (around 80%, -10pp) but 2018 saw an increase in physical assets (11%, -7pp), especially for other PE funds. Unlisted equities account for around 60% of PE exposures.

Leverage: PE funds make limited use of leverage. The AuM-to-NAV ratio is at 113% on aggregate, the lowest among AIF types, with low dispersion across PE fund types (ASR-AIF.70). PE funds make limited use of **financial leverage**, with outright borrowing amounting to less than 3% of the NAV (ASR-AIF.60). Around 2/3 of available financing is around one month, implying limited **financing liquidity risk** for most PE funds (ASR-AIF.62).

⁸ See "European Private Equity Activity 2018".

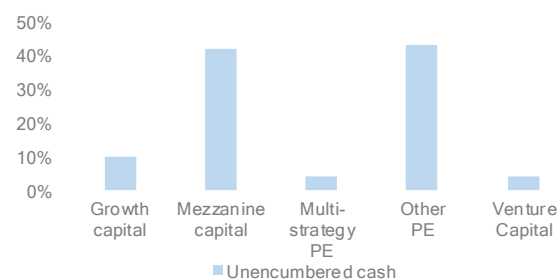
ASR-AIF.62
Financial leverage
Limited borrowing except for mezzanine capital



Note: Cash and securities borrowed by private equity funds, end of 2018, in % of NAV. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. PEQF=Private Equity Fund.

Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF.63
Unencumbered cash
High levels of cash



Note: Unencumbered cash held by private equity funds, end of 2018, in % of NAV. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. PE=Private equity fund. Data for 25 EEA countries.

Sources: AIFMD database, National Competent Authorities, ESMA.

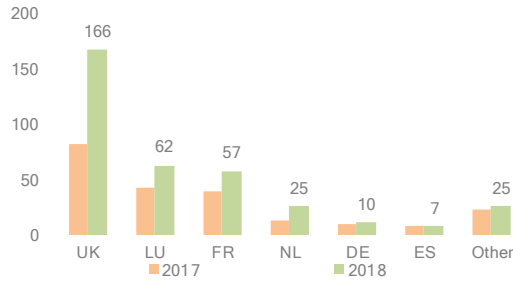
The low level of leverage is explained by the structures used by PE funds. PE funds are not usually leveraged but invest in a portfolio company that could be leveraged. According to the AIFMD, leverage at the portfolio company level should not be reported by the AIF.⁹

Liquidity risk: Most PE funds are closed-ended funds (94% of the NAV) and the redemption frequency for open-ended PE funds is usually weekly to monthly. PE funds tend to have high levels of **unencumbered cash** compared with 'other AIFs' at 26% of the NAV (+19pp), with some dispersion across PE fund types (ASR-AIF.63). Other PE funds account for the bulk of unencumbered cash (77%), which stands higher than their relative proportion of NAV. The level of cash can be explained by temporary and structural factors. Temporary factors include the length of time between the fund receiving the called committed capital and the fund investing it, and the length of time between the sale of the stakes of the fund and the return of cash to investors. Structural factors relate to the operational needs of the fund. Overall, the high level of cash cannot be explained by these factors and requires further analysis at fund level.

⁹ According to recital 78 of the AIFMD: "for private equity and venture capital funds this means that leverage that exists at the level of a portfolio company is not intended to be included".

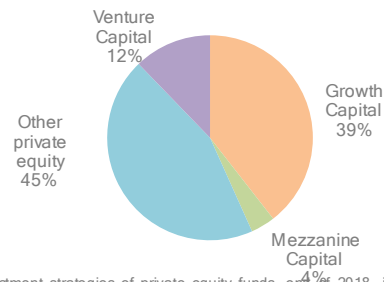
ASR-AIF.64
Size of PE funds

Concentration in a few countries



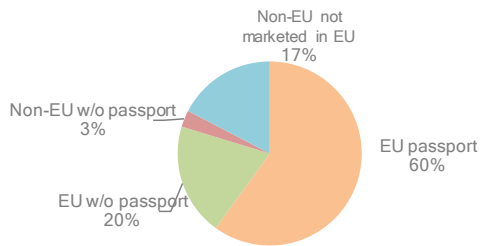
Note: NAV by PE managed and/or marketed by authorized AIFMs and sub-threshold managers registered only in national jurisdictions, in EUR bn.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF.65
PE fund strategies
Diversified strategies



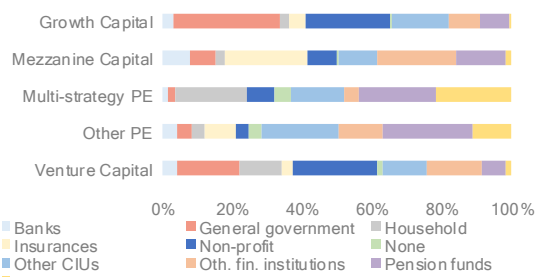
Note: Investment strategies of private equity funds, end of 2018, in % of NAV. Private equity funds managed and/or marketed by authorised EU AIFMs and sub-threshold managers registered only in national jurisdictions. Data for 24 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF.66
EU passport
High access to passport



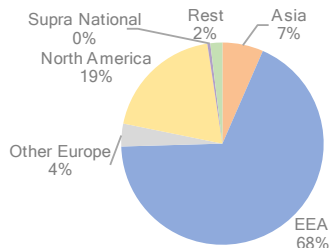
Note: NAV of private equity funds by manager's access to AIFMD passport, end of 2018, in %. Authorised EU AIFMs with access to AIFMD passport, subthreshold managers registered only in national jurisdictions w/o passport. Data for 25 EEA countries
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF.67
PE fund investors
Increase of general government



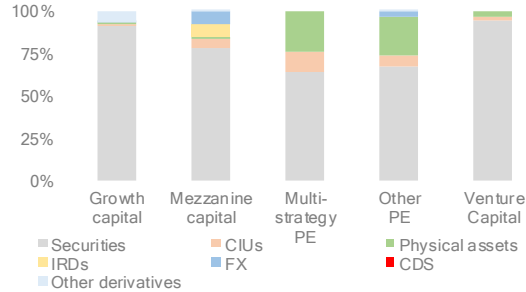
Note: Ownership of units in private equity funds managed and/or marketed by authorised EU AIFMs, end of 2018, in % of NAV. PE=Private equity fund. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF.68
Regional investment focus
Mostly EEA



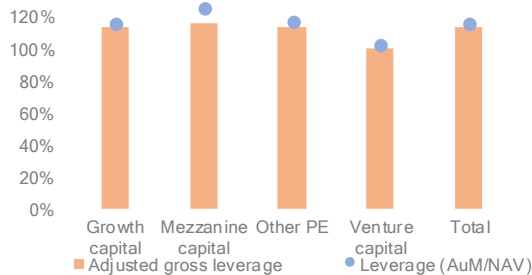
Note: Regional investment focus of private equity funds managed and/or marketed by authorised EU AIFMs and sub-threshold managers registered only in national jurisdictions, end of 2018, in % of NAV. Geo-focus determined according to the domicile of investments, and the supranational category including investments without a predominant geo-focus. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF.69
Gross exposures
Mainly unlisted securities



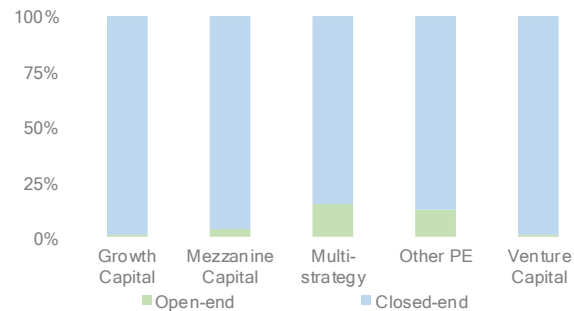
Note: Share of exposures by private equity funds' investment strategies, end of 2018, in % of total AIFs managed and/or marketed by authorised EU AIFMs. PE=Private equity fund. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF.70
Leverage
Limited use of leverage



Note: Adjusted gross leverage of private equity funds managed and/or marketed by authorised EU AIFMs, end of 2018, in % of NAV. Adjusted gross leverage computed as total exposure less IRDs with respect to NAV. PE=Private equity fund. Data for 25 EEA countries.
Sources: AIFMD database, National competent authorities, ESMA.

ASR-AIF.71
Redemption rights
Mainly closed-ended funds



Note: Redemption rights provided in the ordinary course to investors in private equity funds managed and/or marketed by authorised EU AIFMs, end of 2018, in % of NAV. PE=Private equity fund. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

Other AIFs

Other AIFs account for 61% of the NAV of EU AIFs, at EUR 3,553bn. This residual category of the Alternative Investment Fund Managers Directive (AIFMD) reporting regime covers a range of strategies, with fixed income and equity strategies accounting for 67% of NAV and an additional residual category accounting for 29% of NAV. In the additional residual category, 25% of the funds are leveraged and tend to be more concentrated. Although most types of ‘other AIFs’ have very limited liquidity risk, the residual category faces some liquidity mismatch.

‘Other AIFs’: market size and structure

Size: The ‘other AIFs’ category is the largest type of AIF, with a NAV of around EUR 3,553bn (+6pp compared with 2017), concentrated in a few countries (ASR-AIF.75). Overall, half of the EU AIFs fall into this heterogeneous group of strategies. The transparency obligations established by the AIFMD require AIFMs to make available to investors and NCAs a description of the fund strategy and the type of assets in which it may invest. The section “AIFMD fund classification – shedding light on ‘other AIFs’”, provides a detailed description of the AIFs in this category and the related potential classification issues. In relative terms, “other AIFs” constitutes the main AIF type in most EU countries, accounting for more than 70% of the NAV in Germany, Ireland, the Netherlands, Poland and Spain, and close to 50% or more in France, Luxembourg and the United Kingdom.

‘Other AIF’ types: ‘other AIFs’ can use very different strategies (ASR-AIF.75). The main strategies are related to fixed income (41% of the NAV) — which includes money-market AIFs — and equity (26%). A significant portion of the NAV of ‘other AIFs’ (29%, +2pp) is difficult to identify, as managers did not refer to a specified strategy. These AIFs with an undefined strategy could be largely described as mixed funds, that is investing in both equity and bonds with no prevalence of one instrument, but also showing significant exposure to CIUs and derivatives, accompanied by relatively higher levels of leverage and a concentrated ownership.

Distribution: Like most types of AIF, “other AIFs” have access to the EU passport to a large extent, with 80% (+3pp) able to be sold throughout the EU (ASR-AIF.77).

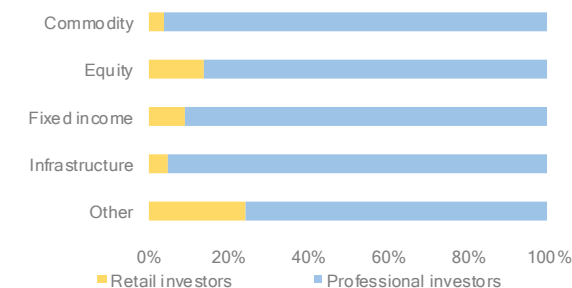
‘Other AIFs’ investors: ‘other AIFs’ are sold mainly to professional investors (86%, +2pp), although retail investor presence is higher for the residual category (‘other’), accounting for 24% of

the NAV (ASR-AIF.73). Among professional investors, pension funds and insurance companies are the main investors, accounting for 33% and 20% of the NAV respectively. However, there are large differences by strategy (ASR-AIF.77). The high proportion of pension funds might be partly explained by country-specific factors. In the euro area, Dutch pension funds account for 60% of all assets. In the Netherlands, pension funds account for close to 90% of the NAV of AIFs (close to EUR 550bn). Dutch pension funds typically invest in fixed income and equity AIFs which are classified as “other AIFs”, partially explaining the higher proportion of pension funds in this type of AIF at European level.

ASR-AIF.72

AIF investors

Predominantly professional investors



Note: Clients of AIFs classified as Other AIFs managed and/or marketed by authorised EU AIFMs and sub-threshold managers registered only in national jurisdictions, end of 2018, in % of NAV. Data for 25 EEA countries.

Sources: AIFMD database, National Competent Authorities, ESMA.

Geographical investment focus. The exposures of “other AIFs” remained stable in 2018, as they invested primarily in the EEA (61%), followed by North America (17%) and Asia (7%). (ASR-AIF.79).

Leverage and liquidity risks

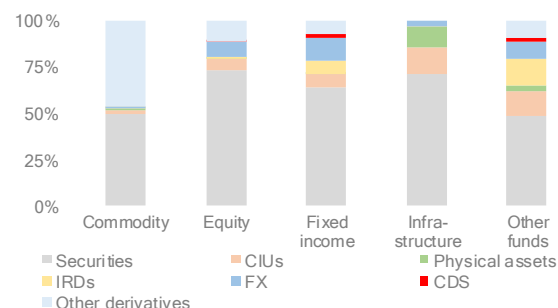
Gross exposures: AIF gross exposures are in line with the strategy used (ASR-AIF.73). Equity and fixed-income AIFs are exposed mainly to securities (listed equities for equity AIFs and mainly sovereign and investment grade corporate bonds for fixed income AIFs). Infrastructure AIFs have significant exposures to physical assets,

and commodity AIFs have significant exposures to other derivatives, which include commodity derivatives. The residual category (‘other-other’) is more diversified, reflecting very different strategies pursued by the managers.

ASR-AIF.73

Gross exposures

Mostly securities



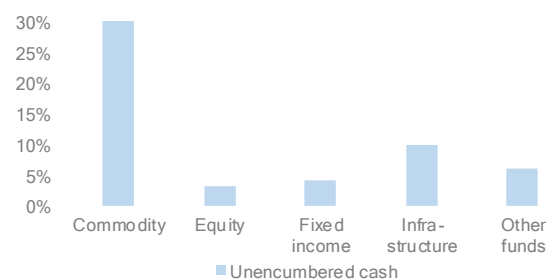
Note: Share of exposures by investment strategies of AIFs classified as Other, end of 2018, in % of total AIFs managed and/or marketed by authorised EU AIFMs. Data for 25 EEA countries.

Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF.74

Unencumbered cash

Sizeable buffers for commodity funds



Note: Unencumbered cash held by AIFs classified as Other, end of 2018, in % of NAV. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. Data for 25 EEA countries.

Sources: AIFMD database, National Competent Authorities, ESMA.

Leverage: ‘Other AIFs’ display limited use of leverage: regulatory AuM to NAV is 162% on aggregate, as they have limited exposures to derivatives and have little use of financial leverage (less than 5% of the NAV). Among ‘other AIFs’ strategies, leverage remains limited (ASR-AIF.79).

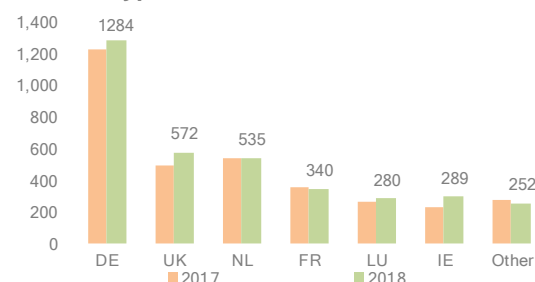
Liquidity risk: Regarding liquidity risk, around 70% of ‘other AIFs’ are open-ended funds, with the exception of infrastructure funds (only 13%). Open-ended AIFs offer mainly daily liquidity to investors (70%) or weekly and monthly liquidity (27%; ASR-AIF.81), with some rebalancing towards slightly longer frequencies (-10pp for daily redemptions and +9pp for weekly to monthly redemption frequencies in 2018). At the aggregate level, the **liquidity profile** of ‘other AIFs’ points to very limited liquidity mismatch: within one week, investors can redeem up to 66% of the NAV, whereas 80% of the assets can be liquidated within this time frame (ASR-AIF.81).

Some types of ‘other AIFs’ report high levels of **unencumbered cash** (ASR-AIF.74): for commodity funds cash accounts for 42% of the NAV (+14pp). Such a high level of cash is in line with the reliance on commodity derivatives for this type of AIF.

ASR-AIF.75

Size of 'other AIFs'

Main AIF type in most countries

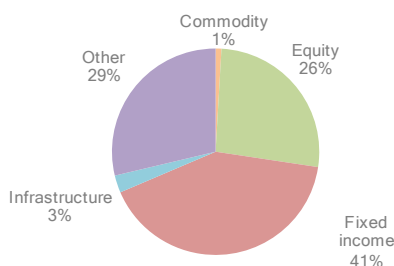


Note: NAV by Other AIFs managed and/or marketed by authorized AIFMs and sub-threshold managers registered only in national jurisdictions, in EUR bn. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF.76

'other AIFs' strategies

Fixed income and equity dominant

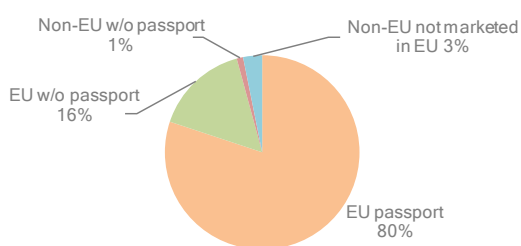


Note: Investment strategies of AIFs classified as Other, end of 2018, in % of NAV. AIFs managed and/or marketed by full scope EU AIFMs and sub-threshold managers registered only in national jurisdictions. Data for 24 EEA countries. Sources: National Competent Authorities, ESMA.

ASR-AIF.77

EU passport

Most 'other AIFs' can be passported

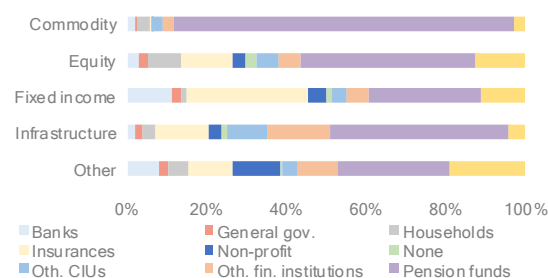


Note: NAV of AIFs classified as Other by manager's access to AIFMD passport, end of 2018, in %. Authorised EU AIFMs with access to AIFMD passport or marketing non-EU AIFs w/o passport, sub-threshold managers registered only in national jurisdictions w/o passporting rights. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF.78

'other AIFs' investors types

Mainly pension funds

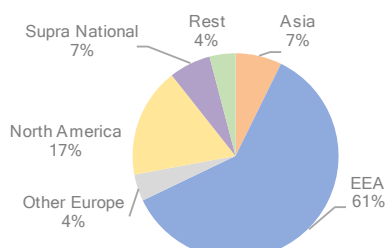


Note: Ownership of units in AIFs classified as Other AIFs managed and/or marketed by authorised EU AIFMs, end of 2018, in % of NAV. CIUs=Collective investment undertakings. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF.79

Regional investment focus

Mostly EEA

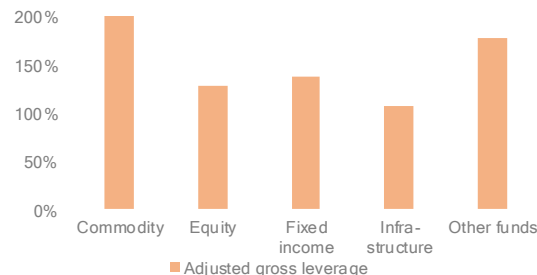


Note: Regional investment focus of EU AIFs classified as Other managed and/or marketed by authorised EU AIFMs and sub-threshold managers registered only in national jurisdictions, end of 2018, in % of NAV. Geo-focus determined according to the domicile of investments and the supranational category including investments without a predominant geo-focus. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF.80

Leverage

Limited use of leverage

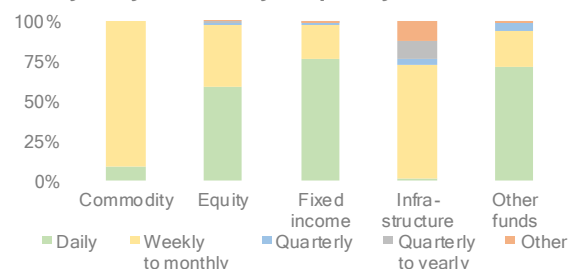


Note: Adjusted gross leverage of funds classified as Other managed and/or marketed by authorised EU AIFMs, end of 2018, in % of NAV. Adjusted gross leverage computed as total exposure less IRDs with respect to NAV. Data for 25 EEA countries. Sources: AIFMD database, National competent authorities, ESMA.

ASR-AIF.81

Redemption frequency

Mainly daily to monthly frequency

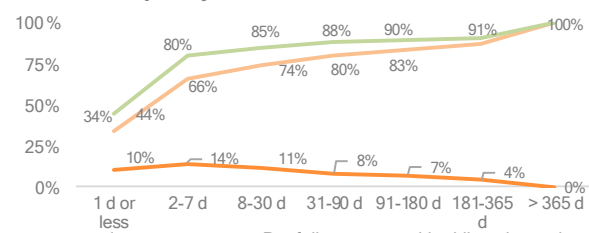


Note: Investor redemption frequencies allowed by open-end AIFs classified as Other managed and/or marketed by authorised EU AIFMs, end of 2018, in % of NAV. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF.82

Liquidity profile

Moderate liquidity mismatch



Note: Portfolio and investor liquidity profiles of AIFs classified as Other managed and/or marketed by authorised EU AIFMs, end of 2018. Portfolio profile determined by percentage of the funds' portfolios capable of being liquidated within each specified period, investor liquidity profile depend on shortest period within each fund could be withdrawn or investors could receive redemption payments. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. d=Days. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

Non-EU AIFs (NPPR)

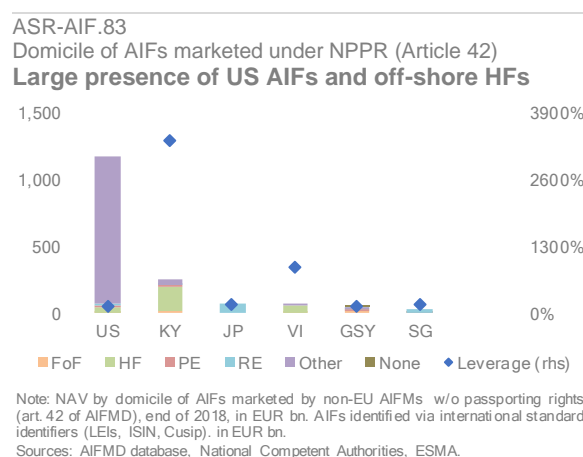
Under Article 42 of the AIFMD, a Member State can allow non-EU AIFMs to market units or shares of AIFs that they manage without benefiting from the AIFMD passport under the National Private Placement Regime (NPPR). The NPPR market stands at EUR 1.7tn NAV and therefore warrants dedicated analysis. NPPR fund marketing is concentrated in a small number of member states and 98% of investors are professional investors. Hedge funds marketed under the NPPR are predominantly domiciled in the Cayman Islands, 'other AIFs' marketed under the NPPR are predominantly US-based exchange-traded funds (ETFs). Overall, risk profiles for NPPR funds are comparable to EU AIFs. However, the geographical investment focus is different as NPPR funds invest predominantly in non-EU areas.

AIFs marketed under the NPPR: market size and structure

AIF size: At EUR 1.7tn NAV, the NPPR market is equivalent to one fifth of the EU AIF market. The NPPR is a mechanism to allow non-EU managers to market investment funds that are not allowed to be marketed under the AIFMD domestic marketing or passporting regimes. This principally relates to the marketing of non-EU AIFs by non-EU AIFMs. NPPRs are not a form of cross-border distributions and NPPRs' rules vary significantly across jurisdictions. Non-EU AIFMs are subject to reporting under the AIFMD in each jurisdiction in which they are authorised to market their products. Because under the NPPR rules, the same AIFs can be marketed under different jurisdictions, the full assessment of the non-EU AIF market in terms of size, composition and risks for financial stability depends on the possibility of uniquely identifying AIFs. International identifiers (i.e., Legal Entity Identifiers (LEIs) or International Securities Identification Numbers (ISINs)) are used to analyse this segment of the AIF industry to avoid overestimating market shares for funds reporting in different countries.

AIF domicile and EU jurisdictions: According to data reported by National Competent Authorities, non-EU AIFs are marketed in 13 EU member states. Around 900 non-EU AIFs marketed under the NPPR can be uniquely identified.¹⁰ The total regulatory AuM of these uniquely identified AIFs reach EUR 10.3tn for the NPPR market. The considerable difference between the NAV and the regulatory AuM is owing to the large exposure of off-shore HFs to IRDs. In terms of cross-country distribution, the AIF industry is concentrated in a few countries. The UK is the country with the largest presence

of non-EU AIFs (ASR-AIF.88). The vast majority of HFs are domiciled in the Cayman Islands and marketed in UK (ASR-AIF.83).



The AIF market regulated by Article 42 of the AIFMD appears extremely concentrated: 6% of NPPR AIFs have a NAV higher than EUR 5bn — these funds represent 71% of the NPPR NAV.

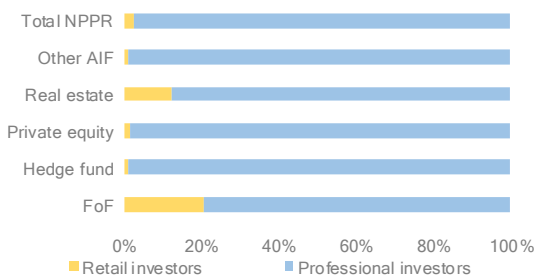
In terms of NAV, the NPPR segment is dominated by US ETFs (mostly equity) that are classified as 'other' (ASR-AIF.88). When considering the total exposure, the top 10 AIFs marketed under NPPR are off-shore HFs and alone account for 65% of the regulatory AuM.

Non-EU AIF investors: AIFs marketed under the NPPR are sold almost entirely to professional investors (98%), except for RE funds and FoFs (ASR-AIF.84). With the exception of RE funds and US ETFs, non-EU AIFs shares display a highly concentrated ownership, with the top-5 holders accounting for around 70% of the NAV. A large proportion of NPPR investors cannot be identified (40% of the NAV). Banks, pension funds and insurance companies have only a

¹⁰ Around 2000 AIFs marketed under NPPR in different EU jurisdictions cannot be uniquely identified owing to the lack of international identifiers.

limited exposure, amounting to 5% of NAV (ASR-AIF.90).

ASR-AIF.84
AIF investors
Predominantly professional investors



Note: Clients of AIFs marketed by non-EU AIFMs w/o passporting rights (art. 42 of AIFMD), end of 2018, in % of NAV. AIFs identified via international standard identifiers (LEIs, ISIN, Cusip). FoF=Fund of Funds. Sources: AIFMD database, National Competent Authorities, ESMA.

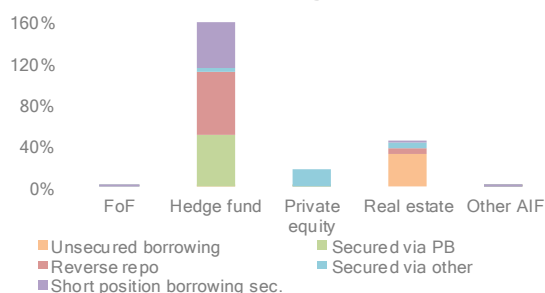
Geographical investment focus: Non-EU funds appear not to be focused on EU assets. Their investments are domiciled mostly in North-America (63%) and Asia (14%) (ASR-AIF.92). This result is primarily due to the high number of US domiciled ETFs.

Leverage and liquidity risks

Gross exposures: The asset exposure of non-EU AIFs is similar to that of EU-domiciled funds with RE funds exposed to physical assets, FoFs investing in collective investment schemes and hedge funds heavily exposed to interest rate derivatives (ASR-AIF.92).

Leverage: With the exception of HFs, non-EU funds make limited use of leverage. Regulatory AuM to NAV is 118% on aggregate when excluding HFs, as the exposures to derivatives is limited. When the effect of IRDs is netted, HFs pass from a level of leverage of 2,300% to 600% (ASR-AIF.86). The ratio of regulatory AuM to NAV reaches 3,300% for HFs domiciled in the Cayman Islands.

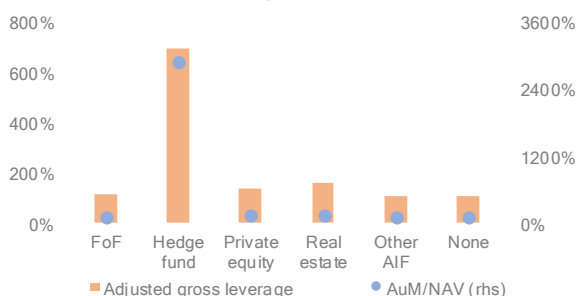
ASR-AIF.85
Financial leverage
Sizeable secured borrowing



Note: Cash and securities borrowed, end of 2018, in % of NAV, marketed by non-EU AIFMs w/o passporting rights (art. 42 of AIFMD), end of 2018, in EUR bn. AIFs identified via international standard identifiers (LEIs, ISIN, Cusip), in EUR bn. FoF=Funds of Funds, None=No predominant type. Sources: AIFMD database, National Competent Authorities, ESMA.

Non-EU HFs borrowings stand at 160% of their NAV (ASR-AIF.85). Whereas EU HFs increase their financial leverage by engaging in repo trades, non-EU HFs borrow comparatively more from their prime broker. Non-EU RE funds also use financial leverage extensively but, in contrast to EU RE funds, most of the borrowing is unsecured.

ASR-AIF.86
Leverage
Limited except for hedge funds

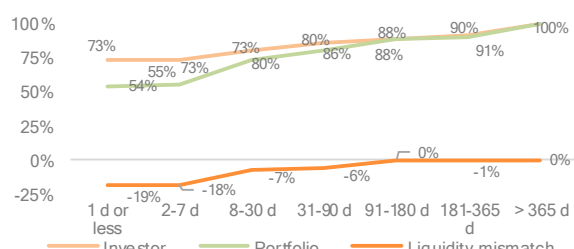


Note: Adjusted gross leverage of AIFs marketed by non-EU AIFMs w/o passporting rights (art. 42 of AIFMD), end of 2018, in % of NAV. Adjusted gross leverage does not include IRDs. FoF= Fund of funds, None=No predominant type. Sources: AIFMD database, National competent authorities, ESMA.

Liquidity risk: Around 80% of non-EU AIFs are open-ended, with variation across fund types. The vast majority offer daily or weekly liquidity to their investors. In the case of US ETFs, more than 90% of their NAV is redeemable on a daily basis (ASR-AIF.94). At the aggregate level, the liquidity profile of non-EU AIFs points to potential liquidity risk at the short end: within a day, investors can redeem up to 73% of the NAV, whereas only 54% of the assets can be liquidated within this time frame. The liquidity gap reduces within the one-month bucket (ASR-AIF.87).

ASR-AIF.87

Liquidity profile

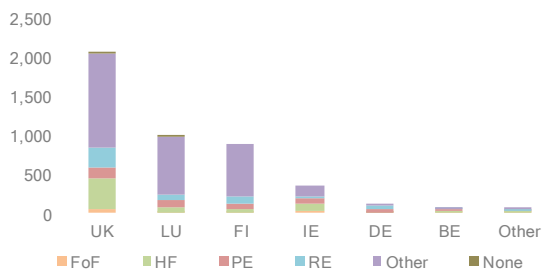
Moderate liquidity mismatch

Note: Portfolio and investors liquidity profiles of AIFs marketed by non-EU AIFMs w/o passporting rights (art. 42 of AIFMD), end of 2018. AIFs identified via international standard identifiers (LEIs, ISIN, Cusip). Portfolio profile determined by percentage of the funds' portfolios capable of being liquidated within each specified period, investor liquidity profile depends on shortest period within each fund could be withdrawn or investors could receive redemption payments. d= Days.
Sources: AIFMD database, National Competent Authorities, ESMA.

As for EU AIFs, data on LMTs cover only a fraction of the analysed sample and the assessed proportion of NAV covered by special liquidity arrangement is negligible. However, more than 50% of the analysed non-EU AIFs adopt and report contractual liquidity arrangements. The notice period for investors varies substantially across fund types, depending on the relative illiquidity of the underlying assets. Non-EU PE and RE funds require on average more than four months' notice from investors to redeem their fund shares. The notice periods for HFs and AIFs classified in the residual 'other' category (including US ETFs) is, respectively, of one month and two weeks.

ASR-AIF.88
NPPR market by country

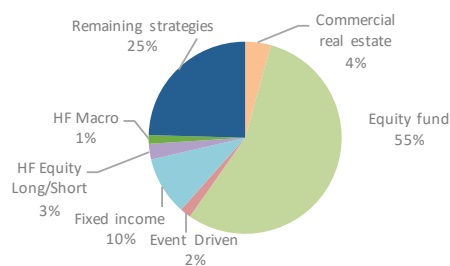
Non-EU AIFs marketed in a small number of countries



Note: NAV by authorising EU country of AIFs marketed by non-EU AIFMs w/o passporting rights (art. 42 of AIFMD), end of 2018, in EUR bn. AIFs identified via international standard identifiers (LEIs, ISIN, Cusip).
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF.89
NPPR strategies

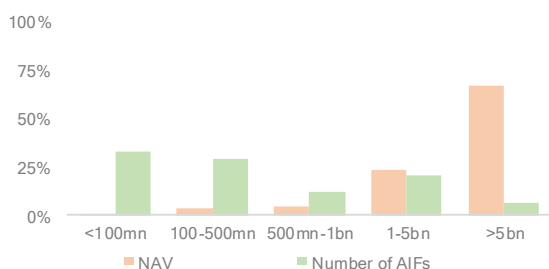
US ETFs dominant in terms of NAV



Note: Investment strategies of AIFs marketed by non-EU AIFMs w/o passporting rights (art. 42 of AIFMD), end of 2018, in % of NAV. AIFs identified via international standard identifiers (LEIs, ISIN, Cusip).
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF.90
EU passport

Large funds dominating the segment

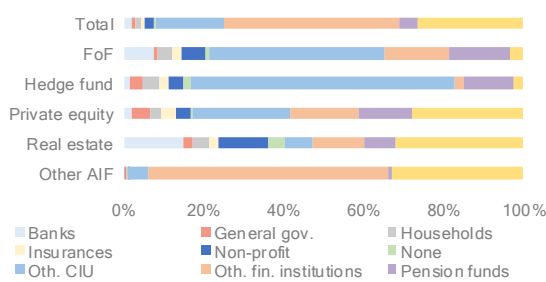


Note: Share of AIFs marketed by non-EU AIFMs w/o passporting rights (art. 42 of AIFMD) by size, end of 2018. In %.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF.91

NPPR investors types

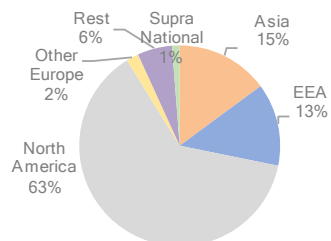
Large proportion of ownership unidentified



Note: Ownership of units in AIFs marketed by non-EU AIFMs w/o passporting rights (art. 42 of AIFMD), end of 2018, in % of NAV. AIFs identified via international standard identifiers (LEIs, ISIN, Cusip). FoF=Fund of Funds.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF.92

Regional investment focus
Mostly North America

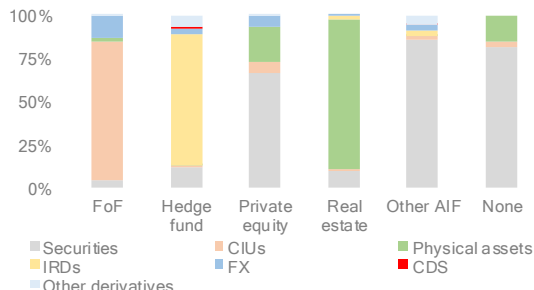


Note: Regional investment focus of AIFs marketed by non-EU AIFMs w/o passporting rights (art. 42 of AIFMD), end of 2018. AIFs identified via international standard identifiers (LEIs, ISIN, Cusip). In EUR bn. Geo-focus determined according to the domicile of investments, supra national category including investments without predominant geo-focus.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF.93

Leverage

Use of derivatives limited to HFs

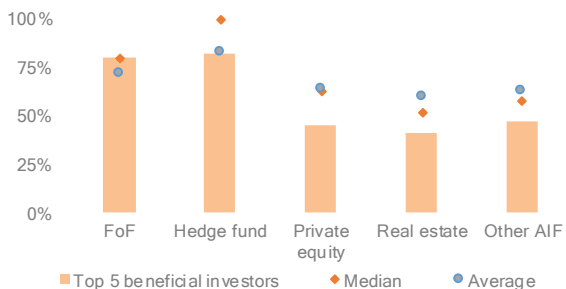


Note: Share of gross exposures by AIF type, end of 2018, in % of total. AIFs managed and/or marketed by authorised EU AIFMs. FoF=Fund of funds, None=No predominant type. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF.94

Investor concentration

Less concentrated than EU AIFs

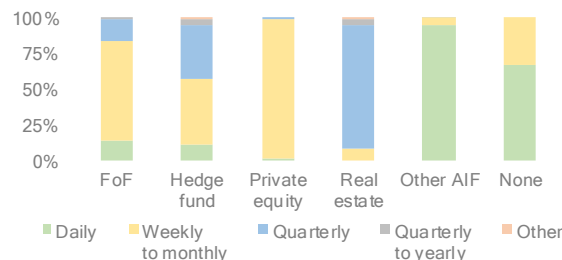


Note: Investor concentration of EU passported AIFs, end of 2018, in % of NAV. Investor concentration computed as share of AIF equity beneficially owned by the 5 largest investors. FoF=Fund of funds. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF.95

Redemption frequency

Mainly weekly to monthly frequency



Note: Investor redemption frequencies allowed by open-end AIFs marketed by non-EU AIFMs w/o passporting rights (art. 42 of AIFMD), end of 2018, in % of NAV. AIFs identified via international standard identifiers (LEIs, ISIN, Cusip). FoF=Fund of Funds, None=No Predominant Type.
Sources: AIFMD database, National Competent Authorities, ESMA.

Statistical methods

AIFMD fund classification – shedding light on ‘other AIFs’

Under the AIFMD fund classification the category of ‘other AIFs’ is supposed to be a residual category. However, around half of the reported AIFs accounting for 61% of NAV are classified as ‘other AIFs’, pointing to a classification issue. This section explores the reasons behind this, and which types of funds belong to this category. Using other data sources, we show that the main strategies are related to fixed income (which includes money-market AIFs) and equity. In terms of NAV around 30% of ‘other AIFs’ are part of a further residual category with a non-defined strategy (‘other-’other AIFs”); these could be largely described as mixed funds, investing in both equity and bonds with no prevalent policy in favour of one instrument or the other. These tend to be more leveraged, making use of derivatives, and have a more concentrated ownership.

Introduction

According to the AIFMD fund classification the category of ‘other AIFs’ is to be a residual category. However, around half of the reported AIFs, accounting for 61% of NAV, are classified as ‘other AIF’. Within ‘other AIFs’ there is an additional residual fund category accounting for around EUR 900bn. This article analyses the reasons why this residual category is large, the underlying strategies and the activities of ‘other AIFs’ and aims to provide clarification on potential classification issues.

Regulatory background

The AIFMD defines the level of harmonization for the regulation and supervision of AIFMs and the managed AIF, and in essence constitutes the basis for funds marketed to professional investors. At the same time, the AIFMD’s standard for professional investors functions as a minimum standard for fund managers who market their products to retail investors. At country level, additional product-related rules may be set for AIFs marketed to sophisticated investors or to allow the marketing of AIFs to retail clients.

The concept of AIF is central and determines the scope of the AIFMD. Unlike the UCITS Directive, the AIFMD and its implementing regulation refrain from prescribing investment strategies for AIFs.¹¹ Similarly, the AIFMD is not prescriptive with respect to the product and distribution rules aimed at the protection of retail investors and the

national requirements for sub-threshold AIFMs.¹² In identifying its object, the AIFMD follows a functional approach, setting out a broad definition of alternative funds that is independent of the structure or the organizational form of a collective investment undertaking, attempting to close potential regulatory loopholes and mitigate the risk of regulatory arbitrage.

Alternative investments

The line between traditional and alternative asset management is difficult to draw, and the concept of alternative strategies tends to encompass all styles other than simple diversified long-term investments in plain vanilla stocks and bonds characterised by no leverage. The jargon common to the industry refers to hedge funds and private equity funds as ‘alternative’ investments because they provide material alternatives to traditional funds by showing low correlation with traditional asset classes, dynamic trading strategies, and the use of a wide range of techniques and instruments. From this perspective, alternative funds would attempt to provide investors with returns by adopting so-called alpha-strategies, as opposed to more traditional investments that compare their behaviour to the development of a reference market (Longo, 2013). The interest of institutional investors in alternative investments has resulted over time in a significant expansion of their allocation to these strategies, a trend that has

¹¹ See recital 10 of the AIFMD.

¹² For further details on the distinction between full scope authorised and sub-threshold AIFMs, see the section

‘Fundamental issues in AIFMD data handling and statistics’, ESMA (2019) pp. 32-45.

been documented since before the financial crisis (BIS, 2006).¹³

The AIFMD uses the term ‘alternative’ in a different way to include all investment funds not governed by the UCITS Directive.¹⁴ The AIFMD encompasses all non-UCITS funds, regardless of their market classification, and captures in particular hedge funds, private equity and real estate funds.¹⁵

Investment in accordance with a defined investment policy

The definition of an AIF is not restricted to funds investing in specific asset classes.¹⁶ On the contrary, it covers both traditional asset classes such as equities, bonds and real estate and non-traditional asset classes such as venture capital, precious metals, derivatives and any combination of these assets. From this perspective, the AIFMD applies to all types of assets and investment strategies.¹⁷ To provide clarity to investors, one of the main characteristics of an AIF is the definition of its investment policy.

The transparency obligations for AIFMs include disclosing to AIF investors details of key information relating to each AIF that it manages and reporting information to the relevant competent authorities. AIFMs are required to make available to investors and NCAs¹⁸ a description of the AIF’s investment strategy and its objectives, the types of assets in which it may invest, the techniques it may employ, and all associated risks (including the use of leverage).¹⁹

Classification of AIFs under AIFMD

As the AIF investment universe is unconstrained, the AIFMD and its Implementing Regulation do not regulate AIFs’ structure or the composition of

portfolios.²⁰ As a consequence, AIF types and strategies are not formally defined under the AIFMD.²¹

In the Level II Regulation²² AIFs are classified into five main types: hedge funds, real estate funds, funds-of-funds, private equity funds, and ‘other AIFs’.²³ According to the ESMA Guidelines (2014) the choice between these AIF types is mutually exclusive and the selection of the type should be based on the NAV of the fund. For each type of AIF, a list of admitted investment strategies is detailed by the reporting framework set out in Annex IV to the Level II Regulation. Overall, this classification by fund type and strategy reflects the fact that AIFs can invest in a variety of assets, often having a high degree of flexibility in how they invest. From this perspective, the broadest set of investment strategies is indicated for the hedge funds, which are able to fully exploit this flexibility in managing complex portfolios, possibly employing elaborated investment techniques and high levels of leverage.

There are 35 possible investment strategies admitted by the Level II Regulation, however the top five alone (fixed income, ‘other-other’, equity, other funds of funds and commercial real estate) account for around 80% of total assets (ASR-AIF.96).

¹³ See BIS (2006), Growing exposure of institutional investors to alternative investments.

¹⁴ Directive 2009/65/EC of the European Parliament and of the Council of 13 July 2009 on the coordination of laws, regulations and administrative provisions relating to undertakings for collective investment in transferable securities.

¹⁵ This scope is further substantiated by the ESMA guidelines on the key concepts of the AIFMD and the Q&As published by the European Commission.

¹⁶ It is irrelevant whether or not a concentrated or diversified investment strategy is pursued. The number of assets also does not matter, and single asset companies fall within the scope of the directive.

¹⁷ The application to all possible investment policies follows from Article 4(1)(a) of the AIFMD which does not foreclose its application to certain investment strategies.

¹⁸ See Article 23 AIFMD.

¹⁹ The criteria that can help to establish an investment strategy as a defined investment policy are described by ESMA (2013).

²⁰ Given that the AIFMD does not regulate investment strategies, NCAs can rely on only the fund type established by domestic regulation for restricting the AIFM’s licence. For example, an AIFM may be licensed as a real estate manager and be restricted with respect to all other investment strategies.

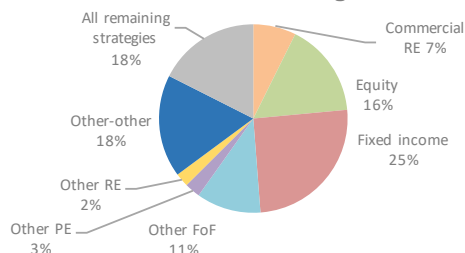
²¹ As discussed above, AIFs are regulated at national level. See recital 10 and Article 8 of the AIFMD.

²² Commission Delegated Regulation (EU) No 231/2013.

²³ According to the ESMA Guidelines, AIFMs should select “None of the previous type” as predominant AIF type where the investment strategy of the AIF does not permit the identification of a predominant AIF type. AIFs with no predominant strategy represent 1% of the total net assets.

ASR-AIF.96

AIF strategy by NAV

Five dominant investment strategies

Note: Investment strategy of AIFs managed and/or marketed by authorised EU AIFMs and sub-threshold managers registered only in national jurisdictions, end of 2018, in % of NAV. FoF=Fund of funds, PE=Private equity funds, RE=Real estate. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

From a purely functional perspective, the five fund types detailed under the AIFMD reporting framework can be broadly described as follows.

Funds of Funds

Funds of funds invest in underlying collective investment undertakings and serve the purpose of diversifying fund-specific risk, relieving burdens on investors to perform due diligence on individual fund managers. Funds-of-funds are diversified and usually require less initial investment than regular hedge funds, so are easier to access, especially for retail investors.

ASR-AIF.97

Funds of funds strategies admitted under AIFMD

Mainly outside of and HFs

Funds of Funds strategies	Number of AIFs (%)	NAV (EUR bn)
Funds of HFs	8	95
Funds of PE funds	16	106
Other funds of funds	76	640
Total funds of funds	5,430 AIFs	841

Note: AIFs classified as funds of funds under AIFMD, end of 2018. Strategies identified according to the fund primary strategy. Sources: AIFMD database, National Competent Authorities, ESMA.

Hedge funds

Despite its common use, the expression 'hedge fund' is not a well-defined term. There is no commonly agreed definition of hedge fund in either the industry or regulation (see Kahan and Rock, 2007). According to IOSCO (2009), all investment schemes displaying a combination of some of the following characteristics are considered as hedge funds:

- the absence of borrowing restrictions, usually accompanied by a high level of leverage,
- the presence of performance fees in addition to an annual management fee,
- significant participation by the manager and limited redemption windows for investors,
- the presence of complex underlying products, diverse exposures and the use of derivatives, often for speculative purposes.

ASR-AIF.98

Hedge fund strategies admitted under the AIFMD

Ample variety of HF strategies

Hedge funds strategies	Number of AIFs (%)	NAV (EUR bn)
Credit	9	27
Managed futures/CTA	12	39
Equity	37	140
Event driven	5	46
Macro	9	39
Relative value	4	49
Other HF strategies	22	23
Multi-strategy	2	-
Total hedge funds	1,449 AIFs	333

Note: AIFs classified as HFs under the AIFMD, end of 2018. Statistics for total HFs include 62 multi-strategy HFs, strategies identified according to the fund primary strategy. Equity HFs: Long Bias, Long/Short, Market Neutral, Short Bias; Relative value HFs: Fixed Income Arbitrage, Convertible Bond Arbitrage, Volatility Arbitrage; Event Driven HFs: Distressed/Restructuring, Risk Arbitrage/Merger Arbitrage, Equity Special Situations; Credit HFs: Credit Long/Short, Credit Asset Based Lending; Managed Futures/CTA: Fundamental, Quantitative. Sources: AIFMD database, National Competent Authorities, ESMA.

Private equity

Private equity funds are only indirectly defined in the AIFMD as AIFs that acquire control of a non-listed company.²⁴ Private equity funds typically make use of a variety of investment strategies. Whereas some private equity firms merely concentrate on buy-outs of listed companies, others focus on obtaining non-controlling stakes and syndicated structures. The common denominator is investment in non-listed, i.e. private firms (Lerner and Gompers, 1999).

²⁴ See Art. 26(1)(a) of the AIFMD.

ASR-AIF.99

Private equity strategies admitted under AIFMD

Mainly growth and venture capital

Private equity strategies	Number of AIFs (%)	NAV (EUR bn)
Growth capital	33	139
Mezzanine capital	3	13
Venture capital	34	156
Other PE	29	43
Multi-strategy	1	-
Total private equity funds	4,369 AIFs	352

Note: AIFs classified as private equity funds under the AIFMD, end of 2018. Statistics for total PE funds include 64 multi-strategy funds, strategies identified according to the fund primary strategy. Sources: AIFMD database, National Competent Authorities, ESMA.

Real estate

Real estate funds typically invest in real estate or real estate holding companies, aiming at providing investors with exposure to residential and commercial real estate markets, with a domestic and/or an international focus.

ASR-AIF.100

Real estate strategies admitted under AIFMD

Mainly commercial and residential

Real estate strategies	Number of AIFs (%)	NAV (EUR bn)
Commercial	52	430
Industrial	3	39
Residential	25	135
Other RE	16	126
Multi-strategy	5	-
Total real estate funds	3,442 AIFs	730

Note: AIFs classified as real estate funds under AIFMD, end of 2018. Statistics for total RE funds include 172 multi-strategy funds, strategies identified according to the fund primary strategy. Source: AIFMD database, National Competent Authorities, ESMA.

'Other AIFs'

The residual category of 'other AIFs' covers commodity and infrastructure funds together with conventional non-UCITS investment funds pursuing more traditional strategies and targeting primarily traditional asset classes such as equities and bonds. The 'other AIF' type includes a further residual category of other unspecified strategies, 'other-other'. Often 'special funds' set up by single investors like insurance undertakings and pension funds fall into this residual category (ASR-AIF.102).

ASR-AIF.101

'Other' AIFs strategies admitted under AIFMD

Diversified set of strategies

Real estate strategies	Number of AIFs (%)	NAV (EUR bn)
Equity	26	941
Fixed income	41	1,463
Infrastructure	3	97
Commodity	1	32
Other-other	29	1,021
Total 'other AIFs'	15,180 AIFs	3,553

Note: AIFs classified as "other AIFs" under the AIFMD, end of 2018. Strategies identified according to the fund primary strategy. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF.102

German AIFs

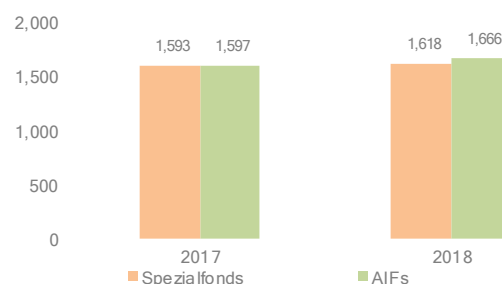
Importance of Spezialfonds

In some EU countries, qualifying investor funds (QIFs) referred to as 'special funds' are created for investors with a special set of needs and not offered to the general public. QIF for professional investors such as pension funds, insurance companies, or companies that seek an adequate investment for their excess cash are particularly important and tend to be very big. These investors may typically consider the fund structure to adequately meet their needs and deal with the valuation of illiquid assets, benefiting from the standardised disclosures and the investor protection standards ensured by the AIFMD.

In some Member States such as Germany, special investor funds – also known as *Spezialfonds* – set-up by professional and semi-professional investors (sophisticated investors with a minimum commitment of EUR 200,000) account for the overwhelming majority of AIFs. In fact, German *Spezialfonds* are always AIFs. Overall, *Spezialfonds* account for around three quarters of the German fund industry at the end of 2018 according to the Bundesverband Investment und Asset management (BVI) (ASR-AIF.103).

ASR-AIF.103.

Spezialfonds and AIFs

Similar size

Note: NAV of German *Spezialfonds* and AIFs managed by German AIFMs, in EUR bn. Sources: AIFMD database, National Competent Authorities, BVI, ESMA.

Comparison with other data sources

For analytical purposes, the information available on the AIF classification can be enriched by making use of commercial and institutional data sources to the extent that LEIs and ISINs of funds are available (ASR-AIF.104).

Fewer than 50% of EU AIFs possess and report an LEI.²⁵ The G20 and the Financial Stability Board have emphasised the need to make the LEI a public good and that its global adoption has the potential to underpin multiple financial stability objectives, including improved risk management in financial firms and a better assessment of micro- and macroprudential risks, supporting higher accuracy of financial data.

Overall, around 37% of AIFS (or around 9,000 funds) cannot be fully identified owing to the lack of reported ISINs and LEIs.

The ECB publishes the list of European investment funds based on information provided regularly by all members of the ESCB.²⁶

ASR-AIF.104
International identifiers availability
Lack of LEIs

AIF type	LEI	ISIN	LEI + ISIN	No ID	Total
FoF	7.7	1.7	1.7	7.3	18.4
HFs	1.4	0.1	0.5	0.8	2.9
RE funds	3.5	0.9	0.4	6.3	11
PE funds	1.2	3.8	0.8	7.3	13.1
Other AIF	33.6	1.6	3.2	14.8	53.1
None	1.1	-	0.1	0.3	1.5
Total (%)	48.5	8.1	6.8	36.7	100
Number of AIFs	12,178	2,027	1,701	9,222	25,128

Note: Percentage of AIFs with an international identifier. EU AIFs domiciled in Member States also covered by the ESCB data collection. UK and Norway domiciled AIF excluded.

Source: AIFMD database, National Competent Authorities, ESMA.

This list contains a series of interesting attributes for the identification of collective undertaking schemes and their activities,²⁷ including the following:²⁸

- the domicile, the name and the identifiers (e.g. ISIN, LEI) of a fund and its manager,
- a flag indicating if a fund is UCITS compliant,
- the type of investment fund, that is whether the fund is an ETF or a private equity fund,
- the investment policy of the fund.

Given the difficulties in adopting harmonised definitions, National Central Banks (NBCs) classify collective investment undertakings into six sectors by the nature of their investments: equity funds, bond funds, mixed funds, real estate funds, hedge funds, and other funds as a residual category. The criteria adopted for the purposes of the statistical classification are derived directly from public prospectuses, fund rules, investment contracts or other documents. This classification harmonises the mixed funds category, which includes funds with no prevalent investment policy in favour of equity or bonds.

In the context of this data collection, hedge funds are defined for statistical purposes as collective investment undertakings that apply relatively unconstrained investment strategies to achieve positive absolute returns, and whose managers, in addition to management fees, are remunerated in relation to the fund's performance. This definition also covers funds that invest, in full or in part, in other hedge funds, i.e. funds of hedge funds, including funds that track indices of hedge funds, thereby providing investors with exposure to multiple hedge funds in a single product.

Benchmarking the strategies self-reported under the AIFMD with this data collection will help to clarify the characteristics of the investment policies of those AIFs classified in residual categories.

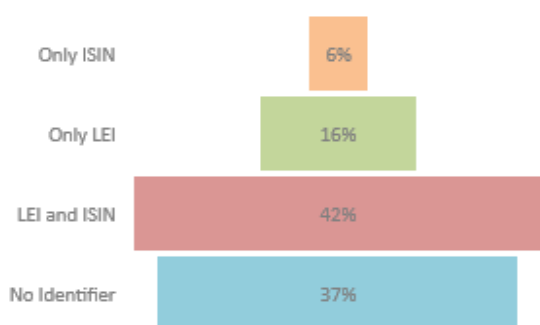
²⁵ Under EMIR and SFTR, the LEI is mandatory for the identification of all legal entities involved in derivative contracts and repo transactions.

²⁶ Regulation (EC) No 1073/2013 of the European Central Bank of 18 October 2013 concerning statistics on the assets and liabilities of investment funds (ECB/2013/38)

²⁷ Funds domiciled in Denmark, Norway and the United Kingdom are not covered.

²⁸ MMF and Pension funds are excluded from the definition of investment fund adopted for ESCB data collection.

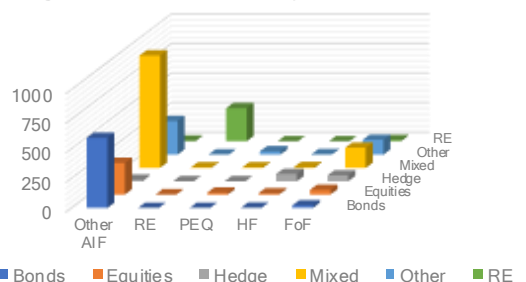
ASR-AIF.105
AIF enriched with ECB classification
42% of AIFs can be mapped into ECB classification



Note: AIFs identified by an LEI or an ISIN after matching with ECB list of collective investment undertaking.
Source: AIFMD database, National Competent Authorities, ESMA.

Using all LEIs and ISINs available, 42% of funds reported under the AIFMD can be mapped into the ECB investment fund list, representing 51% of total assets (around EUR 3.1bn).²⁹ For each AIF, the self-reported primary strategy is considered for the purposes of the exercise as it should be the one that best describes the fund’s activity among those proposed in the reporting framework (ASR-AIF.105).

ASR-AIF.106
NAV of AIFs mapped into ECB investment policy
Mapping provides more clarity on ‘other AIFs’



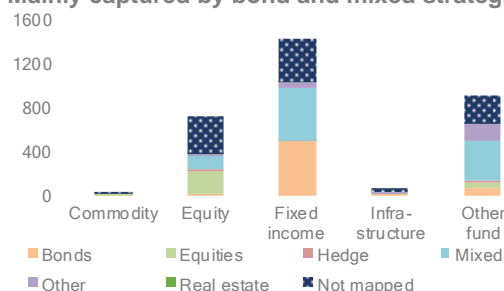
Note: NAV of AIFs reported under AIFMD mapped into ECB investment policy classification.
Sources: AIFMD database, National Competent Authorities, ESMA.

Not surprisingly, funds with a hedge fund investment policy in the ECB classification are reported under the AIFMD as hedge funds (EUR 62bn) or either as funds of funds (EUR 50bn). Still some AIFs with the characteristics of hedge funds could be potentially mis-classified and reported under different AIF types. Real estate funds show a high degree of correspondence between the two classifications, whereas 40% of funds-of-funds’ NAV (EUR 170bn) falls, surprisingly, into the mixed fund class (ASR-AIF.106).

Around 50% of funds enriched by the matching exercise are classified under the AIFMD as ‘other AIFs’. This proportion is even higher in terms of NAV, i.e. 66%, and amounts to EUR 2tn.

Therefore, the mapping of AIFMD and ECB data provides more detailed insight into the ‘other AIFs’ category under the AIFMD. The vast majority of ‘other AIFs’ that can be identified with the ECB data, are fixed income and equity AIFs, as well as funds reporting into the further residual strategy, the so-called ‘other-other’ AIFs. Under the AIFMD reporting framework, this last strategy alone is used by one third of EU AIFs and represents almost 20% of the total net assets (EUR 900bn).

ASR-AIF.107
‘Other AIFs’ mapped into ECB investment policy
Mainly captured by bond and mixed strategies



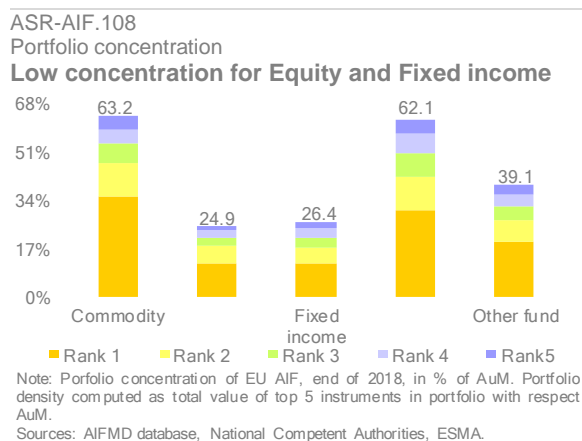
Note: NAV of EU AIFs classified as Other under AIFMD mapped into the ECB investment policy classification, end of 2018, EUR bn.
AIFMD database, National Competent Authorities, ESMA, ECB.

The sample of equity AIFs is mostly consistent with the investment policies as defined by the ECB. Overall, only one third of AIFs reported as fixed income under the AIFMD would be primarily investing in bonds (around EUR 490bn). A large proportion of fixed income (33%) and ‘other-other’ AIFs (40%) seems instead to be well described as mixed funds. (ASR-AIF.107).

Traded instruments and portfolio characteristics

Using reported information on the five main instruments in which AIFs trade, it is possible to gain some insights into the portfolio composition of “other AIFs” and obtain a clearer picture of their activities.

²⁹ Feeder AIFs are excluded from the exercise to avoid double counting.



The typical equity and fixed income AIFs have around 25% of their long-position assets invested in their five largest positions. Commodity and infrastructure AIFs appear more concentrated with more than 60% invested in the top-five assets (ASR-AIF.108). The 'other-other' AIFs show a higher degree of asset concentration, implying that the returns of these AIFs depend on the performance of a small number of key assets. Whereas the portfolio concentration differs across fund strategies, the level of portfolio density is similar, with the highest ranked asset already accounting for half of the main instruments in which AIFs are trading.

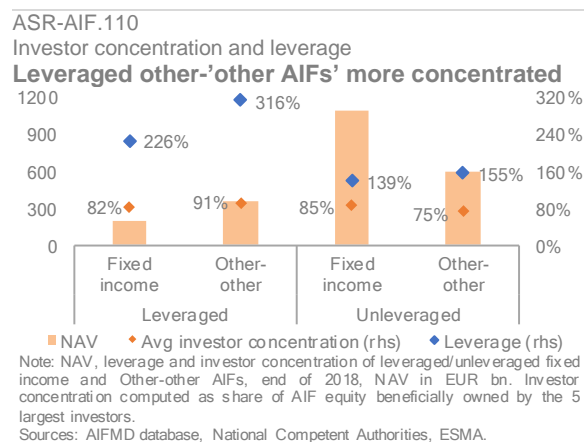
ASR-AIF.109
Main instruments
Diverse use of instruments

AIF type	Fixed Income	Other-other
	%	%
Cash and equivalent	2.1	1.8
Equity	0.1	5.1
Corporate bonds	1.4	0.7
Sovereign bonds	4.8	7.9
Convertible bonds	0.1	-
Structured products	0.2	0.5
Derivative (incl. CDS)	3.2	4.1
IRDs and FX derivatives	9.1	5.2
Other derivatives (incl. commodity)	0.3	1.1
Real/physical assets	-	0.2
CIU (incl. ETF and MMF)	4.5	9.2
Other asset classes	0.2	1.9
Total	26.4	39.1

Note: Five main instruments in which fixed income and other-'other AIFs' are trading.
Source: AIFMD database, National Competent Authorities, ESMA

For 'other-other AIFs', the top five instruments show sizable shares of CIUs and sovereign bonds, 9% and 8%, respectively. Looking at the use of derivatives, fixed income and 'other-other AIFs' rely to some extent on IRDs, FX derivatives and CDS (ASR-AIF.109). The use of derivatives in funds engaging into bond trading can serve the following two purposes: first, a risk management tool, e.g. managers investing in debt securities

could use derivatives to adjust exposures to interest rate, credit, and currency risk; second, a flexible and less capital-intensive alternative to other assets to enhance the risk-return profile of the fund through leverage.



Leveraged and unleveraged fixed income and 'other-other AIFs' add up to EUR 550bn and EUR 1.7tn of NAV respectively. Both leveraged and unleveraged fixed income funds show comparable levels of investor concentration, on average 80%. In the case of the residual 'other AIFs', the economic leverage, represented by the ratio between the regulatory AuM and NAV, tends to increase together with investor concentration (ASR-AIF.110).

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Exposures of AIFs to leveraged loans and CLOs

The issuance of leveraged loans and CLOs has surged over the last few years. Higher indebtedness of borrowers and looser underwriting standards amid compressed spreads have raised concerns among policymakers, especially given data gaps on ultimate investors into those markets. This section focuses on the exposures of AIFs to leveraged loans and CLOs and analyses potential risks related to these exposures. Overall, exposures have increased by 15% to reach EUR 108bn by the end of 2018, but liquidity risk and leverage remain limited, with the exception of a few funds.

Introduction

The leveraged loan market has been buoyant over the last few years, as investors are attracted by the higher yields on leveraged loans than on investment grade corporate bonds, while corporate borrowers are able to obtain relatively cheap funding. Several authorities and international financial institutions have recently raised concerns about the rapid growth of the leveraged loan market, amid a deterioration of credit quality of corporates (Bank of England, 2019, ECB, 2019; IMF, 2019).

In this context, reliable data on exposures of financial institutions to leveraged loans and CLOs are key to assess potential vulnerabilities in the financial system (Bouveret et al., 2019). This article uses AIFMD data to shed light on AIFs exposures to leveraged loans and CLOs, and assesses potential risks stemming from AIFs.

AIFs exposures to leveraged loans and CLOs

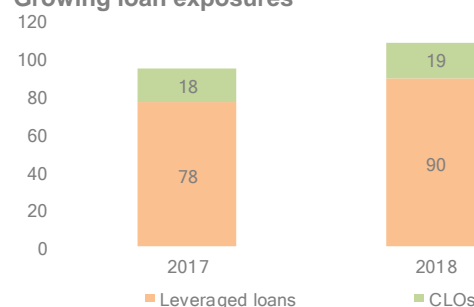
Two main sources of data under the AIFMD can be used to assess AIFs' exposures to specific asset classes.

- Under Article 24(2) of the AIFMD, AIFs have to report detailed data on their exposures (long and short), including specifically on some asset classes. AIFs report exposures on leveraged loans and on CDO/CLOs, where both securitised products are grouped together.
- Under Article 3(3)(d), funds have to report at security-level the top five instruments in which they are trading.

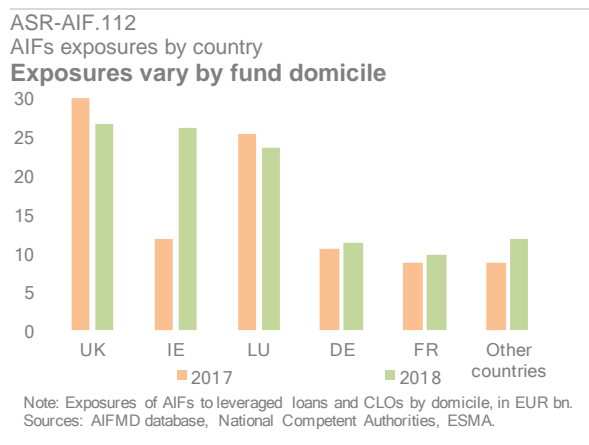
The exposures of AIFs managed by European AIFMs increased by 15% to EUR 109bn in 2018, compared with EUR 95bn in 2017. Overall, exposures are spread across more than 650 AIFs, with a combined NAV of EUR 570bn, accounting for fewer than 10% of all AIFs. More than 80% of AIFs exposures relate to leveraged loans rather than CLOs (ASR-AIF.111). The importance of leveraged loans in AIF portfolios mirrors the relative size of both markets, as leveraged loans are four times larger than CLOs according to the Financial Stability Board (2019). The increase in exposures comes from AIFs with no previous exposures to the leveraged loan market. Indeed, AIFs that had already invested in CLOs and leveraged loans in 2017 kept their exposures stable (EUR 74bn in 2018 compared with EUR 72bn in 2017).

ASR-AIF.111
AIFs exposures

Growing loan exposures

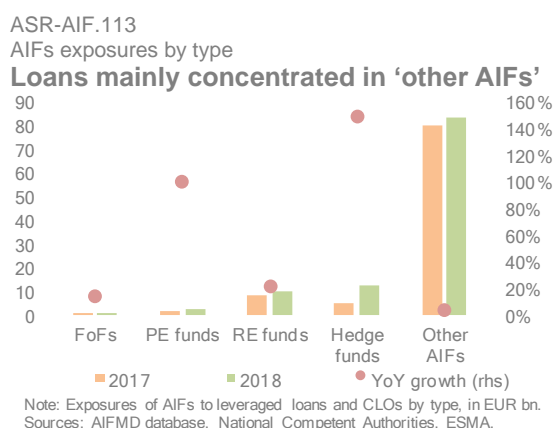


Note: Exposures of AIFs to leveraged loans and CLOs, in EUR bn.
Sources: AIFMD database, National Competent Authorities, ESMA.



Most AIFs with exposures to leveraged loans and CLOs are domiciled in a few countries: the top five countries account for 90% of exposures.

Looking at exposures by AIF types, around 75% of exposures are concentrated in “other AIFs”, a residual category, followed by hedge funds (11%) and real estate funds (9%). This finding is in line with Bouveret et al. (2019) which show that “other AIFs” account for close to two-thirds of the NAV of the sector. However, the proportion of exposures by ‘other AIFs’ declined from 84% in 2017 to 76% in 2018, as absolute exposures remained broadly stable (+4%), while they increased for other types of AIFs (ASR-AIF.113). In contrast, among other types, hedge funds increased their exposures the most, with a 150% rise to EUR 12.2bn.

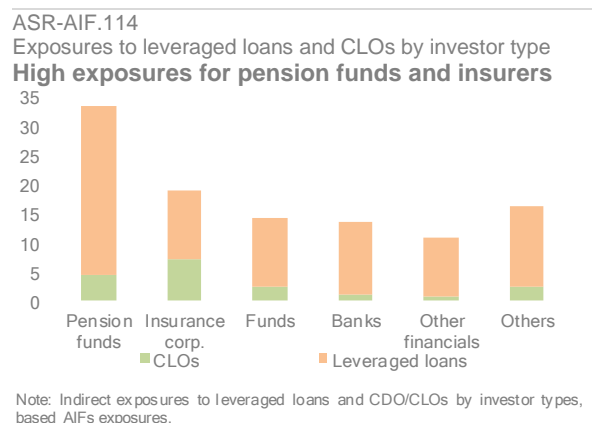


Investor types

The assessment of risks related to leveraged loans and CLOs is hampered by data gaps regarding investors’ exposures. Although direct exposures of financial institutions such as banks and insurance companies are recorded, it is difficult to estimate indirect exposures that financial institutions could have. For example,

insurance companies can get exposures to the leveraged loan market by investing in an AIF rather than by directly purchasing the loans. In that context, AIFMD reporting can shed some lights on the indirect exposures because managers have to report information on the type of investors.

Overall, pension funds and insurance companies are the most exposed to leveraged loans and CLOs through their investment in AIFs, with overall exposures of EUR 33bn and EUR 19bn respectively. Insurance companies are the most exposed to CLOs at around EUR 7bn. These exposures are more than two times higher than direct exposures to CLOs reported by EU insurance companies, which amounted to EUR 3bn at the end of 2018 according to EIOPA (2019). Although part of the difference might be owing to non-European insurance companies investing in AIFs, it remains likely that insurance companies’ indirect exposures through AIFs are larger than their direct exposures.



AIFs exposed to leveraged loans and CLOs are characterized by a very high concentration of ownership: around two-thirds of AIFs (accounting for 85% of NAV) are entirely held by their top-five investors.

AIF concentration of exposures

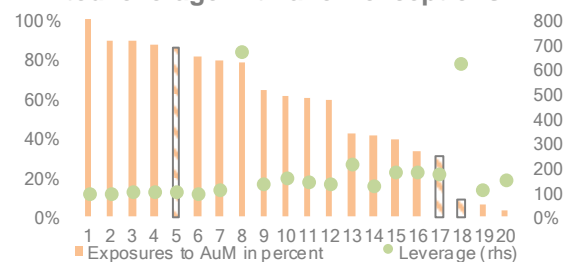
Most exposures are concentrated in a few funds, with the top-20 funds accounting for around 40% of all exposures and the top 50 for 60% of all exposures. AIFs with the largest exposures to leveraged loans and CLOs tend to invest mainly in these two asset classes: on average, they account for 60% of assets under management for the top twenty AIFs. For those AIFs, leverage – as measured by the ratio of AuM to NAV – is relatively limited at the aggregate level at 150% of NAV. However, a few AIFs with large loans and CLOs exposures

exhibit large leverage values (higher than 600% of NAV).

ASR-AIF.115

Exposures of top-20 AIFs

Limited leverage with a few exceptions



Note: Gross exposures to leveraged loans and CDO/CLOs in % of AuM or leverage defined as AuM to NAV. Data for the top 20 AIFs with the large exposures to leveraged loans and CDOs/CLOs in absolute amounts. Hedged funds AIFs are indicated by a pattern fill.

Sources: AIFMD database, National Competent Authorities, ESMA.

Liquidity mismatch

Finally, we look at potential liquidity mismatch for the 50 AIFs with the highest exposures to leveraged loans and CLOs. Redemptions from investors, in a context of stress in the leveraged loan and CLO markets, could force fund managers to liquidate their assets, thereby amplifying shocks to the financial system. Liquidity mismatch is assessed by comparing the liquidity of the portfolio and the investors' liquidity.

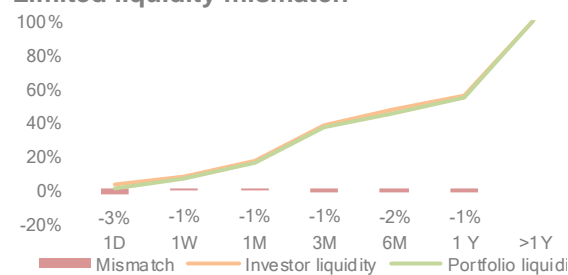
At the aggregate level, the top-50 AIFs face limited liquidity mismatch: investors can redeem up to 3% of the NAV within one day, whereas only 1% of the assets can be liquidated over this time frame, resulting in a liquidity mismatch equal to 2% of NAV (ASR-AIF.116). Over longer time horizons the mismatch remains limited, with 1% over one week and close to zero afterwards.

However, at the individual fund-level, a few AIFs face significant liquidity mismatch. Four AIFs offer daily redemptions to investors and less than 30% of their portfolio can be liquidated within one day. In addition, some of these funds are exclusively exposed to the CLO market, which exposes them to risks if the CLO market were to experience turbulence. The AIFs with the largest liquidity mismatch make limited use of leverage with their AuM-to-NAV ratio below 150%.

ASR-AIF.116

Liquidity profile

Limited liquidity mismatch



Note: Portfolio and investor liquidity, in % of NAV, weighted average. Portfolio liquidity indicates the cumulative share of NAV that can be liquidated over time and investor liquidity is the cumulative share of NAV that can be redeemed over the same time horizon.

Sources: AIFMD database, National Competent Authorities, ESMA.

Conclusion

AIFs exposures to leveraged loans and CLOs have increased in 2018, as the market has continued to grow rapidly. Overall, exposures remain limited and most AIFs investing in leveraged loans and CLOs make limited use of leverage and do not face significant liquidity mismatch. However, AIF exposures require active monitoring in the context of deterioration of underwriting standards and lower credit quality of leveraged loans. First, AIFs exposures are highly concentrated in a few funds, which invest mainly in these asset classes. Second, a few funds use leverage, which could amplify market movements and transmit shocks to the financial system. AIF data also show that some financial institutions have indirect exposures through AIFs, which are larger than direct exposures, which warrants further analysis.

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Definition of the AIF reference sample

AIF-specific information should be reported at the level of the compartments or sub-funds when the AIF takes the form of an umbrella fund. ESMA Guidelines specify that AIFMs and AIFs that have commenced have to start reporting from the first day of the calendar quarter following authorisation or registration. AIFMs and AIFs that have not started any activity must still report a nil return to the home competent authority. Relatedly, AIFMs have to provide a report upon liquidation of the AIFs they manage. Each AIF managed within the scope of the Directive must have only one AIFM, responsible for compliance with the requirements of the AIFMD. For this reason, the inclusion in the analysis of products marketed by non-EU sub-threshold managers does not introduce any bias or create double counting of entities, as their AIFs cannot be passported.

As of 31 August 2018, NCAs have gathered and made available to ESMA 35,048 reports for the end of 2018 of AIFs managed and/or marketed by authorised EU and sub-threshold AIFMs. Of the initial data intake, around 2,344 AIFs reported a nil return. The definition of the AIFs' reference sample for the analysis requires further data cleaning operations and consistency checks (ASR-AIF.117).

The final reference sample is constituted by 30,357 AIFs. Overall, 79% of them are managed by full-scope AIFMs benefiting from the EU passport. The final sample includes 487 AIFs without a predominant type (i.e., reported as 'None').

ASR-AIF.117

Data cleaning

Definition of the AIF reference sample

A series of preliminary operations are performed to define the sample of analysed AIFs and their characteristics. These include the following:

- Exclusion of reports that are not workable.

As for AIFMs, AIFs' reports may indicate that there is no information to be reported for the specified reporting period (nil return). Firms also have the opportunity to cancel previously submitted erroneous reports or amend existing ones. For this reason, multiple amended reports by the same fund for the same reporting period have to be detected so that the data can be properly consolidated.
- Exclusion of files missing critical information

In a few cases, AIF reports do not provide any indication of the investment strategy. Overall, the number of cases is negligible. In particular, at the end of 2018 only 14 funds-of-funds and 2 RE funds reporting NAV equal 0, and one PE fund with NAV of EUR 0.2bn did not provide indication of their primary investment strategy.
- Identification of feeder and master AIFs
- Identification of each AIFM jurisdiction and managed and/o marketed AIFs domicile

Feeder funds are excluded from analysis to avoid any double counting of assets (ASR-AIF.118).

ASR-AIF.118

Feeder AIFs

Prevalence of EU master-feeder AIFs

Feeder AIFs	EU	Non-EU	Total
	AIFs filing		
with EU master	935	464	1399
without EU master	531	209	740
Total	1,466	673	2,139
	NAV (EUR bn)		
with EU master	144,3	143,8	288.1
without EU master	37.5	45.3	82.8
Total	181.7	189.1	370.8

Note: Number and NAV of feeder AIFs by domicile, end of 2018.
Source: AIFMD database, National Competent Authorities, ESMA.

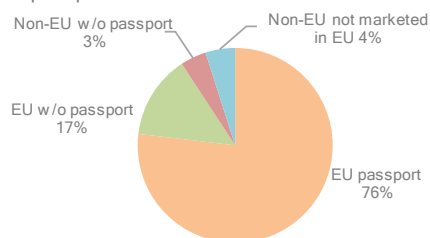
EU Alternative Investment Funds statistics

Market overview

AIF characteristics

ASR-AIF-S.1

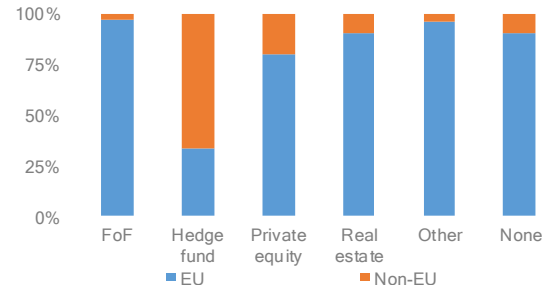
AIFMD passport



Note: NAV of AIFs by manager's access to AIFMD passport, end of 2018, in %. Authorised EU AIFMs with access to AIFMD passport or marketing non-EU AIFs w/o passport, sub-threshold managers registered only in national jurisdictions w/o passporting rights. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.2

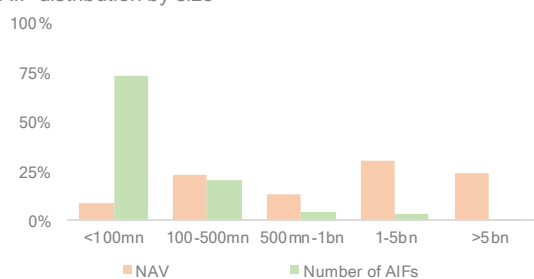
EU and non-EU AIFs



Note: Share of EU and non-EU AIFs managed and/or marketed by authorised EU AIFMs and sub-threshold managers registered only in national jurisdictions, end of 2018, in % on NAV. Non-EU AIFs marketed w/o passport. Data for 25 EEA countries. Sources: AIFMD database, National competent Authorities, ESMA.

ASR-AIF-S.3

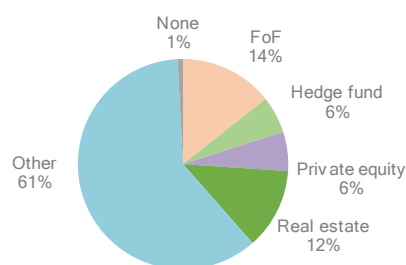
AIF distribution by size



Note: Share of AIFs by size, end of 2018, in %. AIFs managed and/or marketed by authorised EU AIFMs and sub-threshold managers registered only in national jurisdictions. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.4

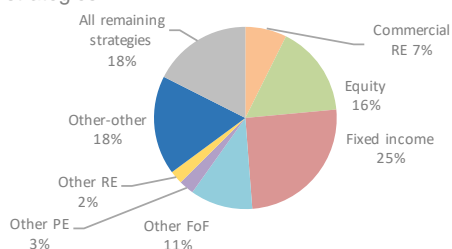
AIF types



Note: NAV by type of AIFs managed and/or marketed by authorised EU AIFMs and sub-threshold managers registered only in national jurisdictions, end of 2018, in %. FoF=Fund of funds, None=No predominant type. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.5

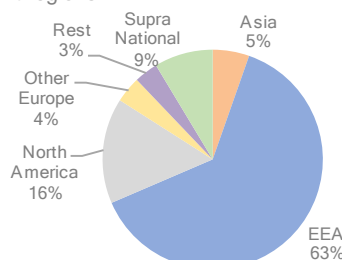
AIF strategies



Note: Investment strategy of AIFs managed and/or marketed by authorised EU AIFMs and sub-threshold managers registered only in national jurisdictions, end of 2018, in % of NAV. FoF=Fund of funds, PE=Private equity funds, RE=Real estate. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.6

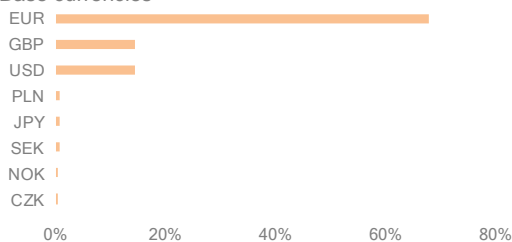
Investment regions



Note: Regional investment focus of AIFs managed and/or marketed by authorised EU AIFMs and sub-threshold managers registered only in national jurisdictions, end of 2018, in % of NAV. Geo-focus determined according to the domicile of investments, supra national category including investments without predominant geo-focus. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.7

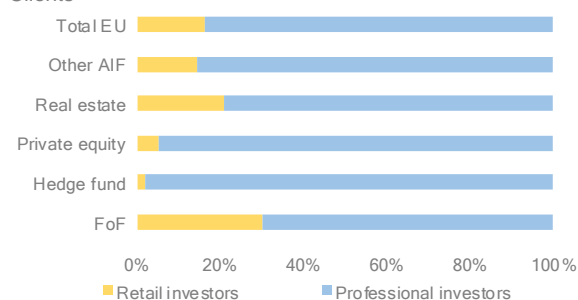
Base currencies



Note: Base currency managed and/or marketed by authorised EU AIFMs and sub-threshold managers registered only in national jurisdictions, end of 2018, in % of NAV. Sources: AIFMD database, National Competent Authorities, ESMA. Data for 25 EEA countries.

ASR-AIF-S.8

Clients

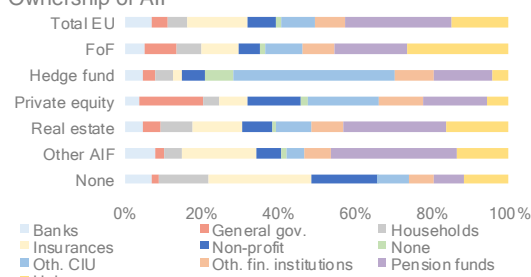


Note: Clients of AIFs managed and/or marketed by authorised EU AIFMs and sub-threshold managers registered only in national jurisdictions, end of 2018, in % of NAV. FoF=Fund of funds. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

Liquidity and counterparty risk profile

ASR-AIF-S.9

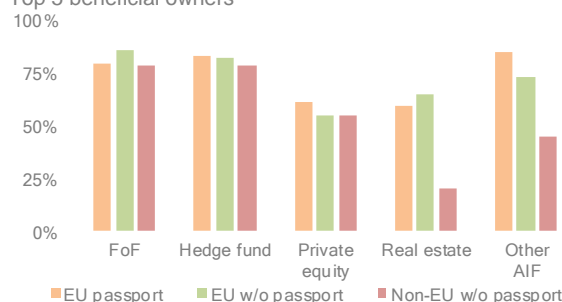
Ownership of AIF



Note: Ownership of units in AIFs managed and/or marketed by authorised EU AIFMs, end of 2018, in % of NAV. FoF=Fund of funds; None=No predominant type. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.10

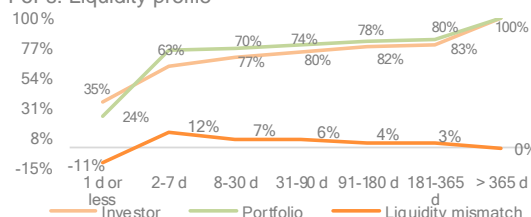
Top 5 beneficial owners



Note: Investor concentration of AIFs managed and/or marketed by authorised EU AIFMs, end of 2018, in % of NAV. Investor concentration computed as share of AIF equity beneficially owned by the 5 largest investors. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.11

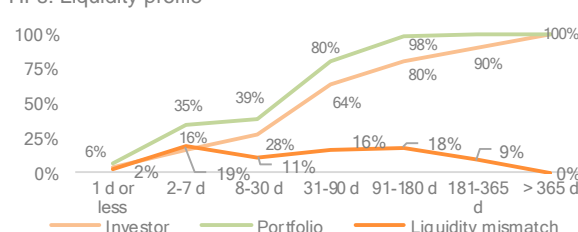
FoFs: Liquidity profile



Note: Portfolio and investor liquidity profiles of funds of funds managed and/or marketed by authorised EU AIFMs, end of 2018. Portfolio profile determined by percentage of the funds' portfolios capable of being liquidated within each specified period, investor liquidity profile depend on shortest period within each fund could be withdrawn or investors could receive redemption payments. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. d=Days. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.12

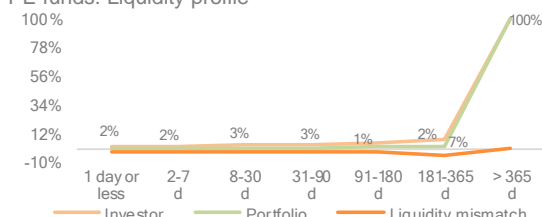
HF: Liquidity profile



Note: Portfolio and investor liquidity profiles of hedge funds managed and/or marketed by authorised EU AIFMs, end of 2018. Portfolio profile determined by percentage of the funds' portfolios capable of being liquidated within each specified period, investor liquidity profile depend on shortest period within each fund could be withdrawn or investors could receive redemption payments. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. d=Days. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.13

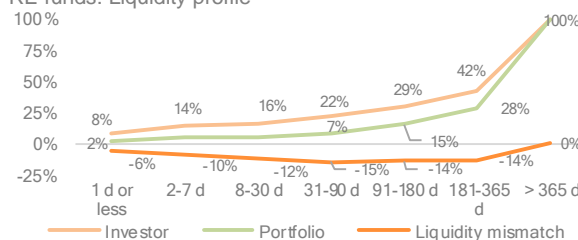
PE funds: Liquidity profile



Note: Portfolio and investor liquidity profiles of private equity funds managed and/or marketed by authorised EU AIFMs, end of 2018. Portfolio profile determined by percentage of the funds' portfolios capable of being liquidated within each specified period, investor liquidity profile depend on shortest period within each fund could be withdrawn or investors could receive redemption payments. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. d=Days. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.14

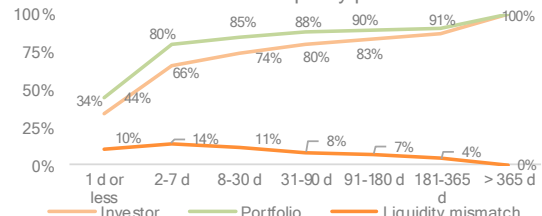
RE funds: Liquidity profile



Note: Portfolio and investor liquidity profiles of real estate funds managed and/or marketed by authorised EU AIFMs, end of 2018. Portfolio profile determined by percentage of the funds' portfolios capable of being liquidated within each specified period, investor liquidity profile depend on shortest period within each fund could be withdrawn or investors could receive redemption payments. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. d=Days. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.15

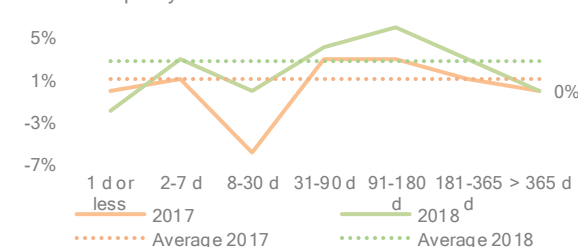
Funds classified as 'Other': Liquidity profile



Note: Portfolio and investor liquidity profiles of AIFs classified as 'Other' managed and/or marketed by authorised EU AIFMs, end of 2018. Portfolio profile determined by percentage of the funds' portfolios capable of being liquidated within each specified period, investor liquidity profile depend on shortest period within each fund could be withdrawn or investors could receive redemption payments. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. d=Days. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.16

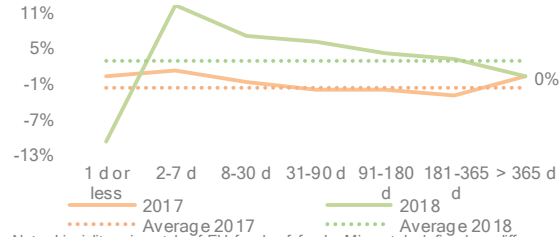
EU AIFs: Liquidity mismatch



Note: Liquidity mismatch of EU AIFs. Mismatch defined as difference between share of funds' portfolios capable of being liquidated and investor ability to receive redemption payments. Average weighted by extremes of time buckets reflecting days required for asset liquidation and investor redemption. Positive values reflecting portfolio liquidity higher than investor liquidity. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.17

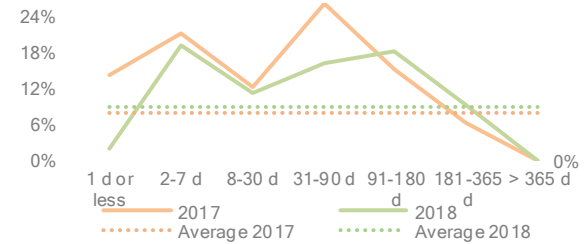
FoFs: Liquidity mismatch



Note: Liquidity mismatch of EU funds of funds. Mismatch defined as difference between share of funds' portfolios capable of being liquidated and investor ability to receive redemption payments. Average weighted by extremes of time buckets reflecting days required for asset liquidation and investor redemption. Positive values reflecting portfolio liquidity higher than investor liquidity. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.18

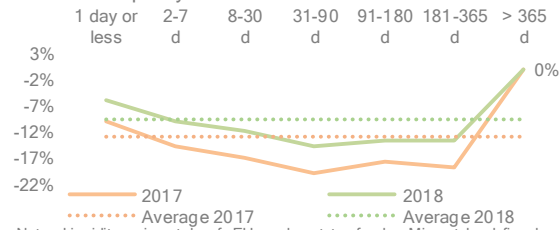
HF: Liquidity mismatch



Note: Liquidity mismatch of EU hedge funds. Mismatch defined as difference between share of funds' portfolios capable of being liquidated and investor ability to receive redemption payments. Average weighted by extremes of time buckets reflecting days required for asset liquidation and investor redemption. Positive values reflecting portfolio liquidity higher than investor liquidity. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.19

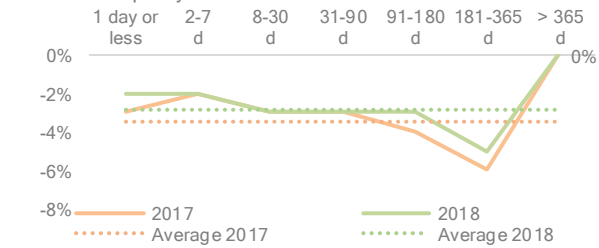
RE funds: Liquidity mismatch



Note: Liquidity mismatch of EU real estate funds. Mismatch defined as difference between share of funds' portfolios capable of being liquidated and investor ability to receive redemption payments. Average weighted by extremes of time buckets reflecting days required for asset liquidation and investor redemption. Positive values reflecting portfolio liquidity higher than investor liquidity. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.20

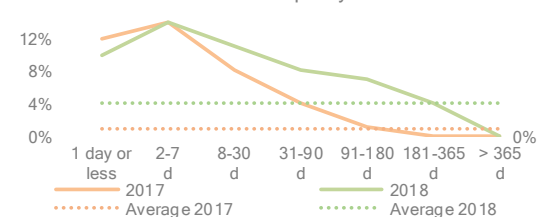
PE funds: Liquidity mismatch



Note: Liquidity gap of EU private equity funds. Liquidity gap defined as difference between share of funds' portfolios capable of being liquidated and investor ability to receive redemption payments. Average weighted by extremes of time buckets reflecting days required for asset liquidation and investor redemption. Positive values reflecting portfolio liquidity higher than investor liquidity. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.21

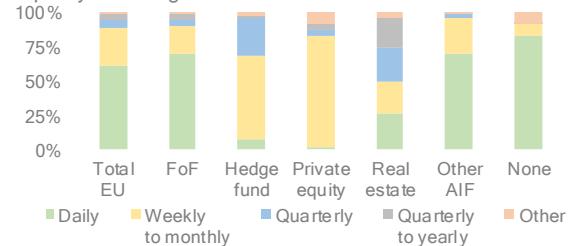
Funds classified as 'Other': Liquidity mismatch



Note: Liquidity mismatch of EU AIFs classified as Other. Mismatch defined as difference between share of funds' portfolios capable of being liquidated and investor ability to receive redemption payments. Average weighted by extremes of time buckets reflecting days required for asset liquidation and investor redemption. Positive values reflecting portfolio liquidity higher than investor liquidity. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.22

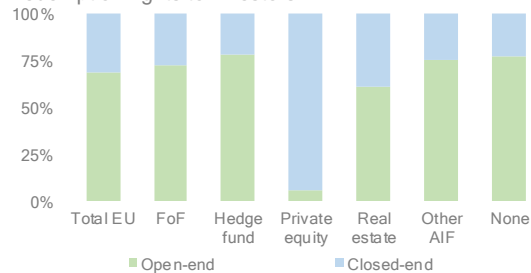
Liquidity financing



Note: Investor redemption frequencies allowed by open-end AIFs managed and/or marketed by authorised EU AIFMs, end of 2018, in % of NAV. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. FoF=Fund of Funds, None=No Predominant Type. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.23

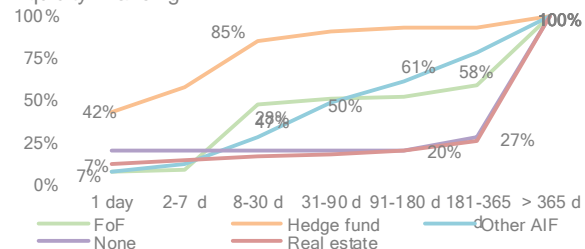
Redemption rights to investors



Note: Redemption rights provided in the ordinary course to investors in AIFs managed and/or marketed by authorised EU AIFMs, end of 2018, in % of NAV. FoF=Fund of funds, None=No predominant type. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.24

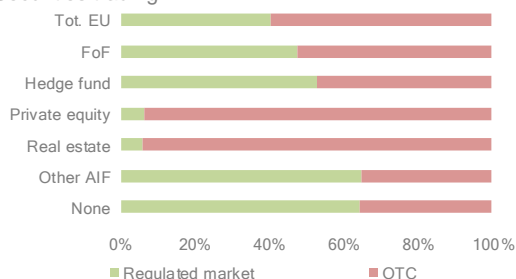
Liquidity financing



Note: Liquidity financing of AIFs managed and/or marketed by authorised EU AIFMs, end of 2018. Aggregate amount of borrowing and cash financing divided depending on longest period for which creditors are contractually committed to provide such financing. Borrowing and cash financing include drawn and undrawn, committed and uncommitted lines of credit as well as any term financing. FoF=Fund of funds, None=No Predominant type. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.25

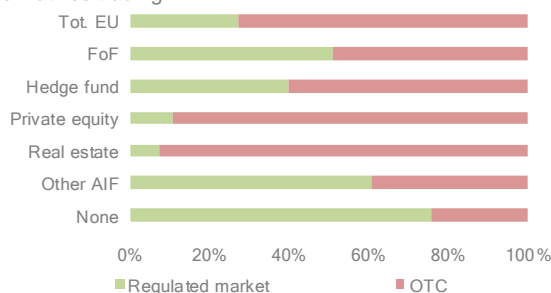
Securities trading



Note: Estimated market value of securities traded on OTC and regulated exchange markets by AIFs managed and/or marketed by authorised EU AIFMs, in %. FoF=Fund of funds, None=No predominant type. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.26

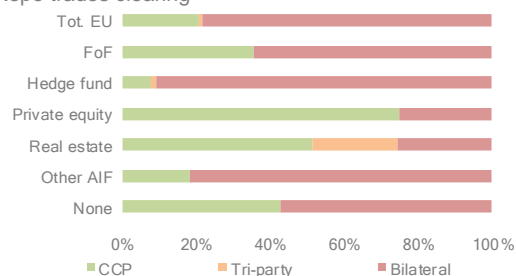
Derivatives trading



Note: Estimated volume of derivatives traded on OTC and regulated market by AIFs managed and/or marketed by authorised EU AIFMs, in %. FoF=Fund of funds, None=No predominant type. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.27

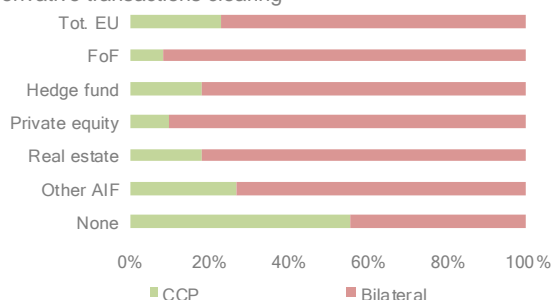
Repo trades clearing



Note: Estimated market value of repo trades cleared by AIFs managed and/or marketed by authorised EU AIFMs, in % FoF=Fund of funds, None=No predominant type. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.28

Derivative transactions clearing

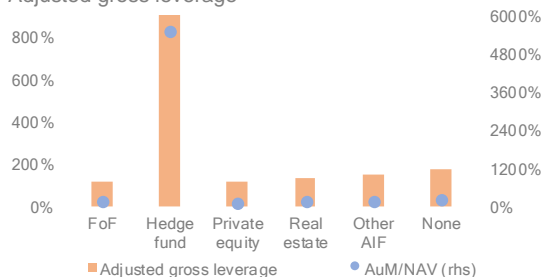


Note: Estimated volume of derivatives cleared bilaterally and via CCP by AIFs managed and/or marketed by authorised EU AIFMs, in %. FoF=Fund of funds, None=No predominant type. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

Leverage and exposure

ASR-AIF-S.29

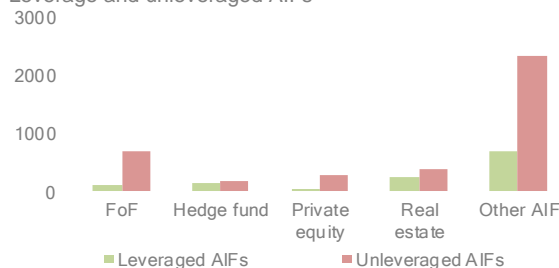
Adjusted gross leverage



Note: Adjusted gross leverage of AIFs managed and/or marketed by authorised EU AIFMs, end of 2018, in % of NAV. Adjusted gross leverage does not include IRDs. FoF= Fund of funds, None=No predominant type. Data for 25 EEA countries. Sources: AIFMD database, National competent authorities, ESMA.

ASR-AIF-S.30

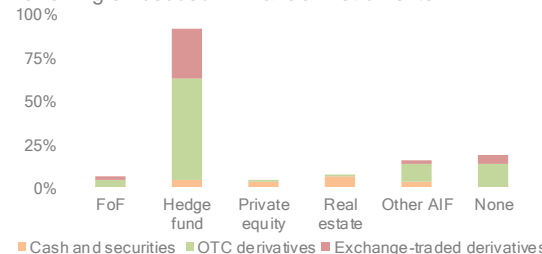
Leverage and unleveraged AIFs



Note: Leveraged and unleveraged AIFs managed and/or marketed by authorised EU AIFMs and sub-threshold managers registered only in national jurisdictions, end of 2018, EUR bn. FoF=Fund of funds. Data for 24 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.31

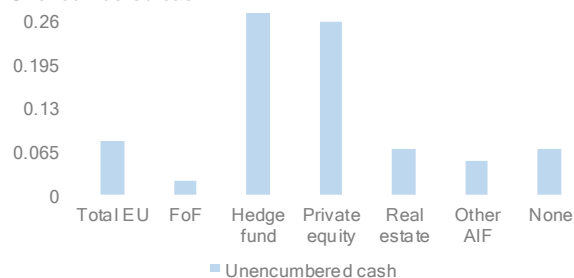
Borrowing embedded in financial instruments



Note: Borrowing of cash and securities or embedded in derivatives, end of 2018, in % of total exposure. AIFs managed and/or marketed by authorised EU AIFMs. OTC and exchange-traded derivatives net of margins. FoF=Fund of funds, None=No predominant type. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

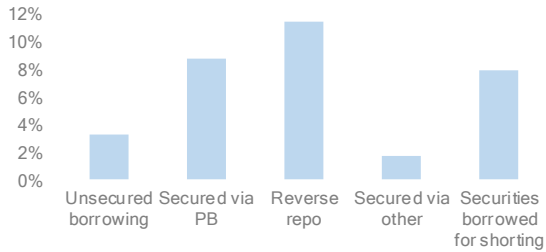
ASR-AIF-S.32

Unencumbered cash



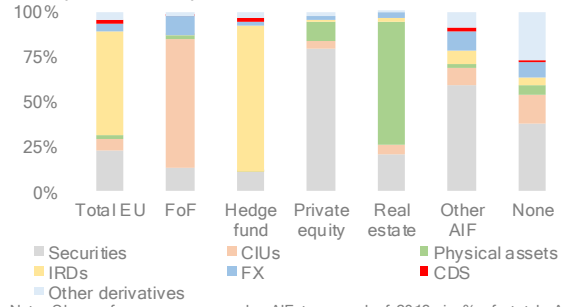
Note: Unencumbered cash, end of 2018, in % of NAV. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o pass.port. FoF=Fund of funds, None=No predominant type. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.33
Financial leverage



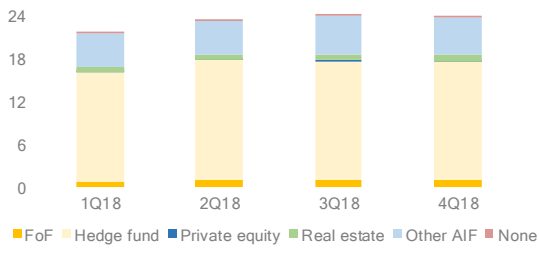
Note: Cash and securities borrowed, end of 2018, in% of NAV. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. FoF=Funds of Funds, None=No predominant type. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.34
Decomposition of exposures



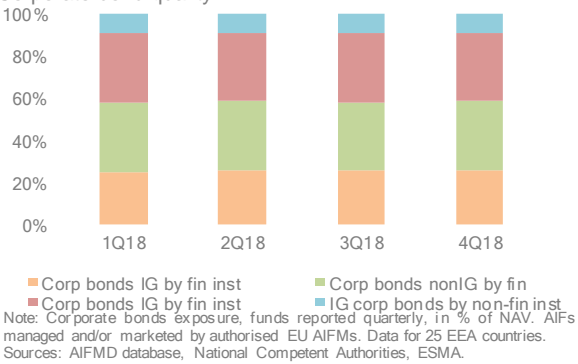
Note: Share of gross exposures by AIF type, end of 2018, in % of total. AIFs managed and/or marketed by authorised EU AIFMs. FoF=Fund of funds, None=No predominant type. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.35
Total exposures



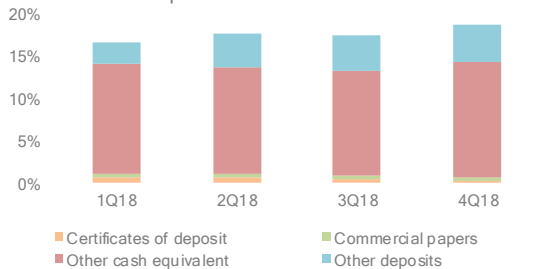
Note: Exposures of AIFs managed and/or marketed by authorised EU AIFMs, funds quarterly reported, EUR tn. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. FoF=Fund of funds, None=No predominant type. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.36
Corporate bond quality



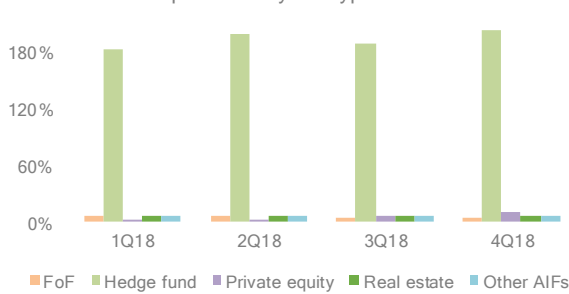
Note: Corporate bonds exposure, funds reported quarterly, in % of NAV. AIFs managed and/or marketed by authorised EU AIFMs. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

S.37
Cash and cash equivalents



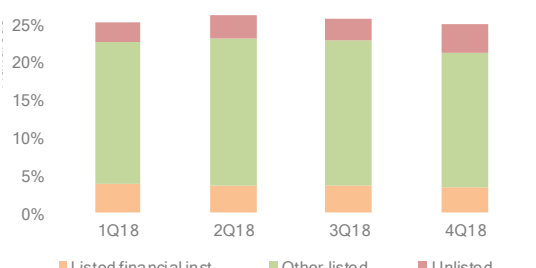
Note: Cash and cash equivalents exposure, funds reported quarterly, in % of NAV. Government bonds excluded from other cash equivalents. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.38
Cash and cash equivalents by AIF type



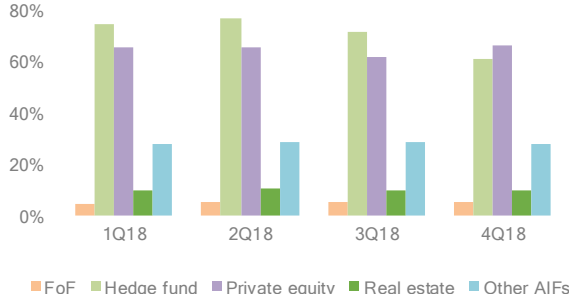
Note: Cash and cash equivalents exposure by AIF type, funds quarterly reported, in % of NAV. Data for 25 EEA countries. FoF=Funds of funds. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.39
Equities



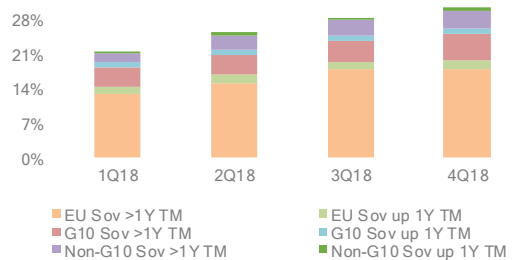
Note: Exposure to equities, funds quarterly reported, in % of NAV. AIFs managed and/or marketed by authorised EU AIFMs. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.40
Equities by AIF type



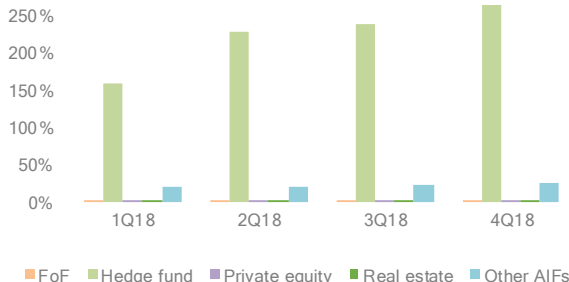
Note: Equities exposure by AIF type, funds quarterly reported, in % of NAV. AIFs managed and/or marketed by authorised EU AIFMs. Data for 25 EEA countries. FoF=Funds of Funds. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.41
Sovereign bonds



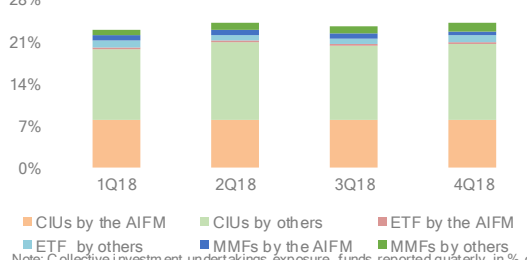
Note: Sovereign bonds exposure, funds reported quarterly, in % of NAV. AIFs managed and/or marketed by authorised EU AIFMs. Sov=Sovereign bonds, TM=Time to Maturity. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.42
Sovereign bonds by AIF type



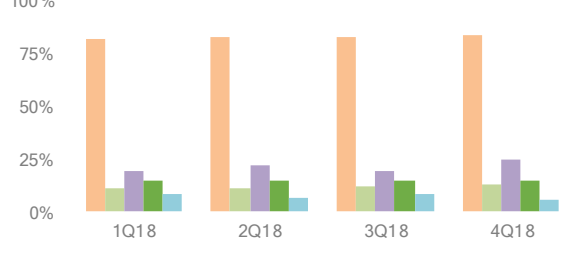
Note: Sovereign bonds exposure by AIF type, funds reported quarterly, in % of NAV. AIFs managed and/or marketed by authorised EU AIFMs. FoF=Funds of Funds. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.43
CIUs



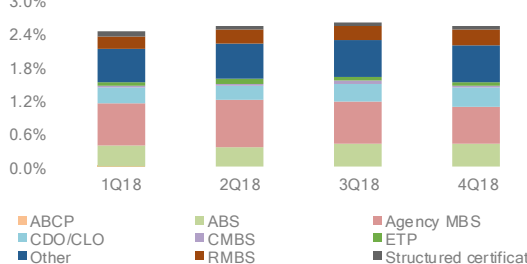
Note: Collective investment undertakings exposure, funds reported quarterly, in % of NAV. AIFs managed and/or marketed by authorised EU AIFMs. CIUs=Collective Investment Undertakings. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.44
CIUs by AIF type



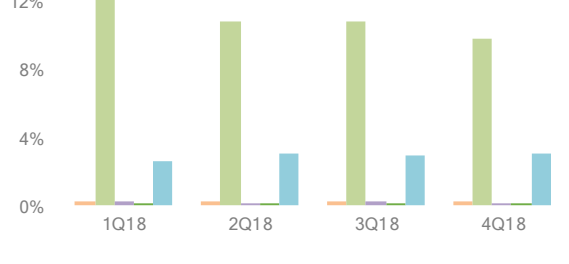
Note: Collective investment undertakings exposure by AIF type, funds reported quarterly, in % of NAV. AIFs managed and/or marketed by authorised EU AIFMs. FoF=Funds of Funds. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.45
Structured products



Note: Structured products exposure, funds reported quarterly, in % of NAV. AIFs managed and/or marketed by authorised EU AIFMs. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.46
Structured products by AIF type



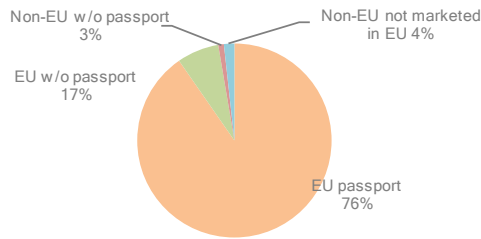
Note: Structured products exposure by AIF type, funds reported quarterly, in % of NAV. AIFs managed and/or marketed by authorised EU AIFMs. FoF=Funds of funds. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

Funds of Funds

AIF characteristics

ASR-AIF-S.47

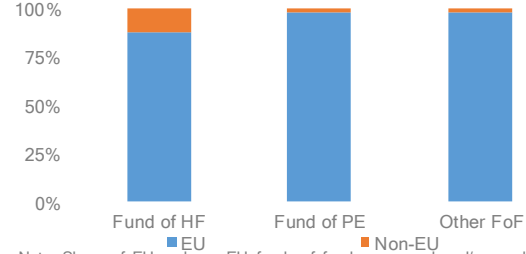
AIFMD passport



Note: NAV of funds of funds by manager's access to AIFMD passport, end of 2018, in %. Authorised EU AIFMs with access to AIFMD passport or marketing non-EU AIFs w/o passport, sub-threshold managers are registered only in national jurisdictions w/o passporting rights. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.48

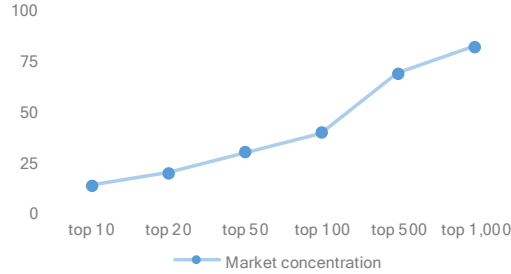
EU and non-EU AIFs



Note: Share of EU and non-EU funds of funds managed and/or marketed by authorised EU AIFMs and sub-threshold managers registered only in national jurisdictions, end of 2018, in % of NAV. Non-EU AIFs marketed w/o passport. FoF=Fund of funds, PE=Private equity fund, HF=Hedge fund. Data for 25 EEA countries. Sources: AIFMD database, National competent Authorities, ESMA.

ASR-AIF-S.49

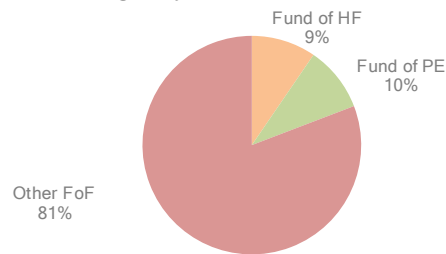
Market concentration



Note: Market concentration of the largest 10-to-1,000 funds of funds managed and/or marketed by authorised EU AIFMs and sub-threshold managers registered only in national jurisdictions, end of 2018, in % of NAV. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.50

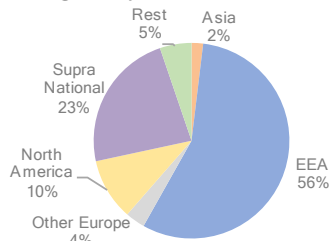
Investment strategies by NAV



Note: Investment strategies of funds of funds, end of 2018, 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 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.51

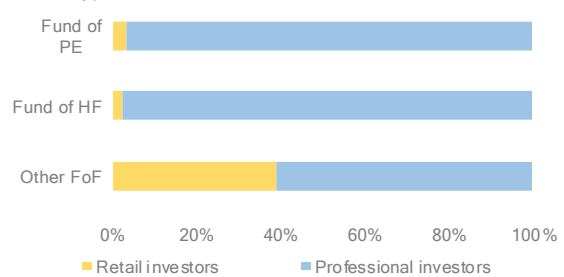
Investment regions by NAV



Note: Regional investment focus of funds of funds managed and/or marketed by authorised EU AIFMs and sub-threshold managers registered only in national jurisdictions, end of 2018, 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 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.52

Investor type

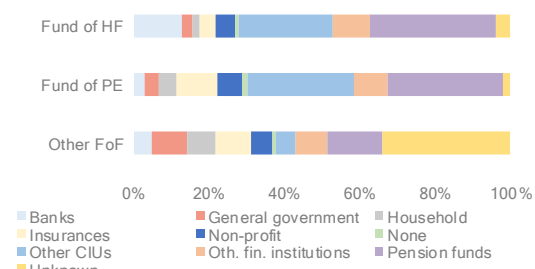


Note: Clients of funds of funds managed and/or marketed by authorised EU AIFMs and sub-threshold managers registered only in national jurisdictions, end of 2018, in % of NAV. FoF=Fund of funds, PE= Private equity fund, HF=Hedge fund. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

Liquidity and counterparty risk profile

ASR-AIF-S.53

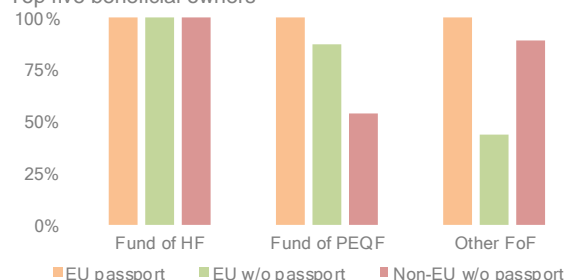
Ownership of AIFs



Note: Ownership of units in funds of funds managed and/or marketed by authorised EU AIFMs, end of 2018, in % of NAV. FoF=Fund of funds; PE=Private equity fund, HF=Hedge fund. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.54

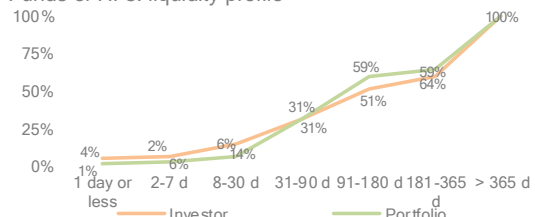
Top five beneficial owners



Note: Investor concentration of funds of funds managed and/or marketed by authorised EU AIFMs, end of 2018, in % of NAV. Investor concentration computed as share of AIF equity beneficially owned by the 5 largest investors. FoF=Fund of Funds, PEQF=Private Equity Fund, HF=Hedge Fund. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.55

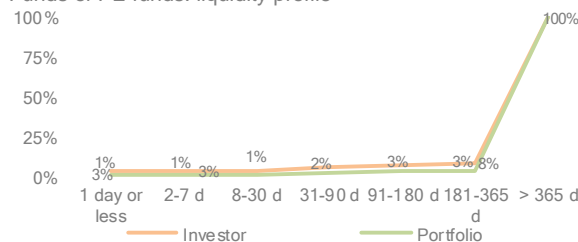
Funds of HF: liquidity profile



Note: Portfolio and investor liquidity profiles of funds of hedge funds managed and/or marketed by authorised EU AIFMs, end of 2018. Portfolio profile determined by percentage of the funds' portfolios capable of being liquidated within each specified period, investor liquidity profile depends on shortest period within each fund could be withdrawn or investors could receive redemption payments. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. d= Days. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.56

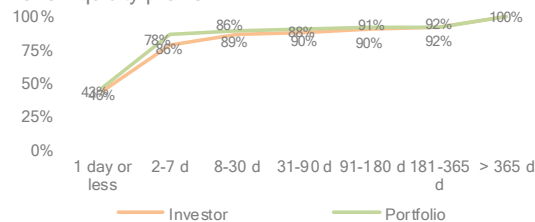
Funds of PE funds: liquidity profile



Note: Portfolio and investor liquidity profiles of funds of private equity funds managed and/or marketed by authorised EU AIFMs, end of 2018. Portfolio profile determined by percentage of the funds' portfolios capable of being liquidated within each specified period, investor liquidity profile depends on shortest period within each fund could be withdrawn or investors could receive redemption payments. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. d= Days. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.57

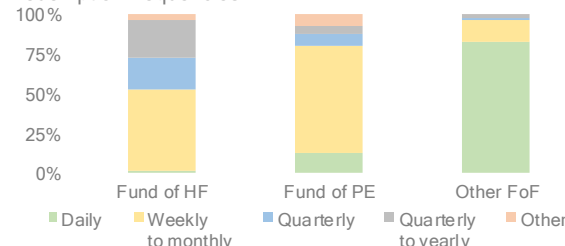
FoFs: liquidity profile



Note: Portfolio and investor liquidity profiles of funds of funds pursuing strategies classified as Other managed and/or marketed by authorised EU AIFMs, end of 2018. Portfolio profile determined by percentage of the funds' portfolios capable of being liquidated within each specified period, investor liquidity profile depends on shortest period within each fund could be withdrawn or investors could receive redemption payments. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. d= Days. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.58

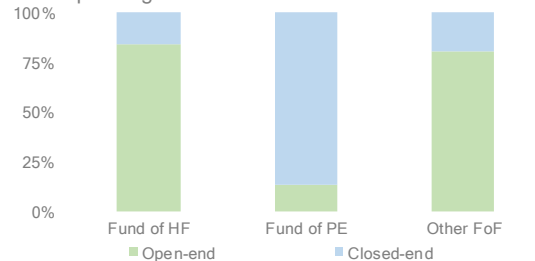
Redemption frequencies



Note: Investor redemption frequencies allowed by open-end funds of funds managed and/or marketed by authorised EU AIFMs, end of 2018, in % of NAV. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. FoF=Fund of funds, PE=Private equity fund, HF=Hedge Fund. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.59

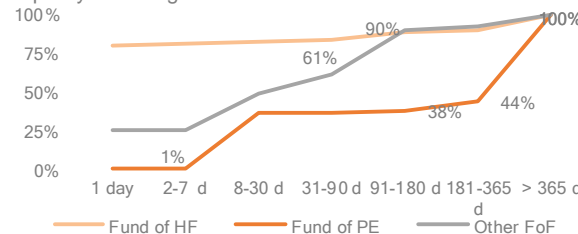
Redemption rights to investors



Note: Redemption rights provided in the ordinary course to investors in funds of funds managed and/or marketed by authorised EU AIFMs, end of 2018, in % of NAV. HF=Hedge fund; PE=Private equity; FoF=Fund of funds, PE=Private equity fund. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

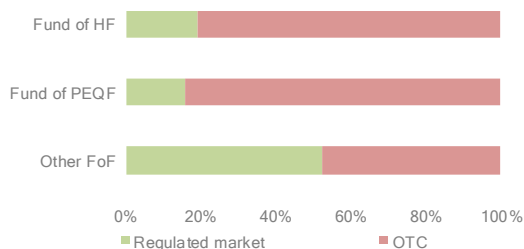
ASR-AIF-S.60

Liquidity financing



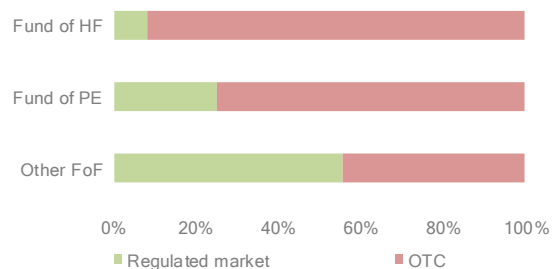
Note: Liquidity financing of funds of funds managed and/or marketed by authorised EU AIFMs, end of 2018. Aggregate amount of borrowing and cash financing divided depending on longest period for which creditors are contractually committed to provide such financing. Borrowing and cash financing include drawn and undrawn, committed and uncommitted lines of credit as well as any term financing. Data for 25 EEA countries. FoF=Fund of funds, PE=Private equity fund, HF=Hedge fund. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.61
Securities trading



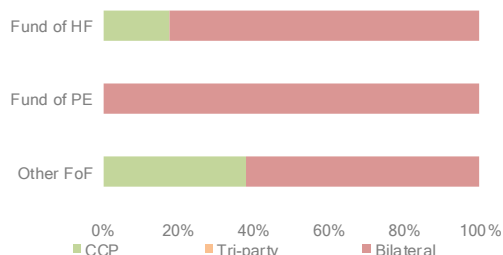
Note: Estimated market value of securities traded on OTC and regulated exchange markets by funds of funds managed and/or marketed by authorised EU AIFMs, in %. FoF=Fund of funds, PE=Private equity fund, HF=Hedge fund. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.62
Derivatives trading



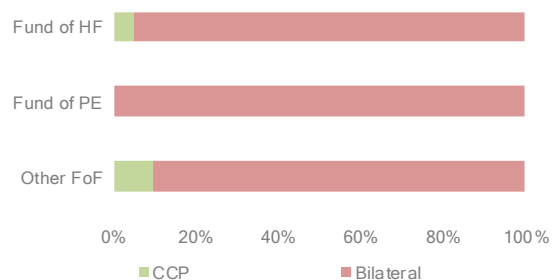
Note: Estimated volume of derivatives traded on OTC and regulated exchange markets by funds of funds managed and/or marketed by authorised EU AIFMs, in %. FoF=Fund of funds, PE=Private equity fund, HF=Hedge fund. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.63
Repo trades clearing



Note: Estimated market value of repo trades cleared by market by funds of funds managed and/or marketed by authorised EU AIFMs, in %. FoF=Fund of funds, PE=Private equity fund, HF=Hedge fund. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

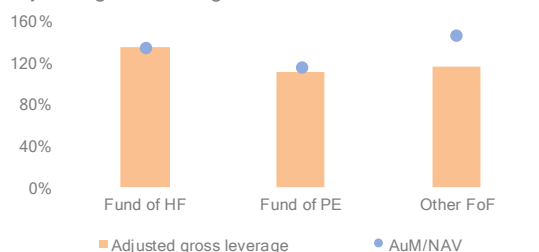
ASR-AIF-S.64
Derivatives trades clearing



Note: Estimated volume of derivatives cleared bilaterally and via CCP by funds of funds managed and/or marketed by authorised EU AIFMs, in %. FoF=Fund of funds, PEQF=Private equity fund, HF=Hedge fund. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

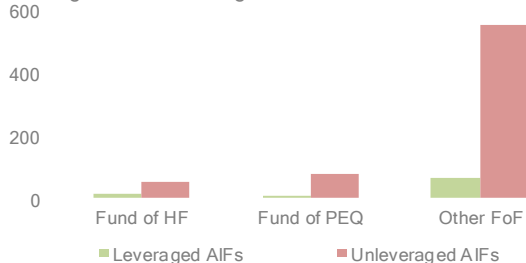
Leverage and exposure

ASR-AIF-S.65
Adjusted gross leverage



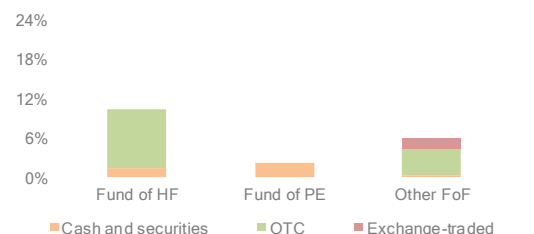
Note: Adjusted gross leverage of funds of funds managed and/or marketed by authorised EU AIFMs, end of 2018, in % of NAV. Adjusted gross leverage computed as total exposure less IRDs with respect to NAV. FoF= Funds of funds, PE=Private equity fund, HF=Hedge fund. Data for 25 EEA countries.
Sources: AIFMD database, National competent authorities, ESMA.

ASR-AIF-S.66
Leveraged and unleveraged AIFs



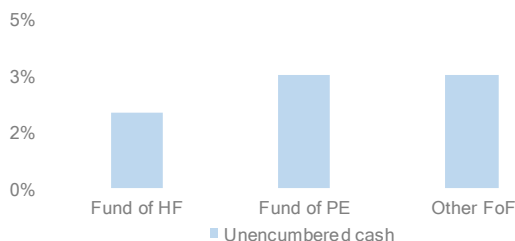
Note: Leveraged and unleveraged funds of funds managed and/or marketed by authorised EU AIFMs and sub-threshold managers registered only in national jurisdictions, end of 2018, EUR bn. FoF=Funds of funds, HF=Hedge funds, PEQ=Private equity funds. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.67
Borrowing embedded in financial instruments



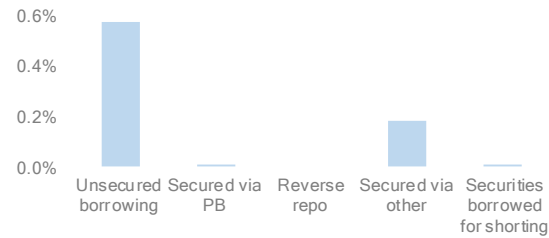
Note: Borrowing of cash and securities or embedded in derivatives by funds of funds, end of 2018, in % of total exposure. AIFs managed and/or marketed by authorised EU AIFMs. FoF=Fund of funds, HF=Hedge fund, PE=Private equity fund. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.68
Unencumbered cash



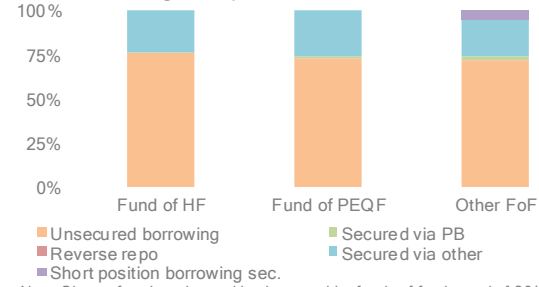
Note: Unencumbered cash held by funds of funds, end of 2018, in % of NAV. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. FoF=Funds of funds, HF=Hedge fund, PE=Private equity fund. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.69
Financial leverage



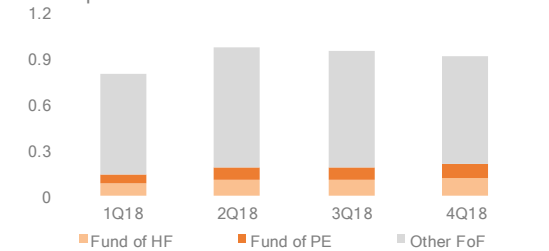
Note: Cash and securities borrowed by funds-of-funds, end of 2018, in% of NAV. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. FoF=Funds of Funds, None=No predominant type. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.70
Financial leverage composition



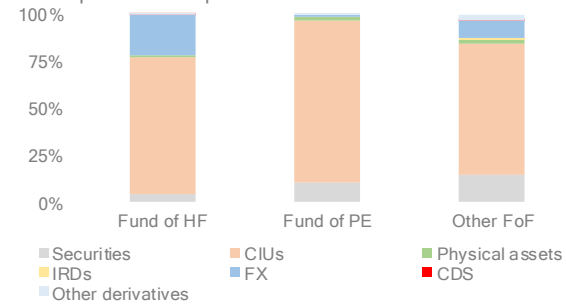
Note: Share of cash and securities borrowed by funds-of-funds, end of 2018, in % of NAV. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. FoF=Funds of Funds, HF=Hedge Fund, PEQF=Private Equity Fund.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.71
Total exposures



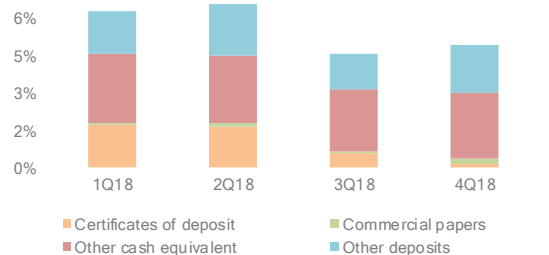
Note: Exposures of funds of funds managed and/or marketed by authorised EU AIFMs, funds quarterly reported, EUR tn. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. FoF=Fund of Funds, HF=Hedge fund, PE=Private equity fund. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.72
Decomposition of exposures



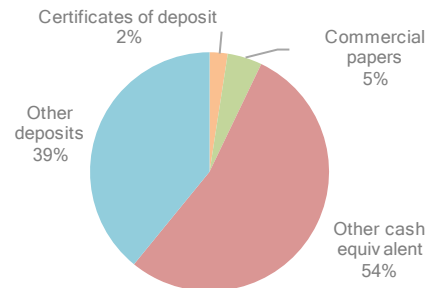
Note: Share of exposures by funds of funds' investment strategies, end of 2018, in % of total. AIFs managed and/or marketed by authorised EU AIFMs. FoF=Fund of funds, PE=Private equity fund, HF=Hedge fund. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.73
Cash and cash equivalents



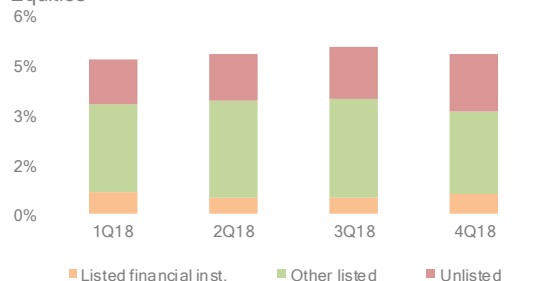
Note: Cash and cash equivalents exposure of funds of funds, AIFs reported quarterly, in % of NAV. Government bonds excluded from other cash equivalents. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.74
Cash and cash equivalents in Q4 2018



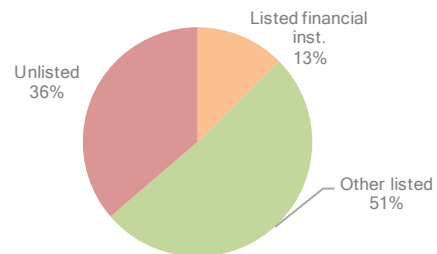
Note: Share of cash and cash equivalents held by funds of funds in 4Q18. AIFs managed and/or marketed by authorised EU AIFMs. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.75
Equities



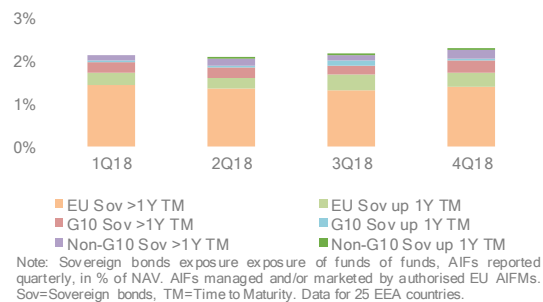
Note: Funds of funds' exposure to equity, AIFs reported quarterly, in % of NAV. AIFs managed and/or marketed by authorised EU AIFMs. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.76
Equities in 4Q18

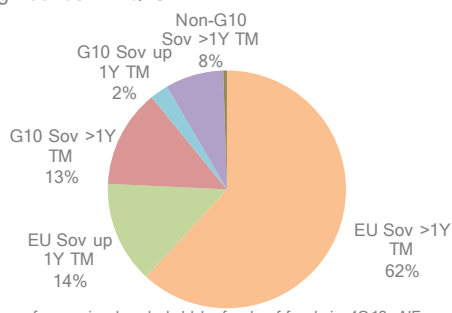


Note: Share of equities held by funds of funds in 4Q18. AIFs managed and/or marketed by authorised EU AIFMs. Data for 24 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

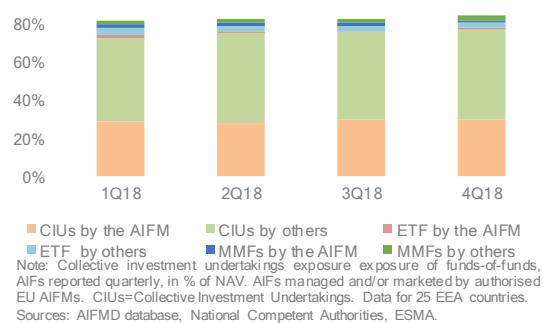
ASR-AIF-S.77
Sovereign bonds



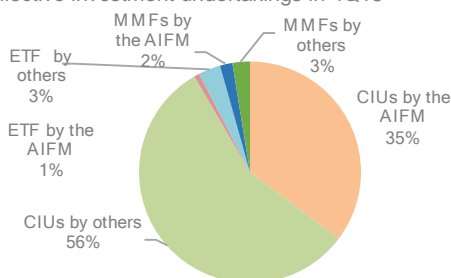
ASR-AIF-S.78
Sovereign bonds in 4Q18



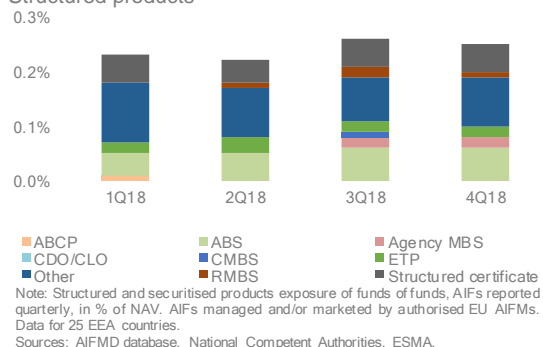
ASR-AIF-S.79
Collective investment undertakings



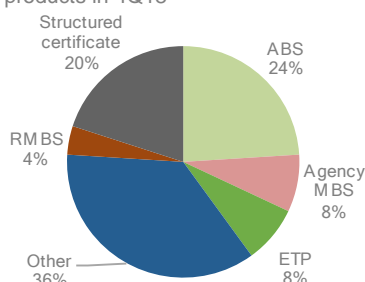
ASR-AIF-S.80
Collective investment undertakings in 4Q18



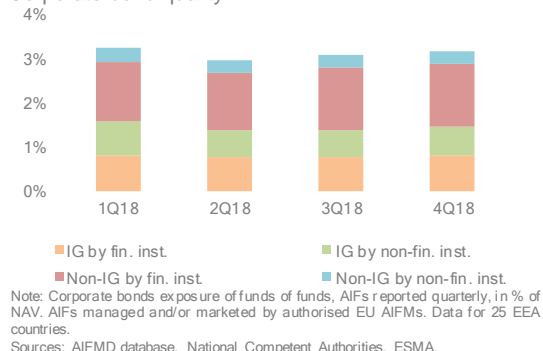
ASR-AIF-S.81
Structured products



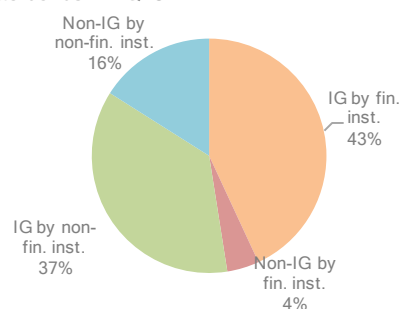
ASR-AIF-S.82
Structured products in 4Q18



ASR-AIF-S.83
Corporate bond quality



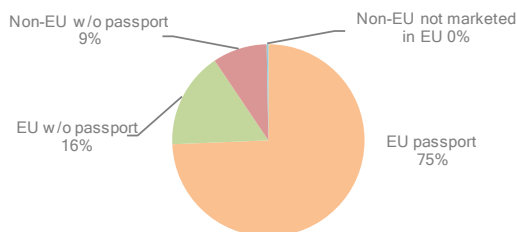
ASR-AIF-S.84
Corporate bonds in 4Q18



Real Estate Funds

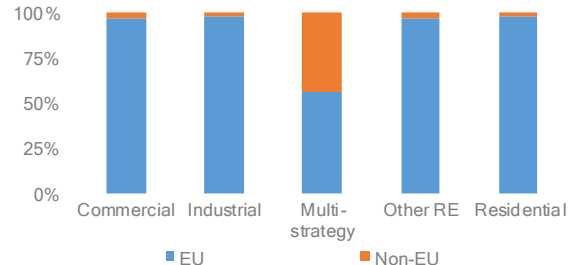
AIF characteristics

ASR-AIF-S.85
AIFMD passport



Note: NAV of real estate AIFs by manager's access to AIFMD passport, end of 2018, in %. Authorised EU AIFMs with access to AIFMD passport or marketing non-EU AIFs w/o passport, sub-threshold managers are registered only in national jurisdictions w/o passporting rights. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

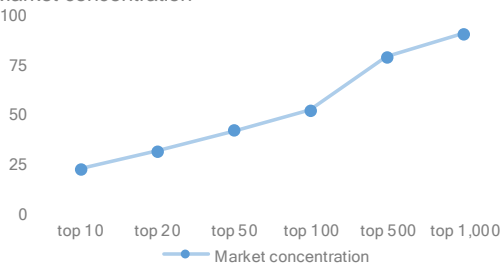
ASR-AIF-S.86
EU and non-EU AIFs



Note: Share of EU and non-EU real estate funds managed and/or marketed by authorised EU AIFMs and sub-threshold managers registered only in national jurisdictions, end of 2018, in % of NAV. Non-EU AIFs marketed w/o passport. RE=Real estate. Data for 25 EEA countries. Sources: AIFMD database, National competent Authorities, ESMA.

ASR-AIF-S.87

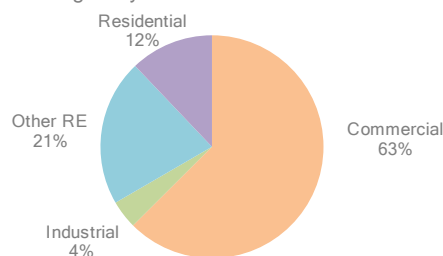
Market concentration



Note: Market concentration of the largest 10-to-1,000 real estate funds managed and/or marketed by authorised EU AIFMs accessing AIFMD passport and sub-threshold managers registered only in national jurisdictions, end of 2018, in % of NAV. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.88

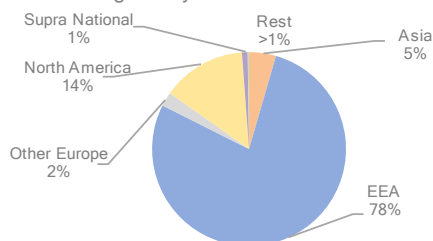
Investment strategies by NAV



Note: Investment strategies of real estate funds, end of 2018, in % of NAV. Real estate funds managed and/or marketed by full scope EU AIFMs and sub-threshold managers registered only in national jurisdictions. RE= Real estate. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.89

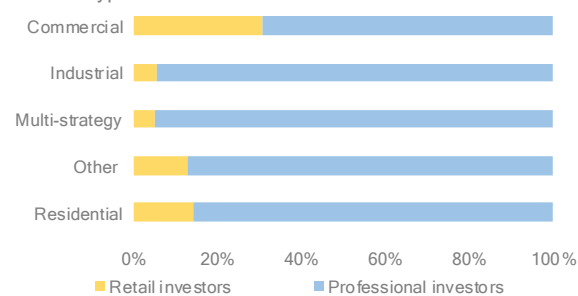
Investment regions by NAV



Note: Regional investment focus of real estate funds managed and/or marketed by authorised EU AIFMs and sub-threshold managers registered only in national jurisdictions, end of 2018, 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 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.90

Investor type

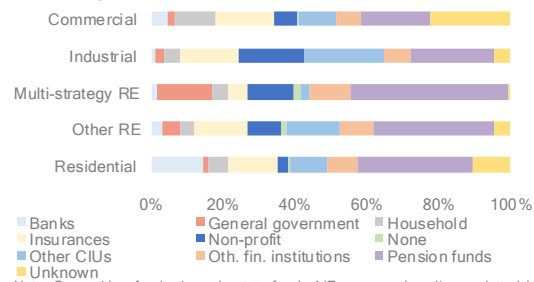


Note: Clients of real estate funds managed and/or marketed by authorised EU AIFMs and sub-threshold managers registered only in national jurisdictions, end of 2018, in % of NAV. RE = Real estate. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

Liquidity and counterparty risk profile

ASR-AIF-S.91

Ownership of RE funds

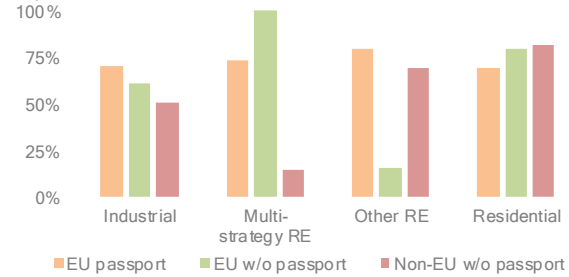


Note: Ownership of units in real estate funds AIFs managed and/or marketed by authorised EU AIFMs, end of 2018, in % of NAV. RE=Real estate. Data for 25 EEA countries.

Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.92

Top five beneficial owners

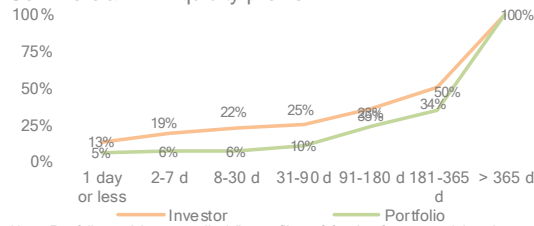


Note: Investor concentration of real estate managed and/or marketed by authorised EU AIFMs, end of 2018, in % of NAV. Investor concentration computed as share of AIF equity beneficially owned by the 5 largest investors. RE=Real estate. Data for 25 EEA countries.

Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.93

Commercial RE: liquidity profile

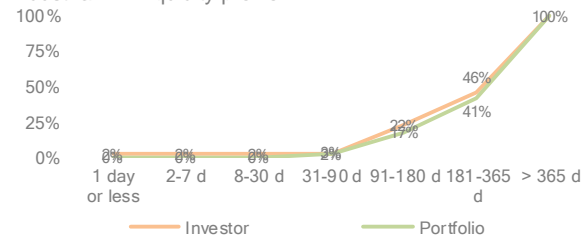


Note: Portfolio and investors liquidity profiles of funds of commercial real estate funds managed and/or marketed by authorised EU AIFMs, end of 2018. Portfolio profile determined by percentage of the funds' portfolios capable of being liquidated within each specified period, investor liquidity profile depend on shortest period within each fund could be withdrawn or investors could receive redemption payments. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. d= Days. Data for 25 EEA countries.

Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.94

Industrial RE: liquidity profile

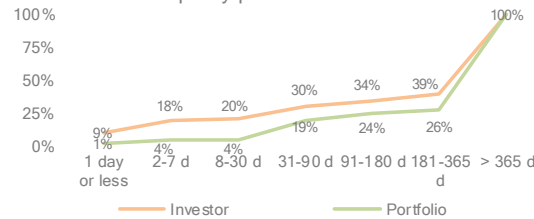


Note: Portfolio and investors liquidity profiles of funds of industrial real estate funds managed and/or marketed by authorised EU AIFMs, end of 2018. Portfolio profile determined by percentage of the funds' portfolios capable of being liquidated within each specified period, investor liquidity profile depend on shortest period within each fund could be withdrawn or investors could receive redemption payments. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. d= Days. Data for 25 EEA countries.

Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.95

Residential RE: liquidity profile

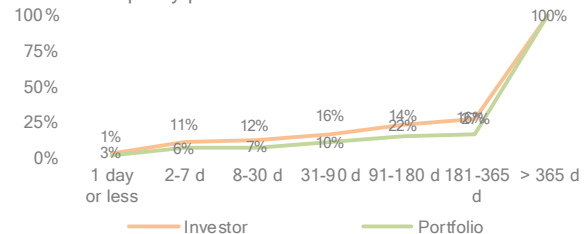


Note: Portfolio and investors liquidity profiles of funds of residential real estate funds managed and/or marketed by authorised EU AIFMs, end of 2018. Portfolio profile determined by percentage of the funds' portfolios capable of being liquidated within each specified period, investor liquidity profile depend on shortest period within each fund could be withdrawn or investors could receive redemption payments. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. d= Days. Data for 25 EEA countries.

Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.96

Other RE: liquidity profile

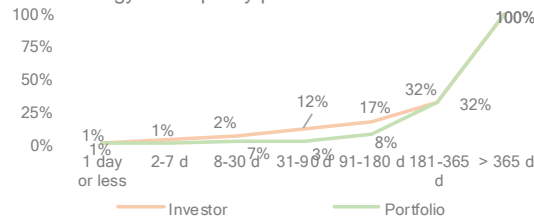


Note: Portfolio and investors liquidity profiles of real estate funds pursuing strategies classified as "other" managed and/or marketed by authorised EU AIFMs, end of 2018. Portfolio profile determined by percentage of the funds' portfolios capable of being liquidated within each specified period, investor liquidity profile depend on shortest period within each fund could be withdrawn or investors could receive redemption payments. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. d= Days. Data for 25 EEA countries.

Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.97

Multi-strategy RE: liquidity profile

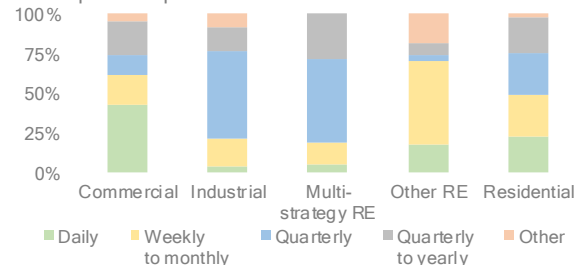


Note: Portfolio and investor liquidity profiles of multi-strategy real estate funds managed and/or marketed by authorised EU AIFMs, end of 2018. Portfolio profile determined by percentage of the funds' portfolios capable of being liquidated within each specified period, investor liquidity profile depends on shortest period within each fund could be withdrawn or investors could receive redemption payments. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. d= Days. Data for 25 EEA countries.

Sources: AIFMD database, National Competent Authorities, ESMA.

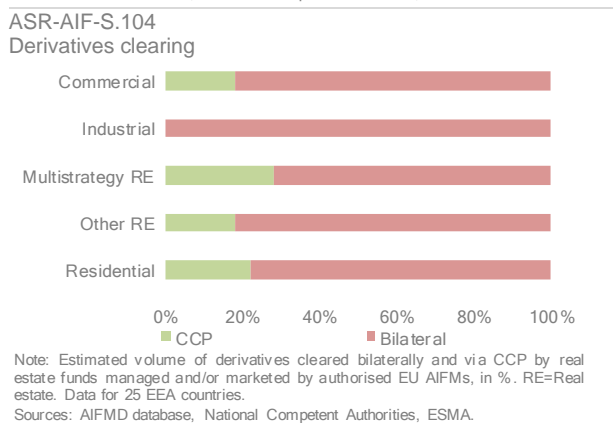
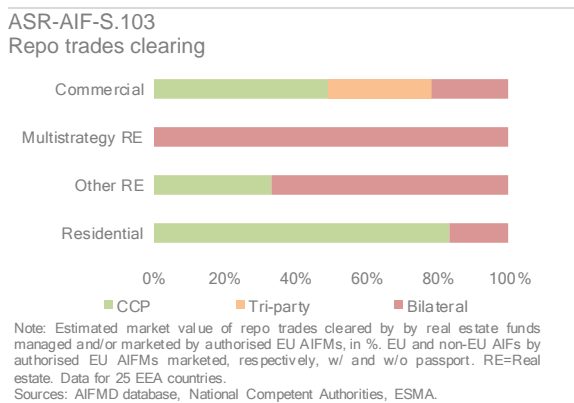
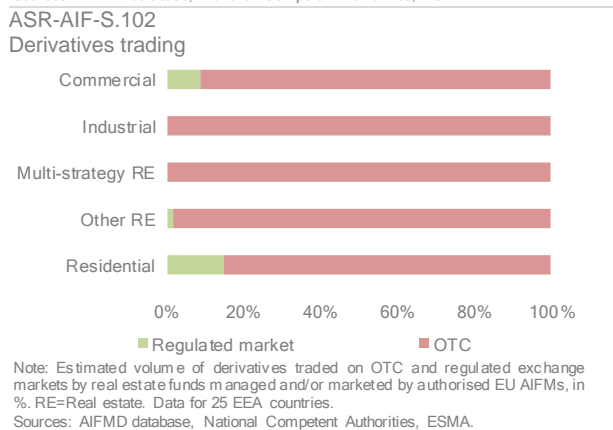
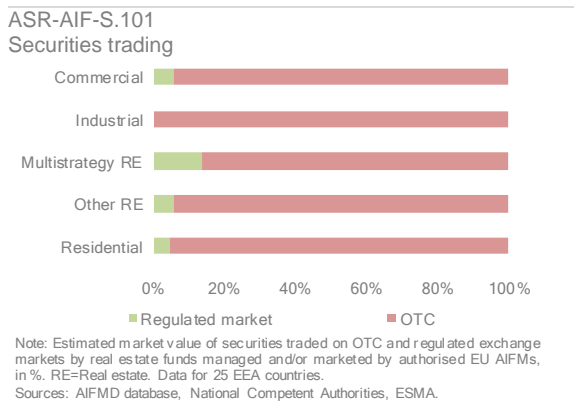
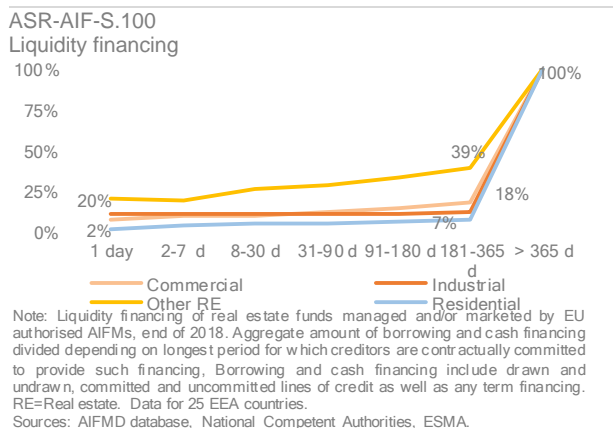
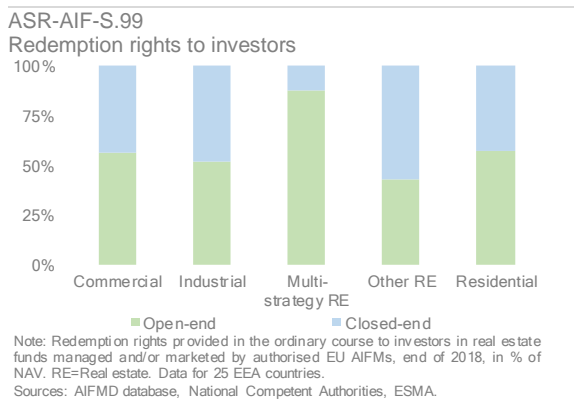
ASR-AIF-S.98

Redemption frequencies



Note: Investor redemption frequencies allowed by open-end real estate funds managed and/or marketed by authorised EU AIFMs, end of 2018, in % of NAV. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. RE=Real estate. Data for 25 EEA countries.

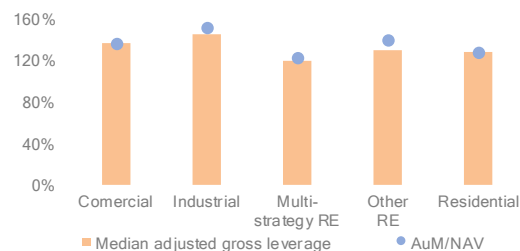
Sources: AIFMD database, National Competent Authorities, ESMA.



Leverage and exposure

ASR-AIF-S.105

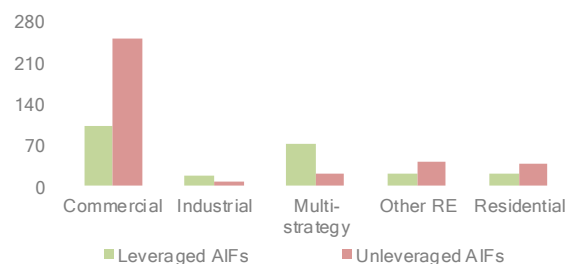
Adjusted gross leverage



Note: Adjusted gross leverage of real estate funds managed and/or marketed by authorised EU AIFMs, end of 2018, in % of NAV. Adjusted gross leverage computed as total exposure less IRDs with respect to NAV. RE=Real estate. Data for 25 EEA countries. Sources: AIFMD database, National competent authorities, ESMA.

ASR-AIF-S.106

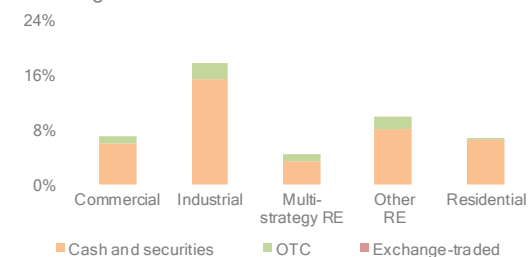
Leveraged and unleveraged AIFs



Note: Leveraged and unleveraged real estate AIFs managed and/or marketed by authorised EU AIFMs and sub-threshold managers registered only in national jurisdictions, end of 2018, EUR bn. FoF=Fund of funds. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.107

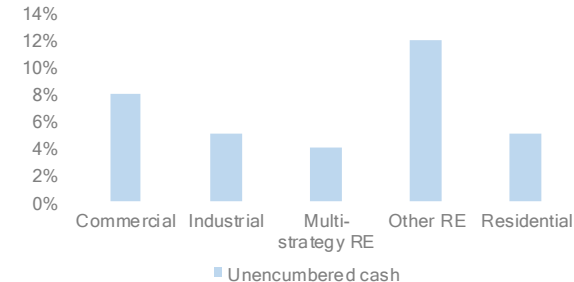
Borrowings embedded in derivatives



Note: Borrowing of cash and securities or embedded in derivatives by real estate funds, end of 2018, in % of total exposure. AIFs managed and/or marketed by authorised EU AIFMs marketed. OTC and exchange-traded derivatives net of margins. RE=Real estate. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.108

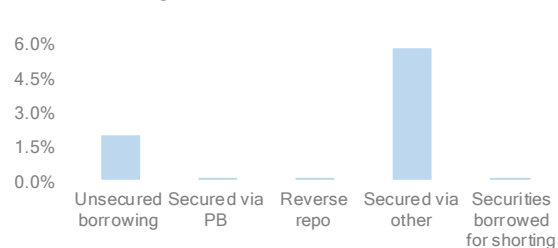
Unencumbered cash



Note: Unencumbered cash held by real estate funds, end of 2018, in % of NAV. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. RE=Real estate. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.109

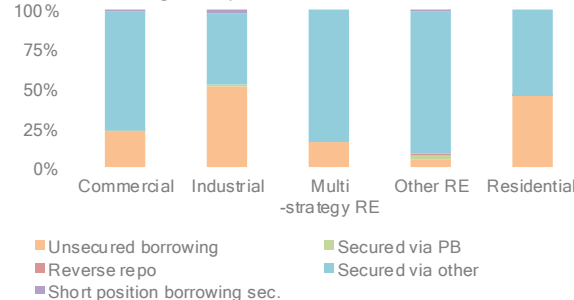
Financial leverage



Note: Cash and securities borrowed by real estate funds, end of 2018, in % of NAV. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. FoF=Funds of Funds, None=No predominant type. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.110

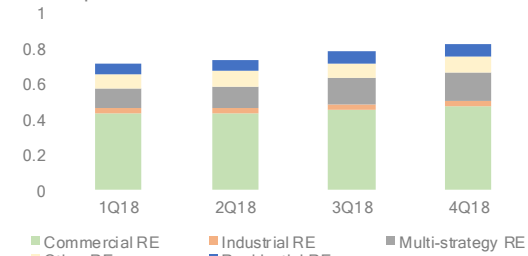
Financial leverage composition



Note: Share cash and securities borrowed by real estate funds, end of 2018, in % of NAV. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. RE=Real Estate. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.111

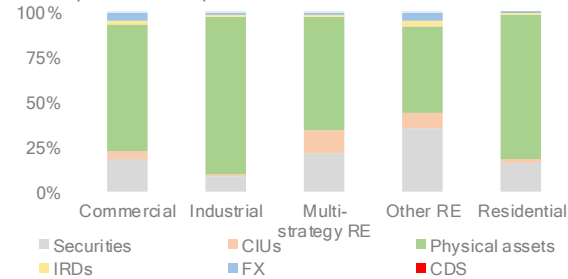
Total exposures



Note: Exposure of real estate funds managed and/or marketed by authorised EU AIFMs, funds quarterly reported, EUR tn. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. RE=Real estate. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

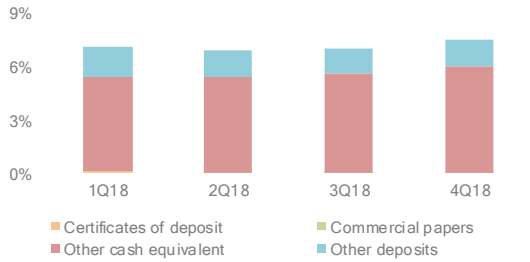
ASR-AIF-S.112

Decomposition of exposures



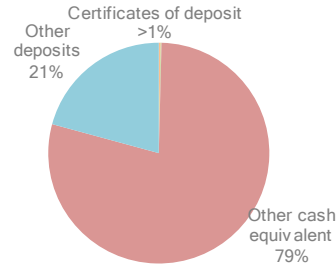
Note: Share of exposures by real estate funds' investment strategies, end of 2018, in % of total. AIFs managed and/or marketed by authorised EU AIFMs. RE=Real estate. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.113
Cash and cash equivalents



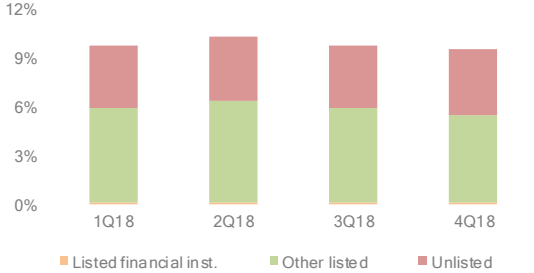
Note: Cash and cash equivalents exposure of real estate funds, AIFs reported quarterly, in % of NAV. Government bonds excluded from other cash equivalents. Data for 25 EEA countries; UK data available only in 4Q18. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.114
Cash and cash equivalents in 4Q18



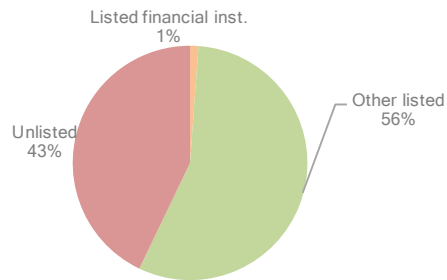
Note: Share of cash and cash equivalents held by real estate funds in 4Q18. AIFs managed and/or marketed by authorised EU AIFMs. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.115
Equities



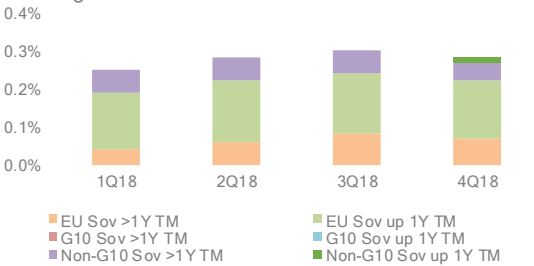
Note: Real estate funds' exposure to equity, AIFs reported quarterly, in % of NAV. AIFs managed and/or marketed by authorised EU AIFMs. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.116
Equities in 4Q18



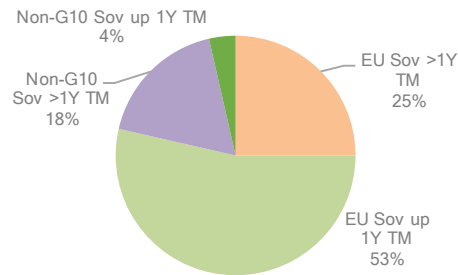
Note: Share of equities held by real estate funds in 4Q18. AIFs managed and/or marketed by authorised EU AIFMs. Data for 24 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.117
Sovereign bonds



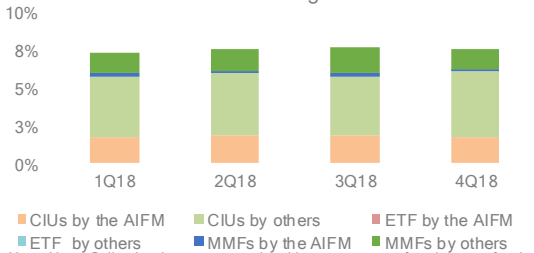
Note: Sovereign bonds exposure of real estate funds, AIFs reported quarterly, in % of NAV. AIFs managed and/or marketed by authorised EU AIFMs. Sov=Sovereign bonds, TM=Time to Maturity. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.118
Sovereign bonds in 4Q18



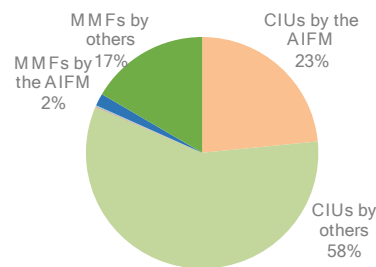
Note: Share of sovereign bonds held by real estate funds in 4Q18. AIFs managed and/or marketed by authorised EU AIFMs. Data for 25 EEA countries. Sov=Sovereign bonds, TM=Time to Maturity. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.119
Collective investment undertakings



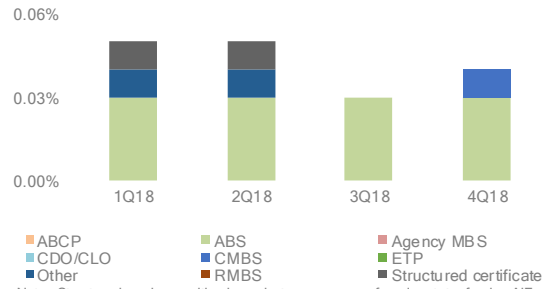
Note: Note: Collective investment undertakings exposure of real estate funds, AIFs reported quarterly, in % of NAV. AIFs managed and/or marketed by authorised EU AIFMs. CIUs=Collective Investment Undertakings. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.120
Collective investment undertakings in 4Q18



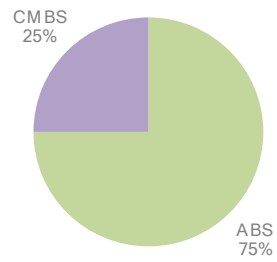
Note: Share of collective investment undertakings held by real estate funds in 4Q18. AIFs managed and/or marketed by authorised EU AIFMs. CIUs=Collective Investment Undertakings. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.121
Structured products



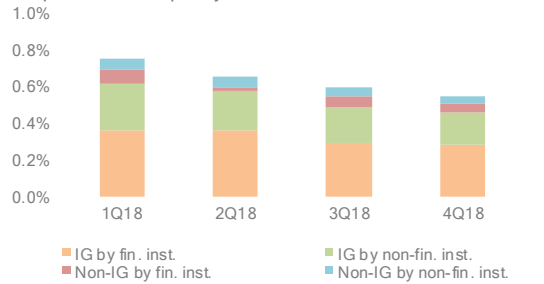
Note: Structured and securitised products exposure of real estate funds, AIFs reported quarterly, in % of NAV. AIFs managed and/or marketed by authorised EU AIFMs. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.122
Structured products in 4Q18



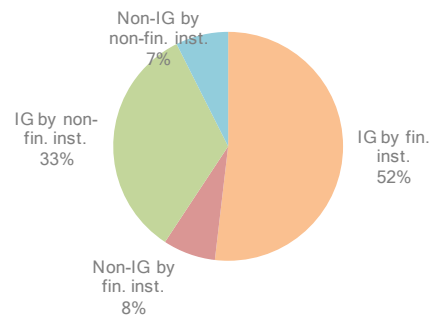
Note: Share of structured and securitised products held by real estate funds in 4Q18. AIFs managed and/or marketed by authorised EU AIFMs. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.123
Corporate bond quality



Note: Corporate bonds exposure of real estate funds, AIFs reported quarterly, in % of NAV. AIFs managed and/or marketed by authorised EU AIFMs. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.124
Corporate bonds in 4Q18

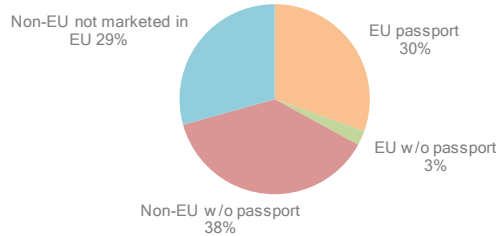


Note: Share of corporate bonds held by real estate funds in 4Q18. AIFs managed and/or marketed by authorised EU AIFMs. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

Hedge Funds

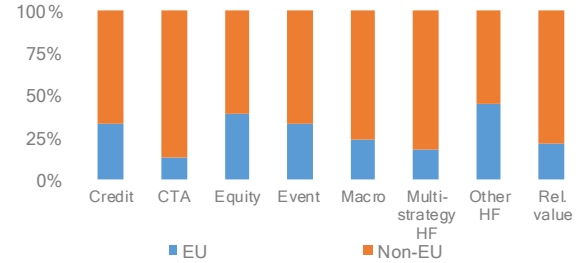
AIF characteristics

ASR-AIF-S.125
AIFMD passport



Note: NAV of hedge funds by manager's access to AIFMD passport, end of 2018, in %. Authorised EU AIFMs with access AIFMD passport or marketing non-EU AIFs w/o passport, sub-threshold managers are registered only in national jurisdictions w/o passporting rights. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

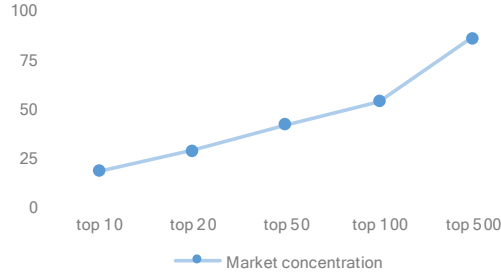
ASR-AIF-S.126
EU and non-EU AIFs



Note: Share of EU and non-EU hedge funds managed and/or marketed by authorised EU AIFMs and sub-threshold managers registered only in national jurisdictions, end of 2018, in % of NAV. Non-EU AIFs marketed w/o passport. HF=Hedge fund. Data for 25 EEA countries. Sources: AIFMD database, National competent Authorities, ESMA.

ASR-AIF-S.127

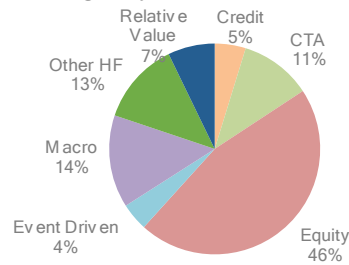
Market concentration



Note: Market concentration of the largest 10-to-500 hedge funds managed and/or marketed by authorised EU AIFMs and sub-threshold managers registered only in national jurisdictions, end of 2018, in % of NAV. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.128

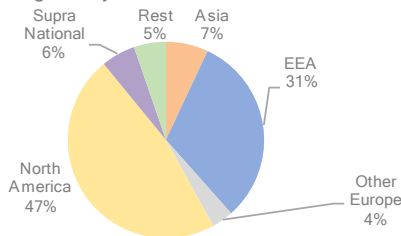
Investment strategies by NAV



Note: Investment strategies of hedge funds, end of 2018, in % of NAV. Hedge funds managed and/or marketed by authorised EU AIFMs and sub-threshold managers registered only in national jurisdictions. HF=Hedge fund. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.129

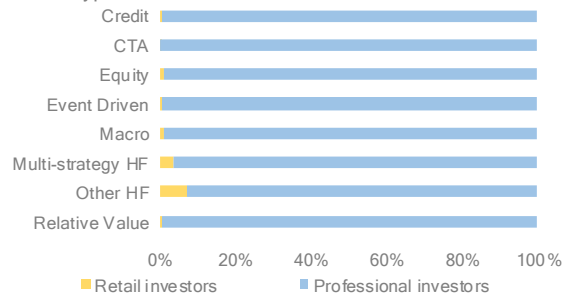
Investment regions by NAV



Note: Regional investment focus of hedge funds managed and/or marketed by authorised EU AIFMs and sub-threshold managers registered only in national jurisdictions, end of 2018, 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 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.130

Investor type

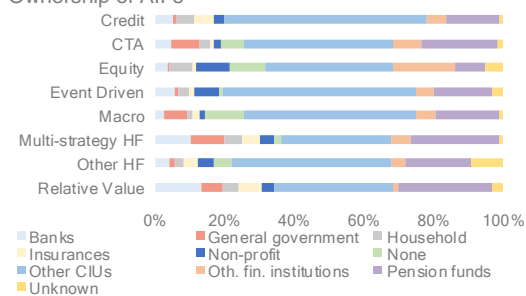


Note: Clients of hedge funds managed and/or marketed by authorised EU AIFMs and sub-threshold managers registered only in national jurisdictions, end of 2018, in % of NAV. HF=Hedge fund. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

Liquidity and counterparty risk profile

ASR-AIF-S.131

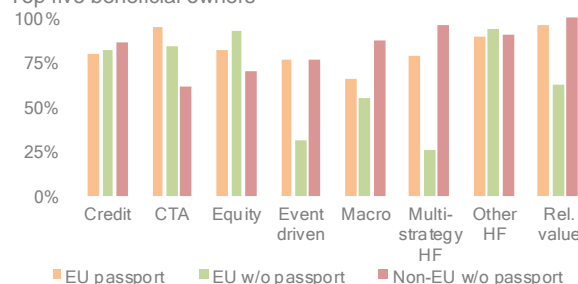
Ownership of AIFs



Note: Ownership of units in hedge funds managed and/or marketed by authorised EU AIFMs, end of 2018, in % of NAV. HF=Hedge fund. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.132

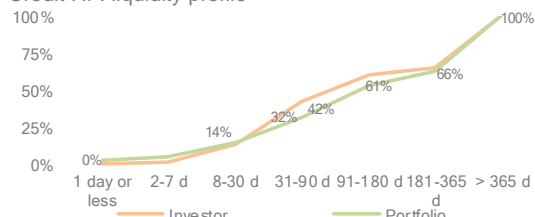
Top five beneficial owners



Note: Investor concentration of hedge funds managed and/or marketed by authorised EU AIFMs, end of 2018, in % of NAV. Investor concentration computed as share of AIF equity beneficially owned by the 5 largest investors. HF=Hedge Fund. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.133

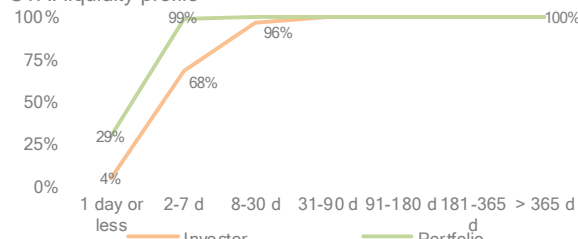
Credit HF: liquidity profile



Note: Portfolio and investor liquidity profiles of funds of credit hedge funds managed and/or marketed by authorised EU AIFMs, end of 2018. Portfolio profile determined by percentage of the funds' portfolios capable of being liquidated within each specified period, investor liquidity profile depends on shortest period within each fund could be withdrawn or investors could receive redemption payments. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. d= Days. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.134

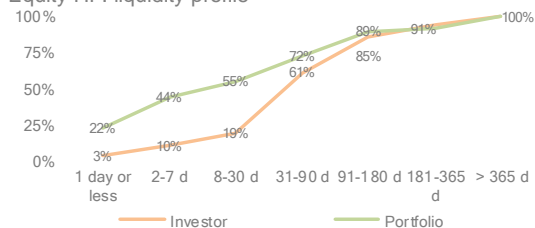
CTA: liquidity profile



Note: Portfolio and investor liquidity profiles of CTA managed and/or marketed by authorised EU AIFMs, end of 2018. Portfolio profile determined by percentage of the funds' portfolios capable of being liquidated within each specified period, investor liquidity profile depends on shortest period within each fund could be withdrawn or investors could receive redemption payments. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. d= Days. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.135

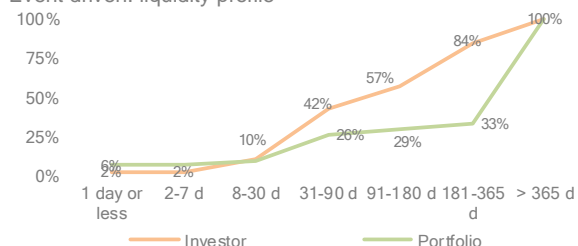
Equity HF: liquidity profile



Note: Portfolio and investor liquidity profiles of funds of equity hedge funds managed and/or marketed by authorised EU AIFMs, end of 2018. Portfolio profile determined by percentage of the funds' portfolios capable of being liquidated within each specified period, investor liquidity profile depends on shortest period within each fund could be withdrawn or investors could receive redemption payments. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. d= Days. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.136

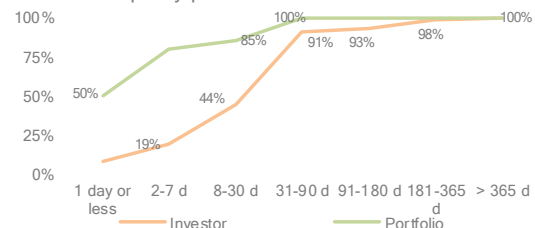
Event driven: liquidity profile



Note: Portfolio and investor liquidity profiles of funds of event driven hedge funds managed and/or marketed by authorised EU AIFMs, end of 2018. Portfolio profile determined by percentage of the funds' portfolios capable of being liquidated within each specified period, investor liquidity profile depends on shortest period within each fund could be withdrawn or investors could receive redemption payments. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. d= Days. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.137

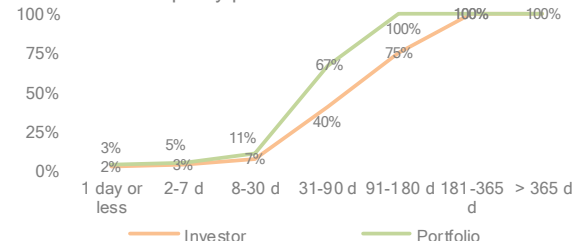
Macro HF: liquidity profile



Note: Portfolio and investor liquidity profiles of funds of macro hedge funds managed and/or marketed by authorised EU AIFMs, end of 2018. Portfolio profile determined by percentage of the funds' portfolios capable of being liquidated within each specified period, investor liquidity profile depends on shortest period within each fund could be withdrawn or investors could receive redemption payments. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. d= Days. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

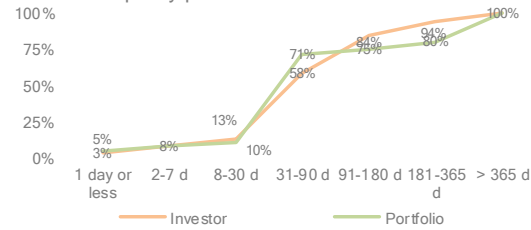
ASR-AIF-S.138

Relative value: liquidity profile



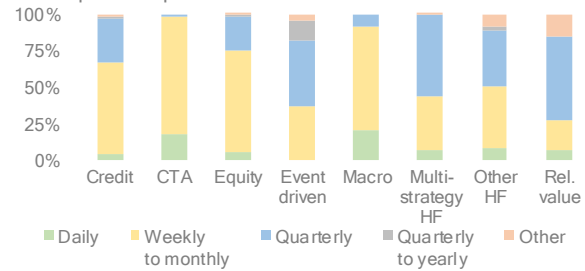
Note: Portfolio and investor liquidity profiles of relative value hedge funds managed and/or marketed by authorised EU AIFMs, end of 2018. Portfolio profile determined by percentage of the funds' portfolios capable of being liquidated within each specified period, investor liquidity profile depends on shortest period within each fund could be withdrawn or investors could receive redemption payments. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. d= Days. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.139
Other HF: liquidity profile



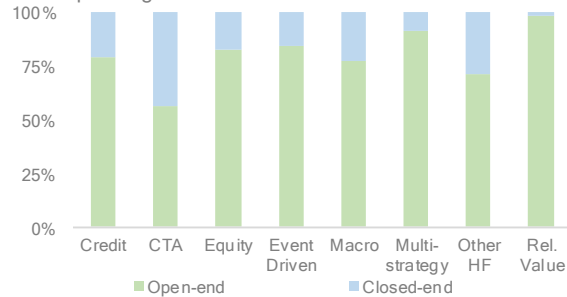
Note: Portfolio and investor liquidity profiles of hedge funds pursuing strategies classified as Other managed and/or marketed by authorised EU AIFMs, end of 2018. Portfolio profile determined by percentage of the funds' portfolios capable of being liquidated within each specified period, investor liquidity profile depends on shortest period within each fund could be withdrawn or investors could receive redemption payments. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. d= Days. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.140
Redemption frequencies



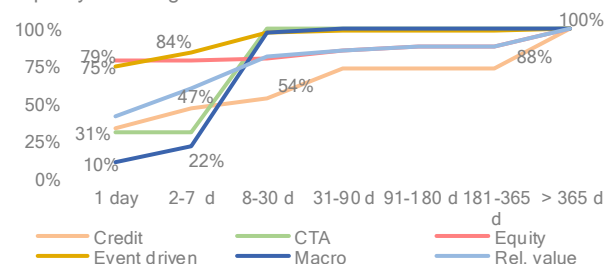
Note: Investor redemption frequencies allowed by open-end hedge funds managed and/or marketed by authorised EU AIFMs, end of 2018, in % of NAV. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. HF=Hedge fund. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.141
Redemption rights to investors



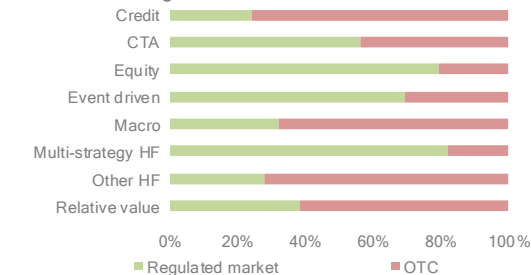
Note: Redemption rights provided in the ordinary course to investors in hedge funds managed and/or marketed by authorised EU AIFMs, end of 2018, in % of NAV. HF=Hedge fund. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.142
Liquidity financing



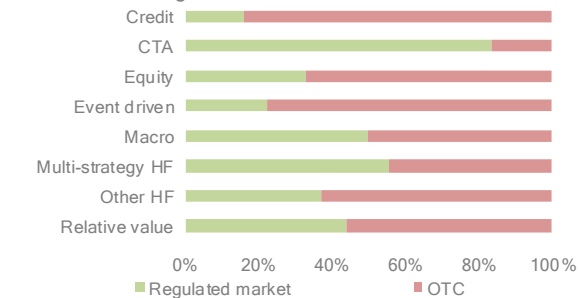
Note: Liquidity financing of hedge funds managed and/or marketed by authorised EU AIFMs, end of 2018. Aggregate amount of borrowing and cash financing divided depending on longest period for which creditors are contractually committed to provide such financing. Borrowing and cash financing include drawn and undrawn, committed and uncommitted lines of credit as well as any term financing. HF=Hedge fund. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.143
Securities trading



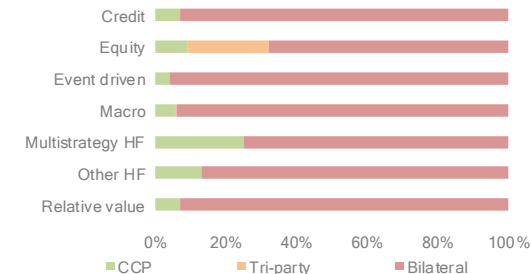
Note: Estimated market value of securities traded on OTC and regulated exchange markets by hedge funds managed and/or marketed by authorised EU AIFMs, in %. HF=Hedge fund. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.144
Derivatives trading



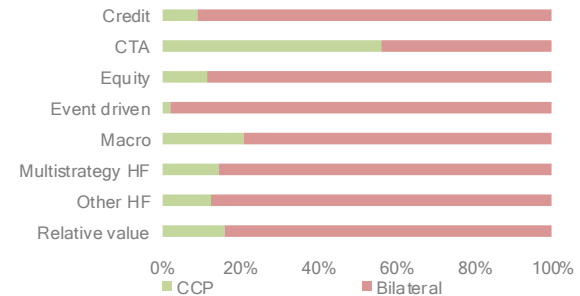
Note: Estimated volume of derivatives traded on OTC and regulated exchange markets by hedge funds managed and/or marketed by authorised EU AIFMs, in %. HF=Hedge fund. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.145
Repo trades clearing



Note: Estimated market value of repo trades cleared by hedge funds managed and/or marketed by authorised EU AIFMs, in %. HF=Hedge fund. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.146
Derivative transactions clearing

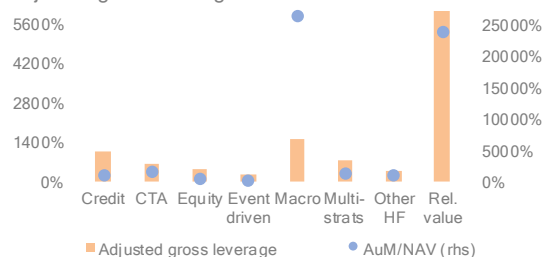


Note: Estimated volume of derivatives cleared bilaterally and via CCP by AIFs managed and/or marketed by authorised EU AIFMs, in %. HF=Hedge fund. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

Leverage and exposure

ASR-AIF-S.147

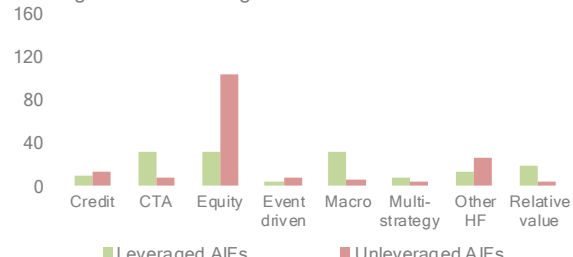
Adjusted gross leverage



Note: Adjusted gross leverage of funds of funds managed and/or marketed by authorised EU AIFMs, end of 2018, in % of NAV. Adjusted gross leverage computed as total exposure less IRDs with respect to NAV. FoF= Funds of funds, PE=Private equity fund, HF=Hedge fund. Data for 25 EEA countries. Sources: AIFMD database, National competent authorities, ESMA.

ASR-AIF-S.148

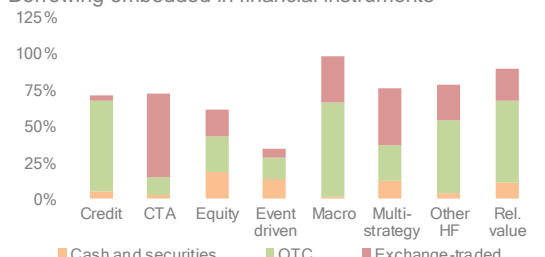
Leveraged and unleveraged AIFs



Note: Leveraged and unleveraged hedge funds managed and/or marketed by authorised EU AIFMs and sub-threshold managers registered only in national jurisdictions, end of 2018, EUR bn. FoF=Fund of funds. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.149

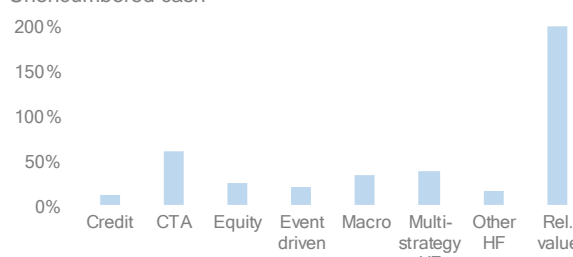
Borrowing embedded in financial instruments



Note: Borrowing of cash and securities or embedded in derivatives by hedge funds, end of 2018, in % of total exposure. AIFs managed and/or marketed by authorised EU AIFMs. OTC and exchange-traded derivatives net of margins. HF=Hedge fund. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.150

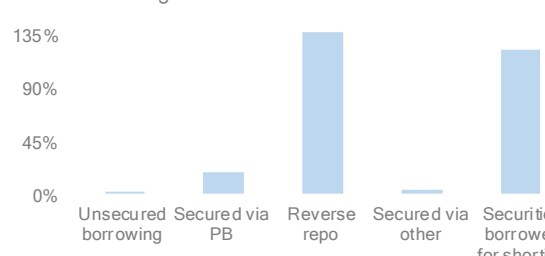
Unencumbered cash



Note: Unencumbered cash held by hedge funds, end of 2018, in % of NAV. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. HF=Hedge fund. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.151

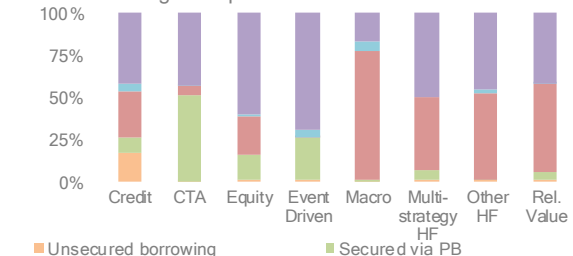
Financial leverage



Note: Cash and securities borrowed by hedge funds, end of 2018, in % of NAV. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. FoF=Funds of Funds, None=No predominant type. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.152

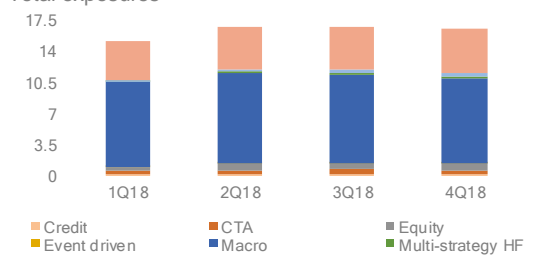
Financial leverage composition



Note: Share of cash and securities borrowed by hedge funds, end of 2018, in % of NAV. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. FoF=Funds of Funds, None=No predominant type. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.153

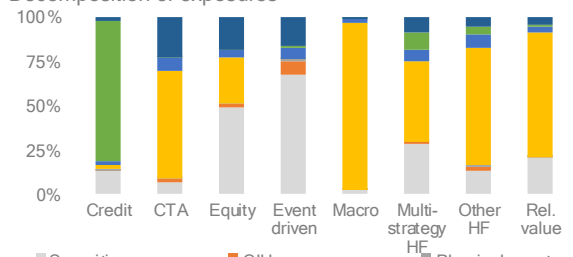
Total exposures



Note: Exposures of hedge funds managed and/or marketed by authorised EU AIFMs, funds quarterly reported, EUR tn. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. HF=Hedge fund. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

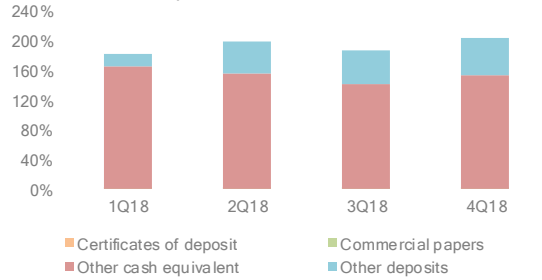
ASR-AIF-S.154

Decomposition of exposures



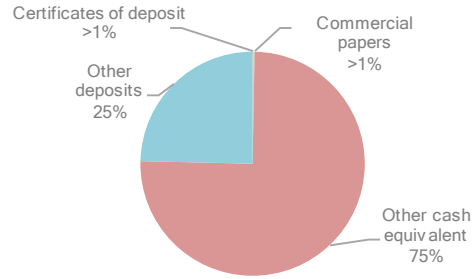
Note: Share of exposures by hedge funds' investment strategies, end of 2018, in % of total. AIFs managed and/or marketed by authorised EU AIFMs. HF=Hedge fund. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.155
Cash and cash equivalents



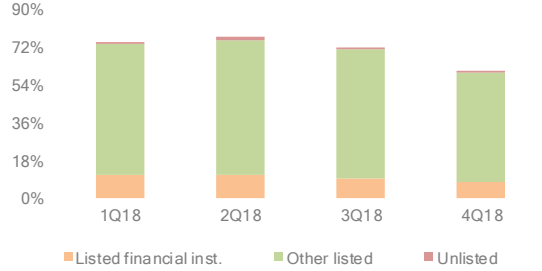
Note: Cash and cash equivalents exposure of hedge funds, AIFs reported quarterly, in % of NAV. Government bonds excluded from the other cash equivalents. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.156
Cash and cash equivalents in 4Q18



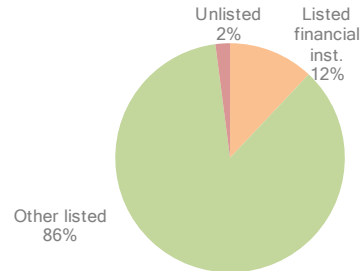
Note: Share of cash and cash equivalents held by hedge funds in 4Q18. AIFs managed and/or marketed by authorised EU AIFMs. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.157
Equities



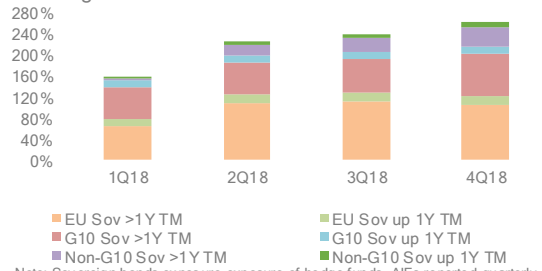
Note: Hedge funds' exposure to equity, AIFs reported quarterly, in % of NAV. AIFs managed and/or marketed by authorised EU AIFMs. Data for 25 EEA countries;
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.158
Equities in 4Q18



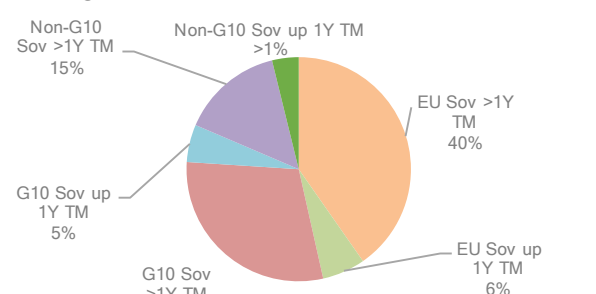
Note: Share of equities held by hedge funds in 4Q18. AIFs managed and/or marketed by authorised EU AIFMs. Data for 24 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.159
Sovereign bonds



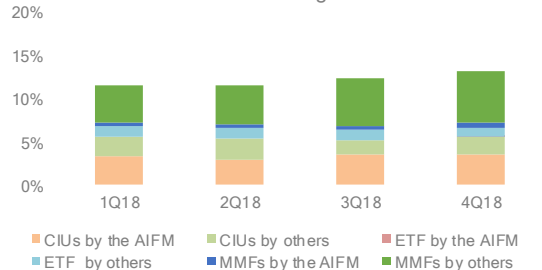
Note: Sovereign bonds exposure of hedge funds, AIFs reported quarterly, in % of NAV. AIFs managed and/or marketed by authorised EU AIFMs. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.160
Sovereign bonds in 4Q18



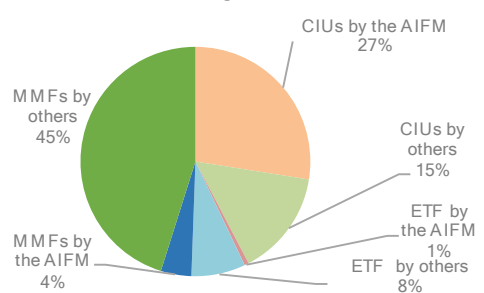
Note: Share of sovereign bonds held by hedge funds in 4Q18. AIFs managed and/or marketed by authorised EU AIFMs. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.161
Collective investment undertakings



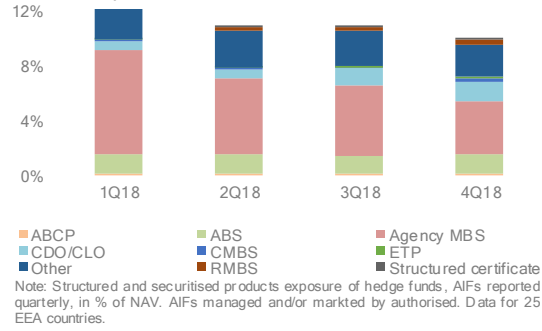
Note: Collective investment undertakings exposure of hedge funds, AIFs reported quarterly, in % of NAV. AIFs managed and/or marketed by authorised EU AIFMs. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.162
Collective investment undertakings in 4Q18

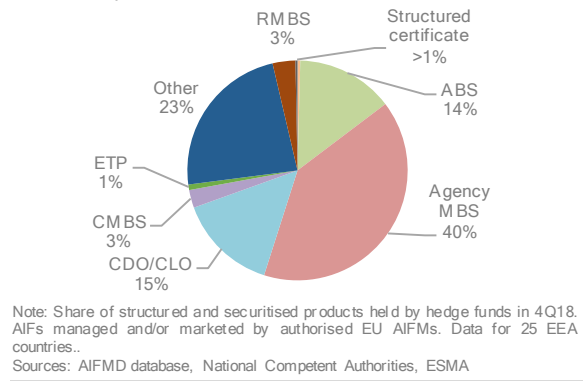


Note: Share of collective investment undertakings held by hedge funds in 4Q18. AIFs managed and/or marketed by authorised EU AIFMs. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

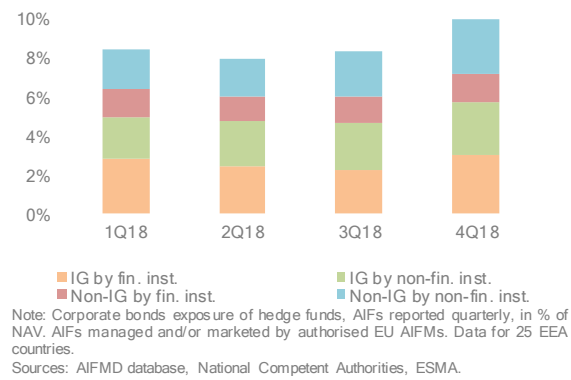
ASR-AIF-S.163
Structured products



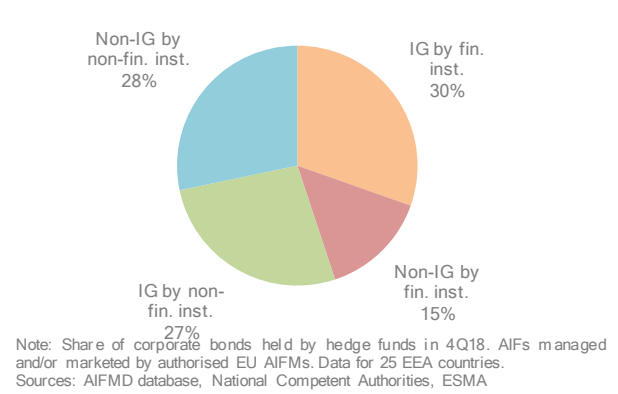
ASR-AIF-S.164
Structured products in 4Q18



ASR-AIF-S.165
Corporate bond quality



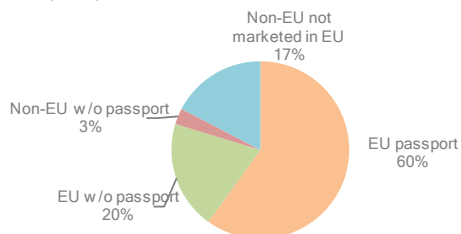
ASR-AIF-S.166
Corporate bonds in 4Q18



Private Equity Funds

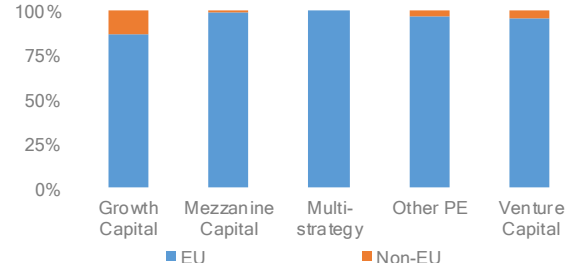
AIF characteristics

ASR-AIF-S.167
AIFMD passport



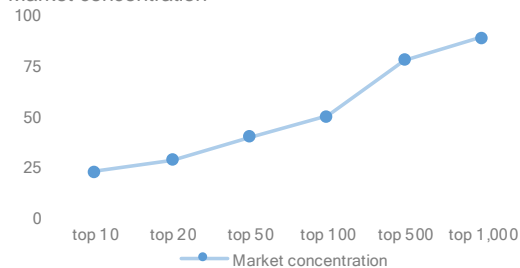
Note: NAV of private equity funds by manager's access to AIFMD passport, end of 2018, in %. Authorised EU AIFMs with access to AIFMD passport, sub-threshold managers registered only in national jurisdictions w/o passport. Data for 25 EEA countries
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.168
EU and non-EU AIFs



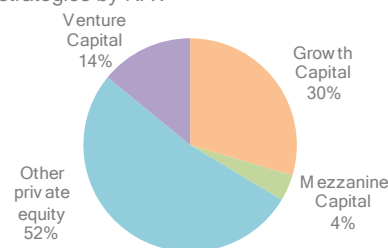
Note: Share of EU and non-EU private equity funds managed and/or marketed by authorised EU AIFMs and sub-threshold managers registered only in national jurisdictions, end of 2018, in % of NAV. Non-EU AIFs marketed w/o passport. PE=Private equity fund. Data for 25 EEA countries.
Sources: AIFMD database, National competent Authorities, ESMA.

ASR-AIF-S.169
Market concentration



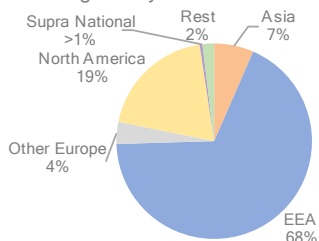
Note: Market concentration of the largest 10-to-1,000 private equity funds managed and/or marketed by authorised EU AIFMs accessing AIFMD passport and sub-threshold managers registered only in national jurisdictions, end of 2018, in % of NAV. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.170
Investment strategies by NAV



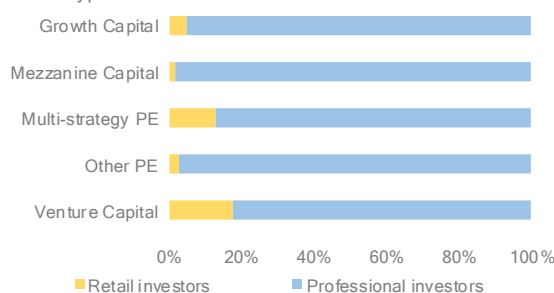
Note: Investment strategies of private equity funds, end of 2018, in % of NAV. Private equity funds managed and/or marketed by authorised EU AIFMs and sub-threshold managers registered only in national jurisdictions. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.171
Investment regions by NAV



Note: Regional investment focus of private equity funds managed and/or marketed by authorised EU AIFMs and sub-threshold managers registered only in national jurisdictions, end of 2018, 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 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.172
Investor type

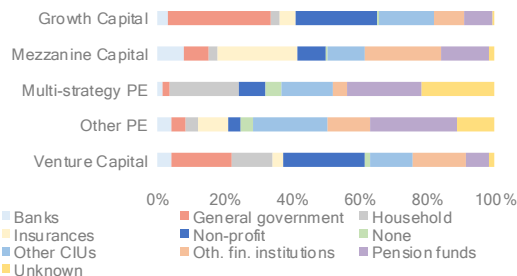


Note: Clients of private equity funds managed and/or marketed by authorised EU AIFMs and sub-threshold managers registered only in national jurisdictions, end of 2018, in % of NAV. PE = Private equity fund. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

Liquidity and counterparty risk profile

ASR-AIF-S.173

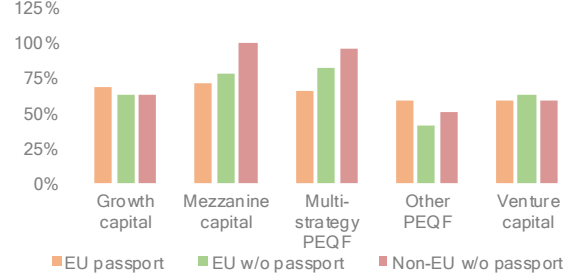
Ownership of PE funds



Note: Ownership of units in private equity funds managed and/or marketed by authorised EU AIFMs, end of 2018, in % of NAV. PE=Private equity fund. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.174

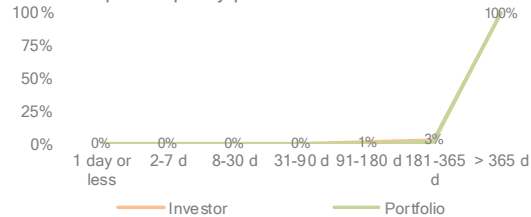
Top five beneficial owners



Note: Investor concentration of private equity funds managed and/or marketed by authorised EU AIFMs, end of 2018, in % of NAV. Investor concentration computed as share of AIF equity beneficially owned by the 5 largest investors. PE=Private equity fund. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.175

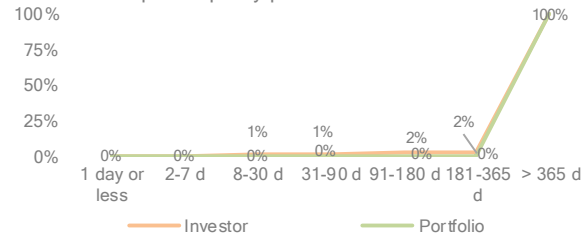
Growth capital: liquidity profile



Note: Portfolio and investor liquidity profiles of funds of growth capital funds managed and/or marketed by authorised EU AIFMs, end of 2018. Portfolio profile determined by percentage of the funds' portfolios capable of being liquidated within each specified period, investor liquidity profile depends on shortest period within each fund could be withdrawn or investors could receive redemption payments. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. d= Days. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.176

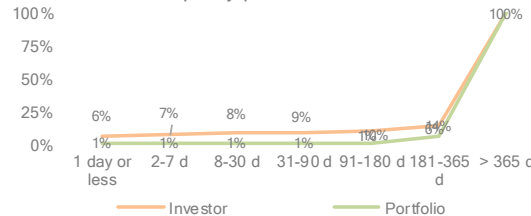
Mezzanine capital: liquidity profile



Note: Portfolio and investor liquidity profiles of mezzanine capital funds managed and/or marketed by authorised EU AIFMs, end of 2018. Portfolio profile determined by percentage of the funds' portfolios capable of being liquidated within each specified period, investor liquidity profile depends on shortest period within each fund could be withdrawn or investors could receive redemption payments. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. d= Days. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.177

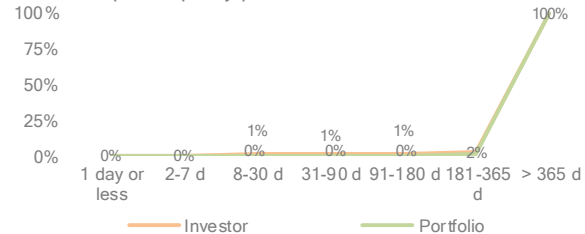
Other PE funds: liquidity profile



Note: Portfolio and investor liquidity profiles of private equity funds pursuing strategies classified as Other managed and/or marketed by authorised EU AIFMs, end of 2018. Portfolio profile determined by percentage of the funds' portfolios capable of being liquidated within each specified period, investor liquidity profile depends on shortest period within each fund could be withdrawn or investors could receive redemption payments. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. d= Days. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.178

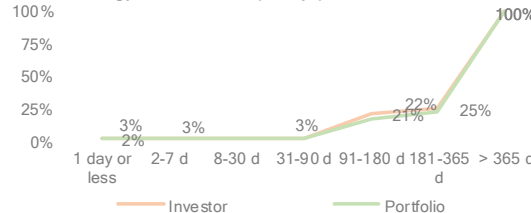
Venture capital: liquidity profile



Note: Portfolio and investor liquidity profiles of venture capital funds managed and/or marketed by authorised EU AIFMs, end of 2018. Portfolio profile determined by percentage of the funds' portfolios capable of being liquidated within each specified period, investor liquidity profile depends on shortest period within each fund could be withdrawn or investors could receive redemption payments. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. d= Days. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.179

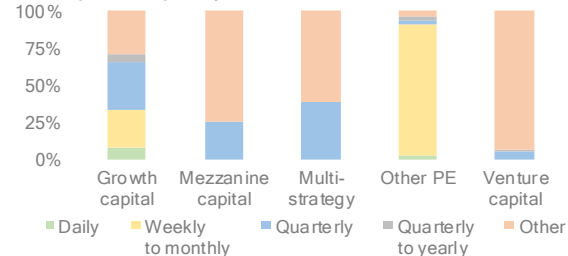
Multi-strategy PE funds: liquidity profile



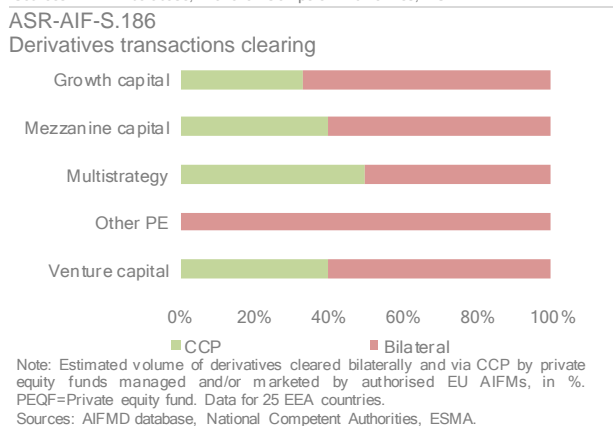
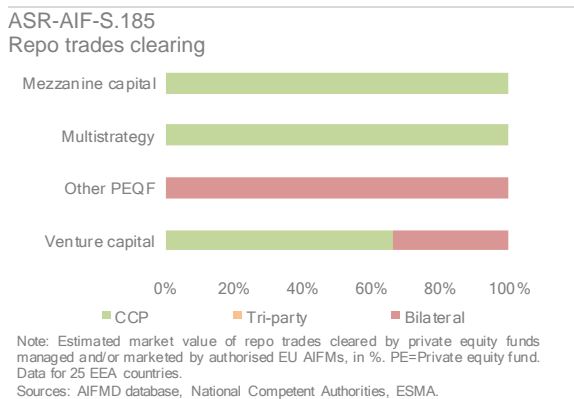
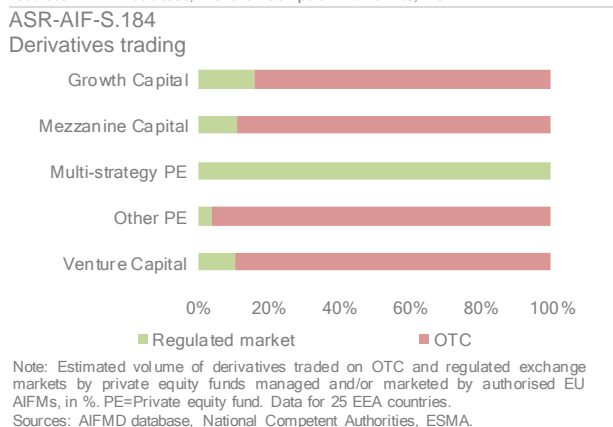
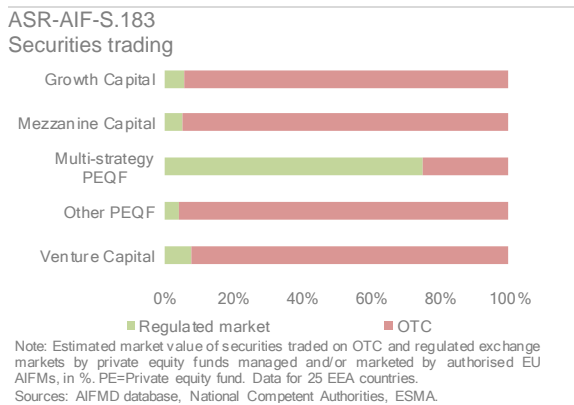
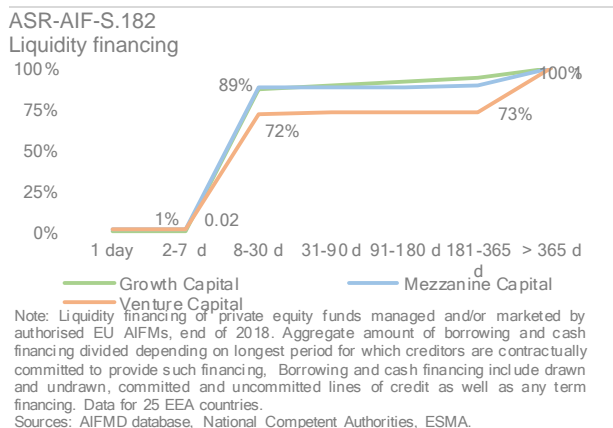
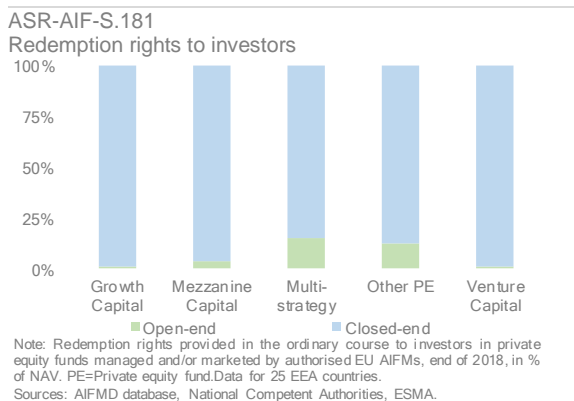
Note: Portfolio and investor liquidity profiles of multi-strategy private equity funds managed and/or marketed by authorised EU AIFMs, end of 2018. Portfolio profile determined by percentage of the funds' portfolios capable of being liquidated within each specified period, investor liquidity profile depends on shortest period within each fund could be withdrawn or investors could receive redemption payments. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. d= Days. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.180

Redemption frequency



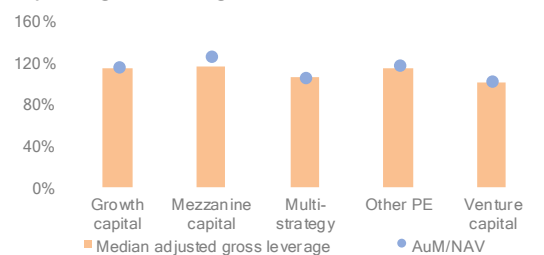
Note: Investor redemption frequencies allowed by open-end private equity funds managed and/or marketed by authorised EU AIFMs, end of 2018, in % of NAV. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. PEQF=Private Equity Fund. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.



Leverage and exposure

ASR-AIF-S.187

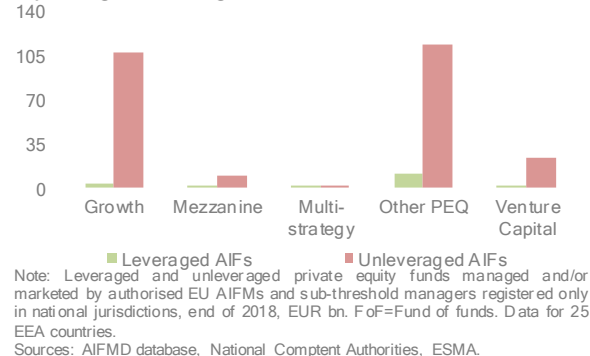
Adjusted gross leverage



Note: Adjusted gross leverage of private equity funds managed and/or marketed by authorised EU AIFMs, end of 2018, in % of NAV. Adjusted gross leverage computed as total exposure less IRDs with respect to NAV. PE=Private equity fund. Data for 25 EEA countries.
Sources: AIFMD database, National competent authorities, ESMA.

ASR-AIF-S.188

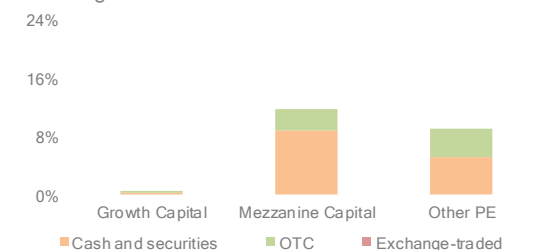
Adjusted gross leverage



Note: Leveraged and unleveraged private equity funds managed and/or marketed by authorised EU AIFMs and sub-threshold managers registered only in national jurisdictions, end of 2018, EUR bn. FoF=Fund of funds. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.189

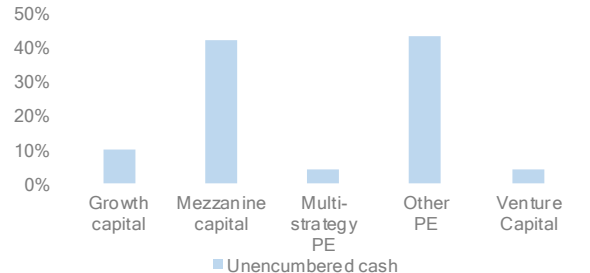
Borrowing embedded in financial instruments



Note: Borrowing of cash and securities or embedded in derivatives by private equity funds, end of 2018, in % of total exposure. AIFs managed and/or marketed by authorised EU AIFMs marketed. OTC and exchange-traded derivatives net of margins. PE=Private equity fund. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.190

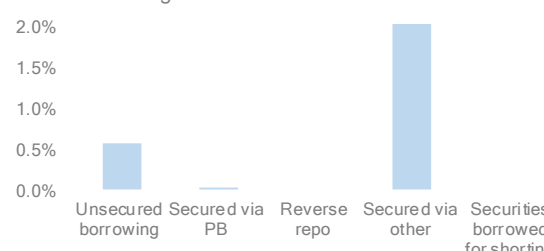
Unencumbered cash



Note: Unencumbered cash held by private equity funds, end of 2018, in % of NAV. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. PE=Private equity fund. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.191

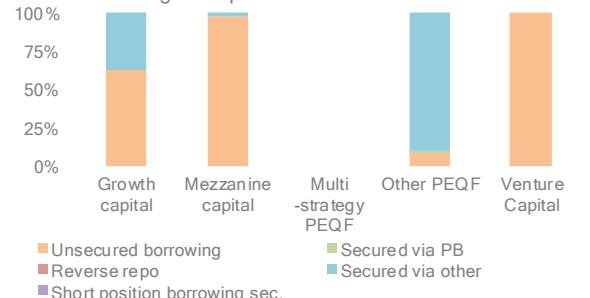
Financial leverage



Note: Cash and securities borrowed by private equity funds, end of 2018, in % of NAV. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. FoF=Funds of Funds, None=No predominant type. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.192

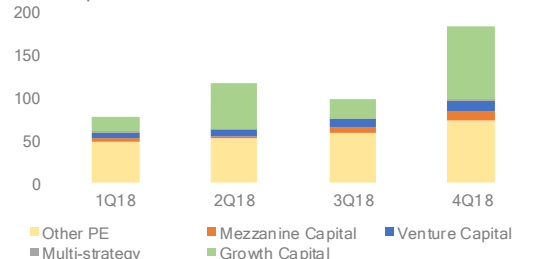
Financial leverage composition



Note: Share cash and securities borrowed by private equity funds, end of 2018, in % of NAV. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. PEQF=Private Equity Fund.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.193

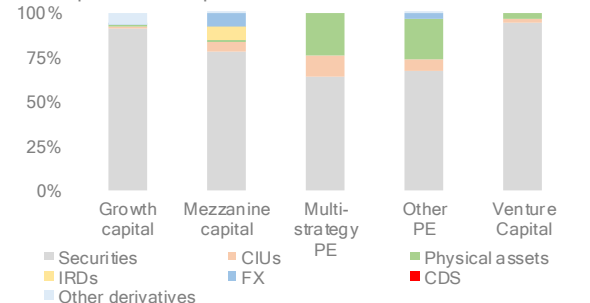
Total exposures



Note: Exposure of private equity funds managed and/or marketed by authorised EU AIFMs, funds quarterly reported, EUR tn. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. PE=Private equity fund. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

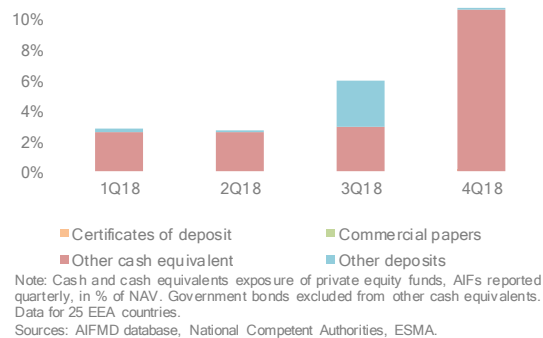
ASR-AIF-S.194

Decomposition of exposures

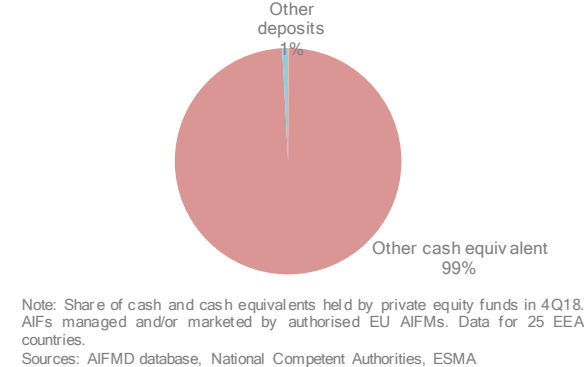


Note: Share of exposures by private equity funds' investment strategies, end of 2018, in % of total. AIFs managed and/or marketed by authorised EU AIFMs. PE=Private equity fund. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

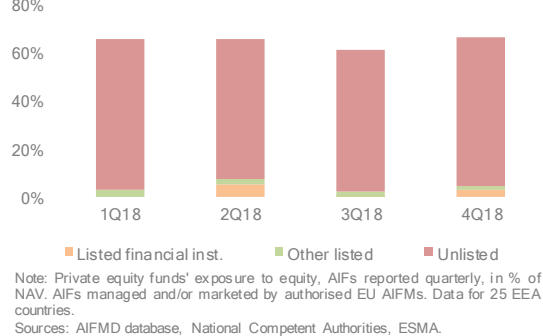
ASR-AIF-S.195
Cash and cash equivalents



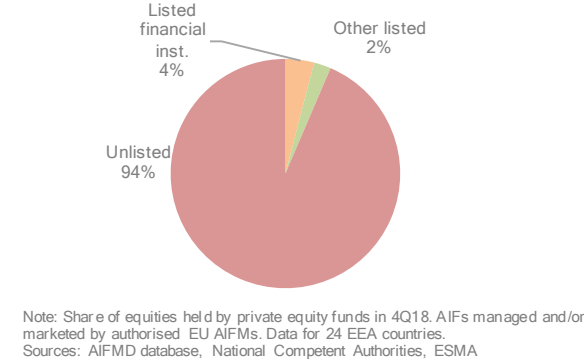
ASR-AIF-S.196
Cash and cash equivalents in 4Q18



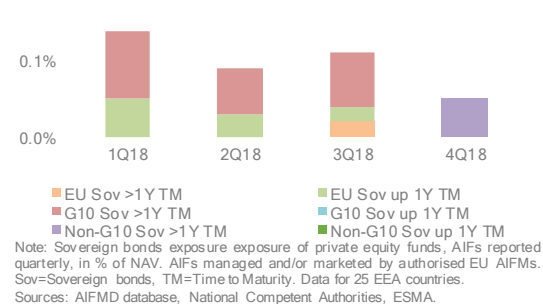
ASR-AIF-S.197
Equities



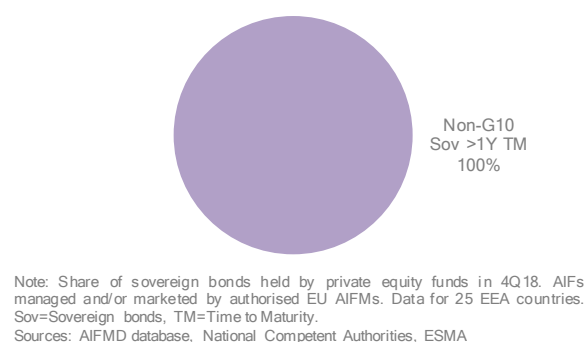
ASR-AIF-S.198
Equities in 4Q18



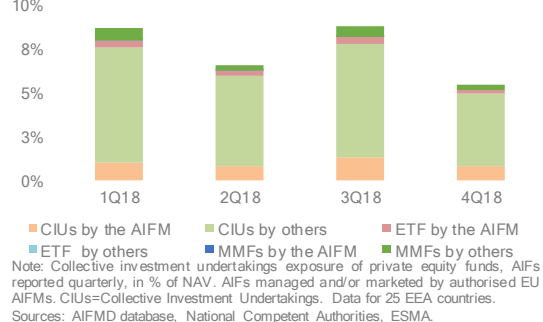
ASR-AIF-S.199
Sovereign bonds



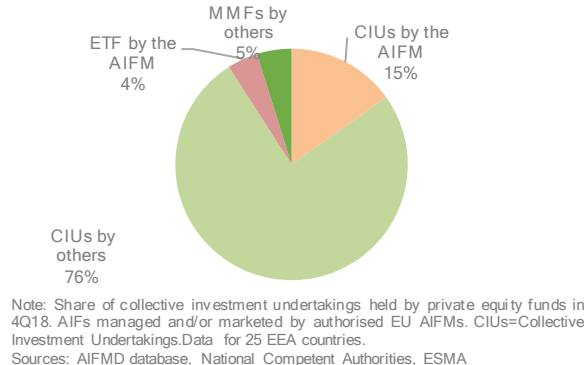
ASR-AIF-S.200
Sovereign bonds in 4Q18



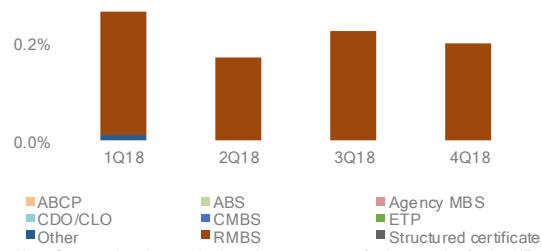
ASR-AIF-S.201
Collective investment undertakings



ASR-AIF-S.202
Collective investment undertakings in 4Q18

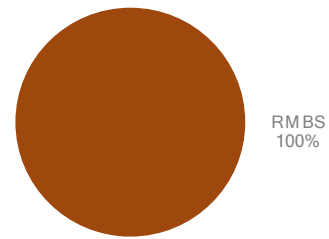


ASR-AIF-S.203
Structured products in 4Q18



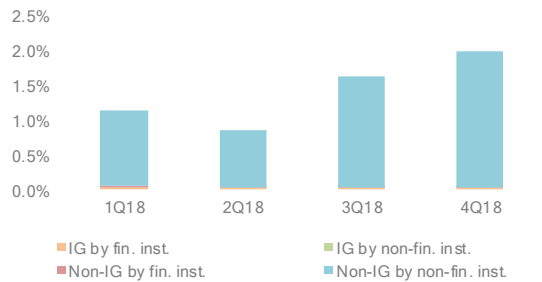
Note: Structured and securitised products exposure of private equity funds, AIFs reported quarterly, in % of NAV. AIFs managed and/or marketed by authorised EU AIFMs. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.204
Structured products in 4Q18



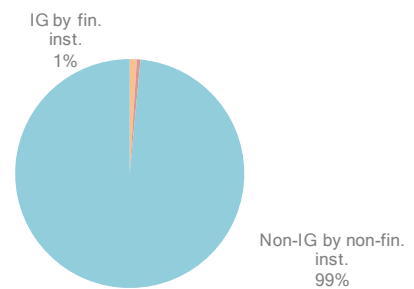
Note: Share of structured and securitised products held by private equity funds in 4Q18. AIFs managed and/or marketed by authorised EU AIFMs. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.205
Corporate bond quality



Note: Corporate bonds exposure of private equity funds, AIFs reported quarterly, in % of NAV. AIFs managed and/or marketed by authorised EU AIFMs. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.206
Corporate bonds in 4Q18

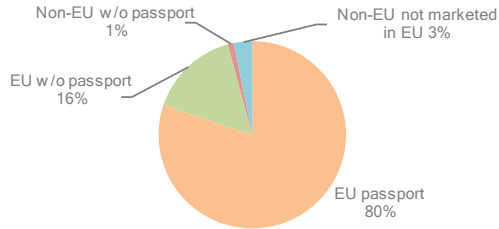


Note: Share of corporate bonds held by private equity funds in 4Q18. AIFs managed and/or marketed by authorised EU AIFMs marketed, respectively, w/ and w/o passport. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

'Other AIFs'

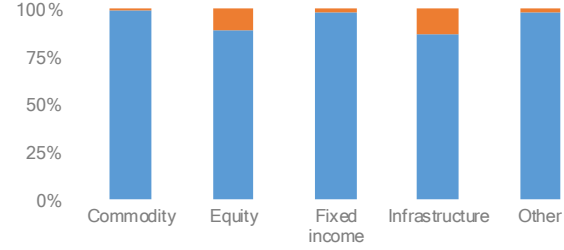
AIF characteristics

ASR-AIF-S.207
AIFMD passport



Note: NAV of AIFs classified as Other by manager's access to AIFMD passport, end of 2018, in %. Authorised EU AIFMs with access to AIFMD passport or marketing non-EU AIFs w/o passport, sub-threshold managers registered only in national jurisdictions w/o passporting rights. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

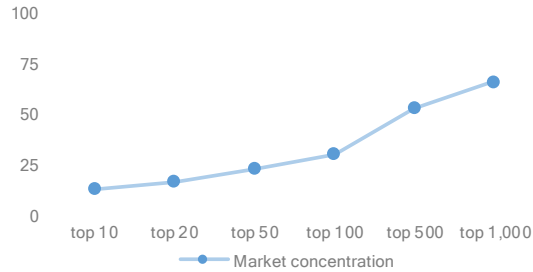
ASR-AIF-S.208
EU and non-EU AIFs



Note: Share of EU and non-EU AIFs classified as Other managed and/or marketed by authorised EU AIFMs and sub-threshold managers registered only in national jurisdictions, end of 2018, in % of NAV. Non-EU AIFs marketed w/o passport. Data for 25 EEA countries. Sources: AIFMD database, National competent Authorities, ESMA.

ASR-AIF-S.209

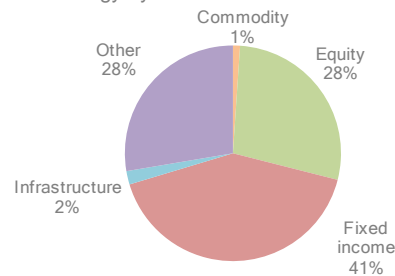
Market concentration



Note: Market concentration of the largest 10-to-1,000 AIFs classified as Other managed and/or marketed by authorised EU AIFMs and sub-threshold managers registered only in national jurisdictions, end of 2018, in % of NAV. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.210

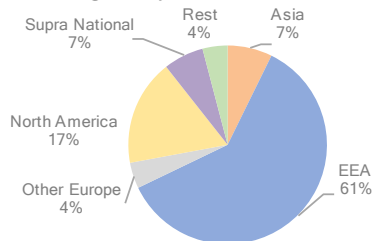
Investment strategy by NAV



Note: Investment strategies of AIFs classified as Other, end of 2018, in % of NAV. AIFs managed and/or marketed by full scope EU AIFMs and sub-threshold managers registered only in national jurisdictions. Data for 25 EEA countries. Sources: National Competent Authorities, ESMA.

ASR-AIF-S.211

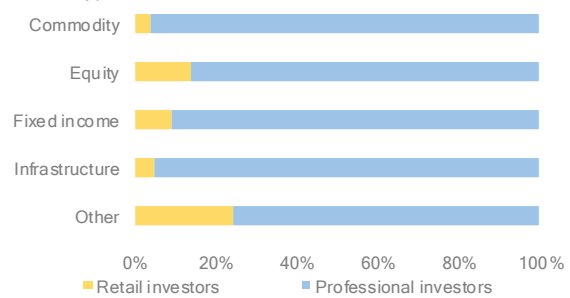
Investment regions by NAV



Note: Regional investment focus of EU AIFs classified as Other managed and/or marketed by authorised EU AIFMs and sub-threshold managers registered only in national jurisdictions, end of 2018, 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 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.212

Investor type

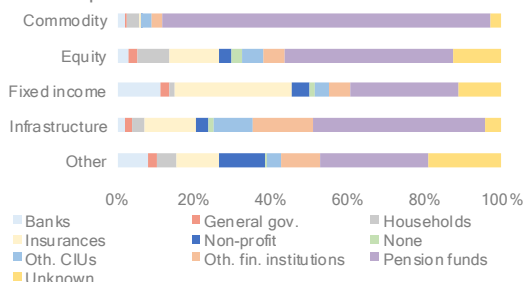


Note: Clients of AIFs classified as Other AIFs managed and/or marketed by authorised EU AIFMs and sub-threshold managers registered only in national jurisdictions, end of 2018, in % of NAV. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

Liquidity and counterparty risk profile

ASR-AIF-S.213

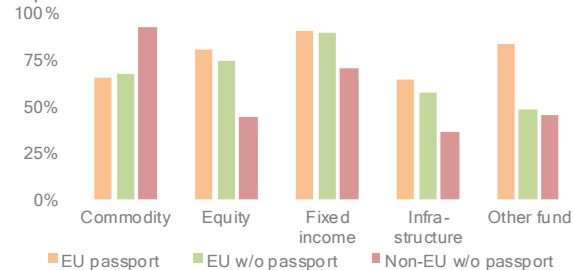
Ownership of 'other AIFs'



Note: Ownership of units in AIFs classified as Other AIFs managed and/or marketed by authorised EU AIFMs, end of 2018, in % of NAV. CIUs=Collective investment undertakings. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.214

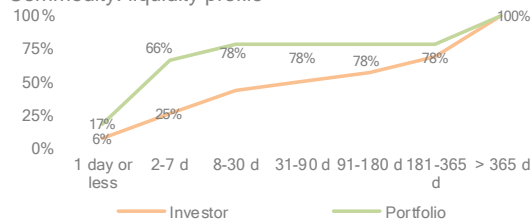
Top five beneficial owners



Note: Investor concentration of AIFs classified as Other managed and/or marketed by authorised EU AIFMs, end of 2018, in % of NAV. Investor concentration computed as share of AIF equity beneficially owned by the 5 largest investors. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.215

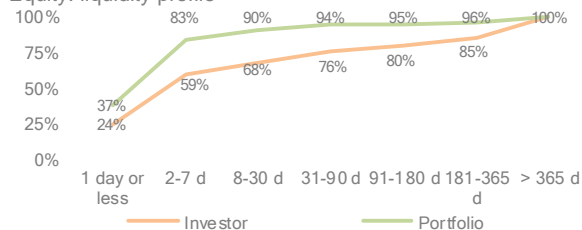
Commodity: liquidity profile



Note: Portfolio and investor liquidity profiles of funds of commodity funds managed and/or marketed by authorised EU AIFMs, end of 2018. Portfolio profile determined by percentage of the funds' portfolios capable of being liquidated within each specified period, investor liquidity profile depends on shortest period within each fund could be withdrawn or investors could receive redemption payments. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. d= Days. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.216

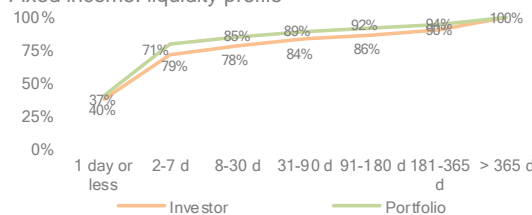
Equity: liquidity profile



Note: Portfolio and investor liquidity profiles of equity funds managed and/or marketed by authorised EU AIFMs, end of 2018. Portfolio profile determined by percentage of the funds' portfolios capable of being liquidated within each specified period, investor liquidity profile depends on shortest period within each fund could be withdrawn or investors could receive redemption payments. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. d= Days. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.217

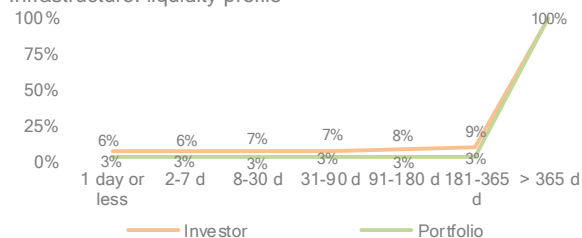
Fixed income: liquidity profile



Note: Portfolio and investor liquidity profiles of fixed income funds managed and/or marketed by authorised EU AIFMs, end of 2018. Portfolio profile determined by percentage of the funds' portfolios capable of being liquidated within each specified period, investor liquidity profile depends on shortest period within each fund could be withdrawn or investors could receive redemption payments. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. d= Days. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.218

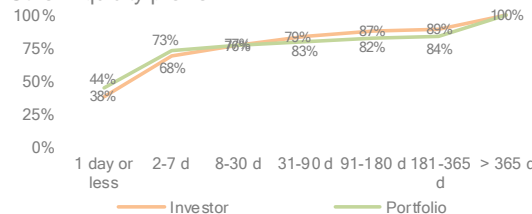
Infrastructure: liquidity profile



Note: Portfolio and investor liquidity profiles of funds of infrastructure funds managed and/or marketed by authorised EU AIFMs, end of 2018. Portfolio profile determined by percentage of the funds' portfolios capable of being liquidated within each specified period, investor liquidity profile depends on shortest period within each fund could be withdrawn or investors could receive redemption payments. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. d= Days. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.219

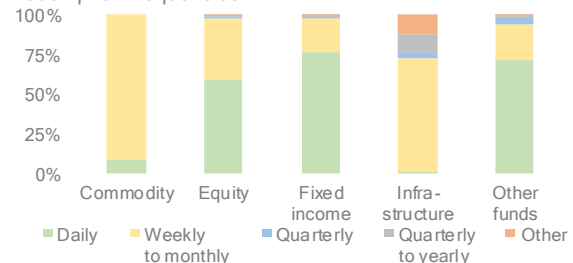
Other: liquidity profile



Note: Portfolio and investor liquidity profiles of AIFs classified as Other and pursuing "other" strategies managed and/or marketed by authorised EU AIFMs, end of 2018. Portfolio profile determined by percentage of the funds' portfolios capable of being liquidated within each specified period, investor liquidity profile depends on shortest period within each fund could be withdrawn or investors could receive redemption payments. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. d= Days. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.220

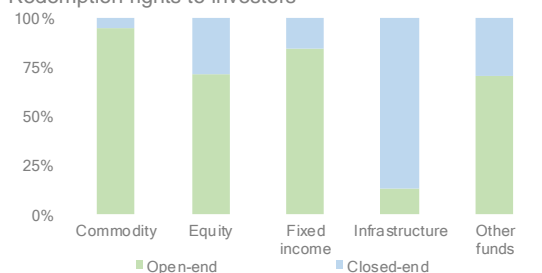
Redemption frequencies



Note: Investor redemption frequencies allowed by open-end AIFs classified as Other managed and/or marketed by authorised EU AIFMs, end of 2018, in % of NAV. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.221

Redemption rights to investors

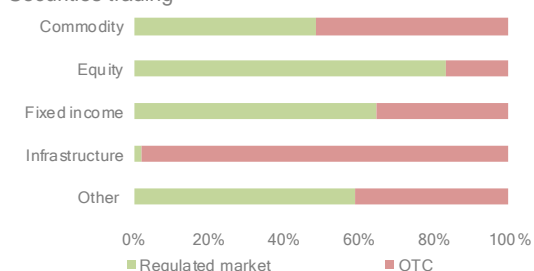


Note: Redemption rights provided in the ordinary course to investors in AIFs classified as Other managed and/or marketed by authorised EU AIFMs, end of 2018, in % of NAV. Data for 25 EEA countries.

Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.223

Securities trading

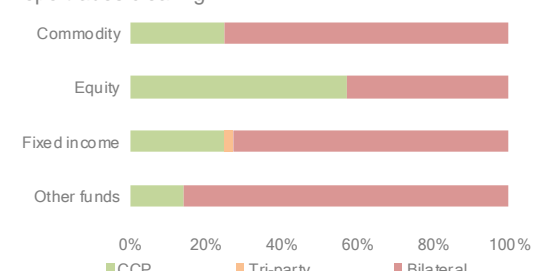


Note: Estimated market value of securities traded on OTC and regulated exchange markets by AIFs classified as Other managed and/or marketed by authorised EU AIFMs, in %. Data for 25 EEA countries.

Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.225

Repo trades clearing

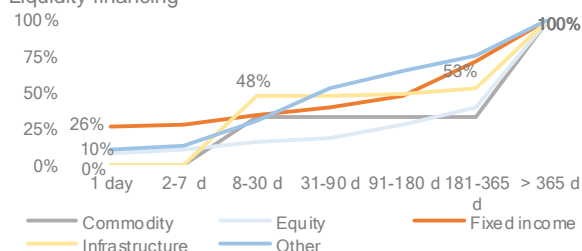


Note: Estimated market value of repo trades cleared by AIFs classified as Other managed and/or marketed by authorised EU AIFMs, in %. Data for 25 EEA countries.

Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.222

Liquidity financing

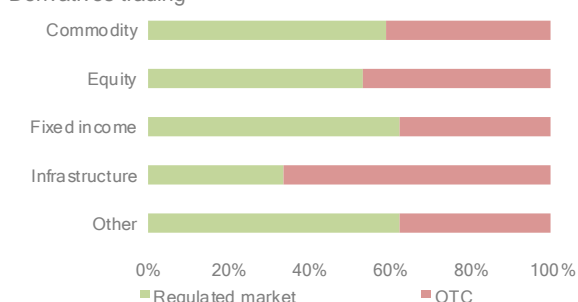


Note: Liquidity financing of AIFs classified as Other managed and/or marketed by authorised EU AIFMs, end of 2018. Aggregate amount of borrowing and cash financing divided depending on longest period for which creditors are contractually committed to provide such financing. Borrowing and cash financing include drawn and undrawn, committed and uncommitted lines of credit as well as any term financing. Data for 25 EEA countries.

Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.224

Derivatives trading

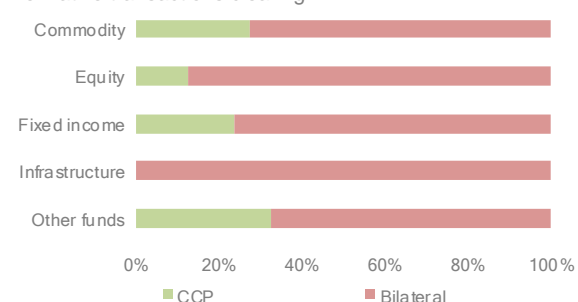


Note: Estimated volume of derivatives traded on OTC and regulated exchange markets by AIFs classified as Other managed and/or marketed by authorised EU AIFMs, in %. Data for 25 EEA countries.

Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.226

Derivative transactions clearing



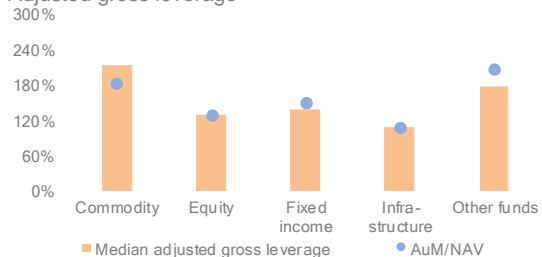
Note: Estimated volume of derivatives cleared bilaterally and via CCP by AIFs classified as Other managed and/or marketed by authorised EU AIFMs, in %. Data for 25 EEA countries.

Sources: AIFMD database, National Competent Authorities, ESMA.

Leverage and exposure

ASR-AIF-S.227

Adjusted gross leverage

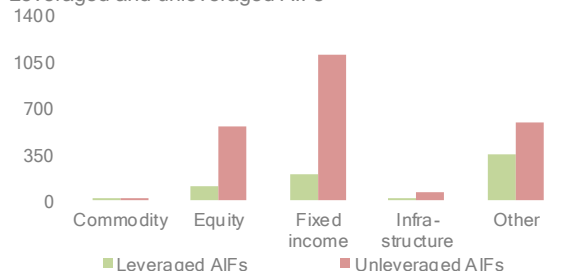


Note: Adjusted gross leverage of funds of funds managed and/or marketed by authorised EU AIFMs, end of 2018, in % of NAV. Adjusted gross leverage computed as total exposure less IRDs with respect to NAV. FoF= Funds of funds, PE=Private equity fund, HF=Hedge fund. Data for 25 EEA countries.

Sources: AIFMD database, National competent authorities, ESMA.

ASR-AIF-S.228

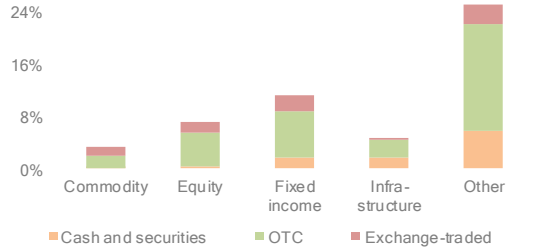
Leveraged and unleveraged AIFs



Note: Leveraged and unleveraged of AIFs classified as Other and managed and/or marketed by authorised EU AIFMs and sub-threshold managers registered only in national jurisdictions, end of 2018, EUR bn. FoF=Fund of funds. Data for 25 EEA countries.

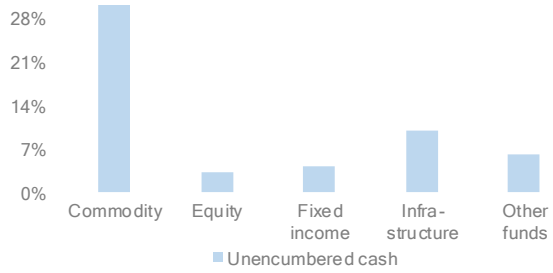
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.229
Borrowing embedded in financial instruments



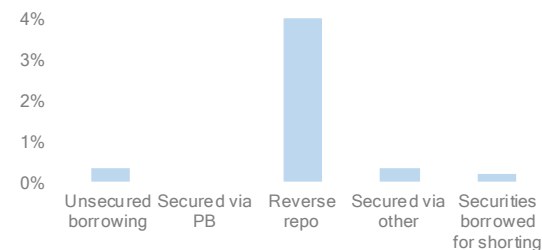
Note: Borrowing of cash and securities or embedded in derivatives by AIFs classified as Other, end of 2018, in % of total exposure. AIFs managed and/or marketed by authorised EU AIFMs. OTC and exchange-traded derivatives net of margins. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA

ASR-AIF-S.230
Unencumbered cash



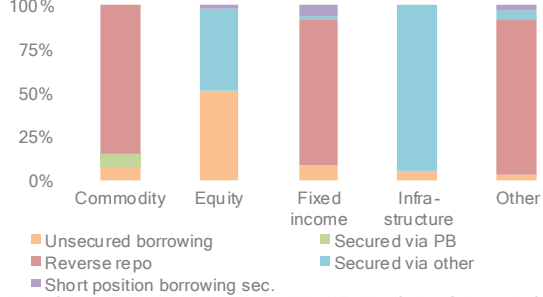
Note: Unencumbered cash held by AIFs classified as Other, end of 2018, in % of NAV. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.231
Financial leverage



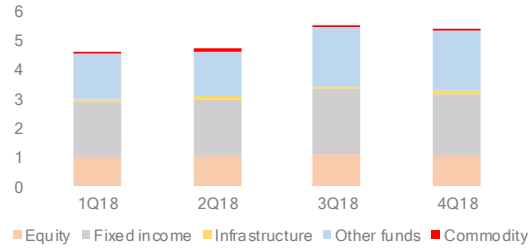
Note: Cash and securities borrowed by AIFs classified as Other, end of 2018, in % of NAV. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. FoF=Funds of Funds, None=No predominant type. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.232
Financial leverage composition



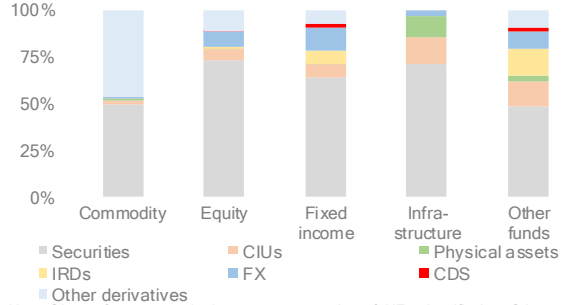
Note: Share cash and securities borrowed by AIFs classified as Other, end of 2018, in % of NAV. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.233
Total exposures



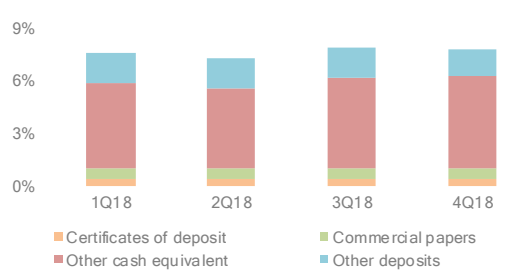
Note: Exposures of AIFs classified as Other managed and/or marketed by authorised EU AIFMs, funds quarterly reported, EUR bn. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.234
Decomposition of exposures



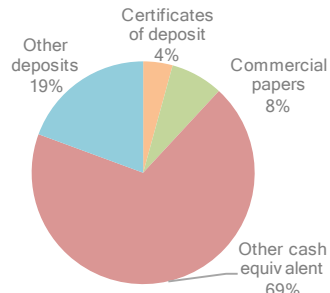
Note: Share of exposures by investment strategies of AIFs classified as Other, end of 2018, in % of total. AIFs managed and/or marketed by authorised EU AIFMs. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.235
Cash and cash equivalents



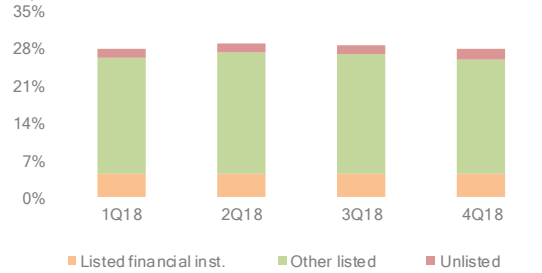
Note: Cash and cash equivalents exposure of funds classified as Other, AIFs reported quarterly, in % of NAV. Government bonds excluded from other cash equivalents. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.236
Cash and cash equivalents in 4Q18



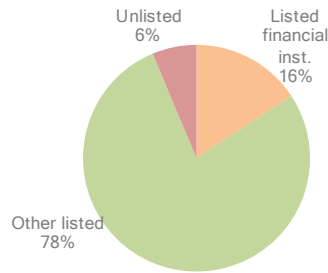
Note: Share of cash and cash equivalents held by funds classified as Other in 4Q18. AIFs managed and/or marketed by authorised EU AIFMs. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.237
Equities



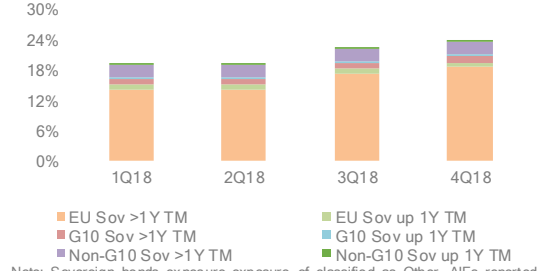
Note: Exposure to equity of funds classified as Other, AIFs reported quarterly, in % of NAV. AIFs managed and/or marketed by authorised EU AIFMs. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.238
Equities in 4Q18



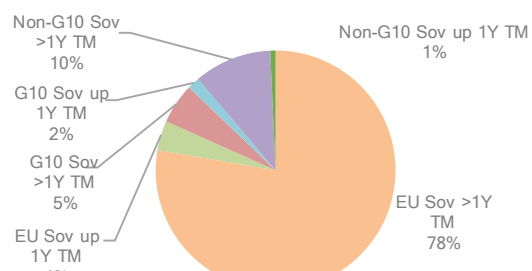
Note: Share of equities held by funds classified as Other in 4Q18. AIFs managed and/or marketed by authorised EU AIFMs. Data for 24 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA

ASR-AIF-S.239
Sovereign bonds



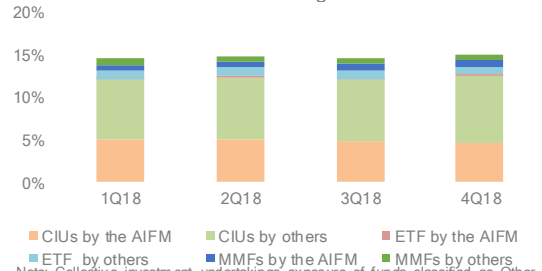
Note: Sovereign bonds exposure of funds classified as Other, AIFs reported quarterly, in % of NAV. AIFs managed and/or marketed by authorised EU AIFMs. Sov=Sovereign bonds, TM=Time to Maturity. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.240
Sovereign bonds in 4Q18



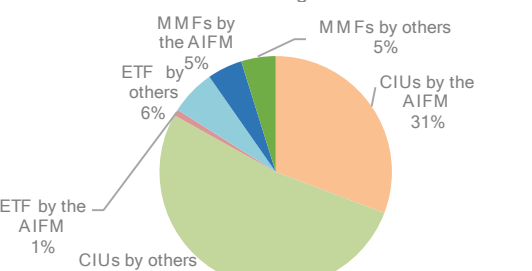
Note: Share of sovereign bonds held by funds classified as Other in 4Q18. AIFs managed and/or marketed by authorised EU AIFMs. Data for 25 EEA countries. Sov=Sovereign bonds, TM=Time to Maturity.
Sources: AIFMD database, National Competent Authorities, ESMA

ASR-AIF-S.241
Collective investment undertakings



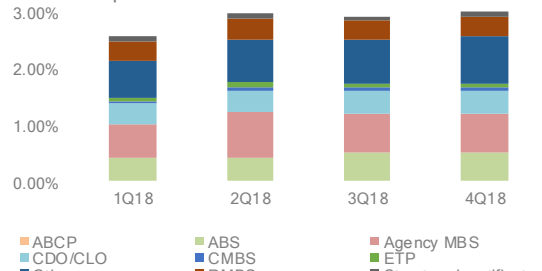
Note: Collective investment undertakings exposure of funds classified as Other, AIFs reported quarterly, in % of NAV. AIFs managed and/or marketed by authorised EU AIFMs. CIUs=Collective Investment Undertakings. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.242
Collective investment undertakings in 4Q18



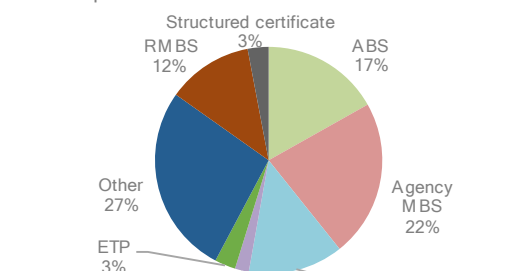
Note: Share of collective investment undertakings held by funds classified as Other in 4Q18. AIFs managed and/or marketed by authorised EU AIFMs. CIUs=Collective Investment Undertakings. Data for 254 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA

ASR-AIF-S.243
Structured products



Note: Structured and securitised products exposure of funds classified as Other, AIFs reported quarterly, in % of NAV. AIFs managed and/or marketed by authorised EU AIFMs. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

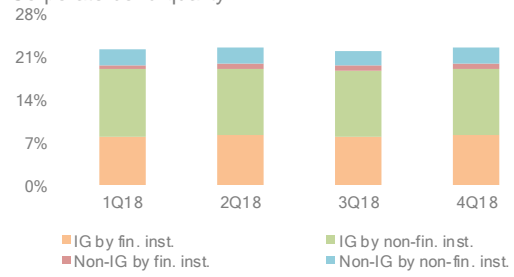
ASR-AIF-S.244
Structured products in 4Q18



Note: Share of structured and securitised products held by funds classified as Other in 4Q18. AIFs managed and/or marketed by authorised EU AIFMs. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA

ASR-AIF-S.245

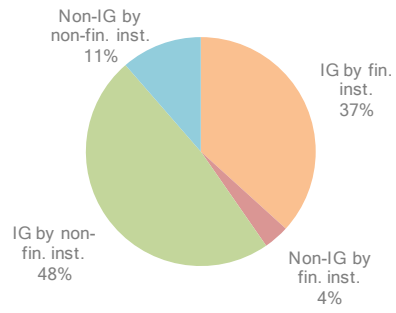
Corporate bond quality:



Note: Corporate bonds exposure of funds classified as Other, AIFs reported quarterly, in % of NAV. AIFs managed and/or marketed by authorised EU AIFMs. Data for 25 EEA countries.
 Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.246

Corporate bonds in 4Q18



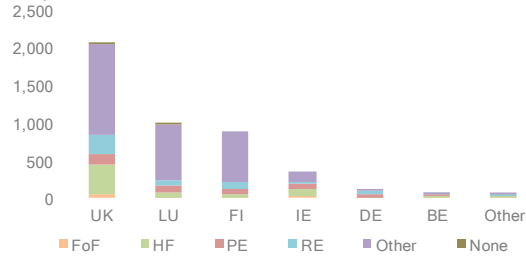
Note: Share of corporate bonds held by funds classified as Other in 4Q18. AIFs managed and/or marketed by authorised EU AIFMs. Data for 25 EEA countries.
 Sources: AIFMD database, National Competent Authorities, ESMA.

Non-EU AIFs (NPPR)

AIF characteristics

ASR-AIF-S.247

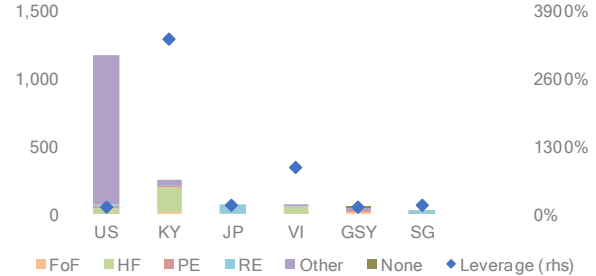
EU jurisdictions



Note: NAV by authorising EU country of AIFs marketed by non-EU AIFMs w/o passporting rights (art. 42 of AIFMD), end of 2018, in EUR bn. AIFs identified via international standard identifiers (LEIs, ISIN, Cusip).
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.248

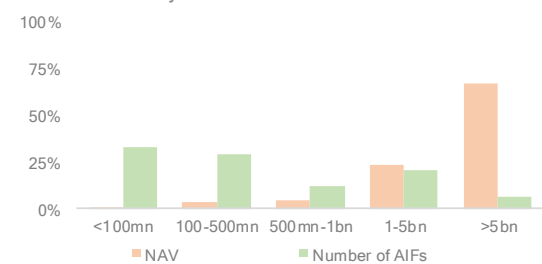
Non-EU AIFs' domicile



Note: NAV by domicile of AIFs marketed by non-EU AIFMs w/o passporting rights (art. 42 of AIFMD), end of 2018, in EUR bn. AIFs identified via international standard identifiers (LEIs, ISIN, Cusip).
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.249

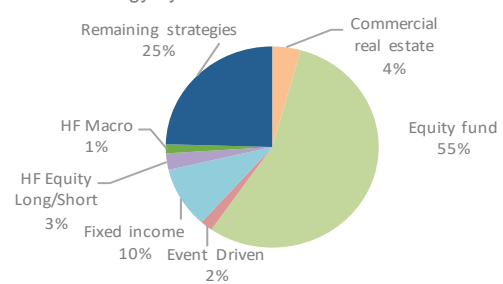
AIF distribution by size



Note: Share of AIFs marketed by non-EU AIFMs w/o passporting rights (art. 42 of AIFMD) by size, end of 2018. In %.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.250

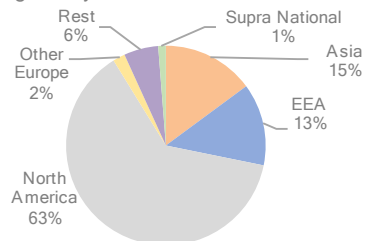
Investment strategy by NAV



Note: Investment strategies of AIFs marketed by non-EU AIFMs w/o passporting rights (art. 42 of AIFMD), end of 2018, in % of NAV. AIFs identified via international standard identifiers (LEIs, ISIN, Cusip).
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.251

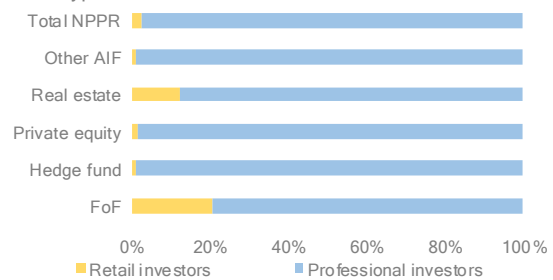
Investment regions by NAV



Note: Regional investment focus of AIFs marketed by non-EU AIFMs w/o passporting rights (art. 42 of AIFMD), end of 2018, in % of NAV. AIFs identified via international standard identifiers (LEIs, ISIN, Cusip).
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.252

Investor type

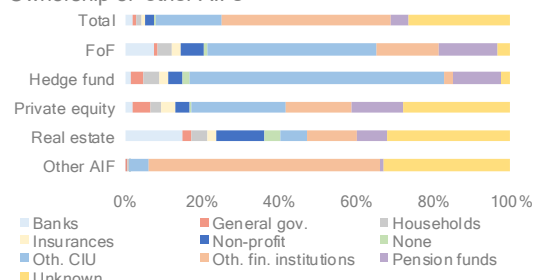


Note: Clients of AIFs marketed by non-EU AIFMs w/o passporting rights (art. 42 of AIFMD), end of 2018, in % of NAV. AIFs identified via international standard identifiers (LEIs, ISIN, Cusip).
Sources: AIFMD database, National Competent Authorities, ESMA.

Liquidity and counterparty risk profile

ASR-AIF-S.253

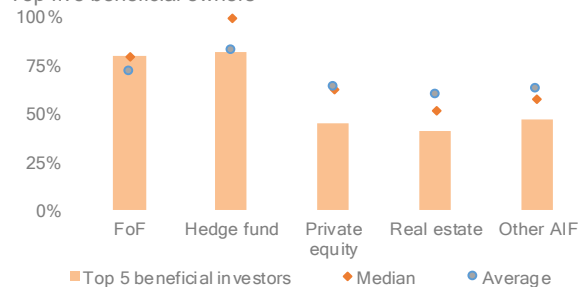
Ownership of 'other AIFs'



Note: Ownership of units in AIFs marketed by non-EU AIFMs w/o passporting rights (art. 42 of AIFMD), end of 2018, in % of NAV. AIFs identified via international standard identifiers (LEIs, ISIN, Cusip). FoF=Fund of Funds; Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.254

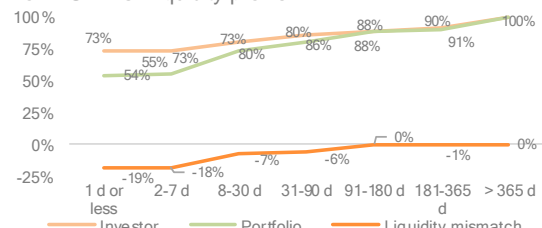
Top five beneficial owners



Note: Investor concentration of EU passported AIFs, end of 2018, in % of NAV. Investor concentration computed as share of AIF equity beneficially owned by the 5 largest investors. FoF=Fund of funds. Data for 25 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.255

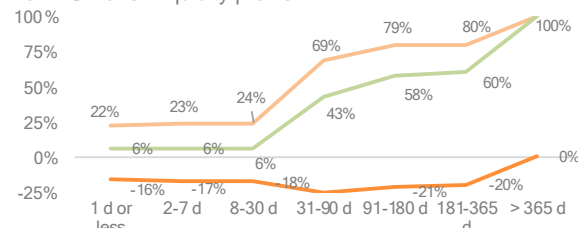
Non-EU AIFs: Liquidity profile



Note: Portfolio and investors liquidity profiles of AIFs marketed by non-EU AIFMs w/o passporting rights (art. 42 of AIFMD), end of 2018. AIFs identified via international standard identifiers (LEIs, ISIN, Cusip). Portfolio profile determined by percentage of the funds' portfolios capable of being liquidated within each specified period, investor liquidity profile depends on shortest period within each fund could be withdrawn or investors could receive redemption payments. d= Days. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.256

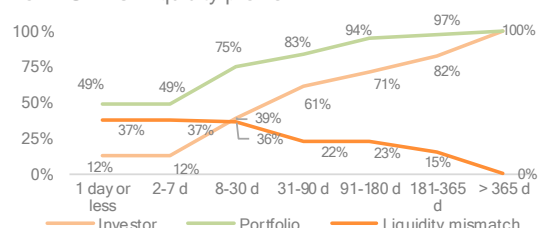
Non-EU FoFs: Liquidity profile



Note: Portfolio and investors liquidity profiles of funds of funds marketed by non-EU AIFMs w/o passporting rights (art. 42 of AIFMD), end of 2018. AIFs identified via international standard identifiers (LEIs, ISIN, Cusip). Portfolio profile determined by percentage of the funds' portfolios capable of being liquidated within each specified period, investor liquidity profile depends on shortest period within each fund could be withdrawn or investors could receive redemption payments. d= Days. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.257

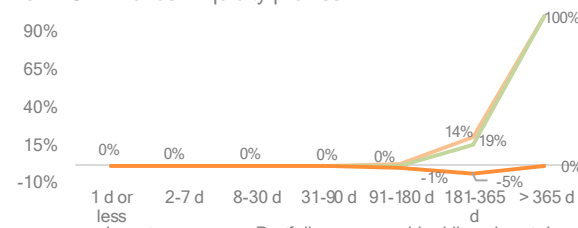
Non-EU HF: Liquidity profile



Note: Portfolio and investors liquidity profiles of hedge funds marketed by non-EU AIFMs w/o passporting rights (art. 42 of AIFMD), end of 2018. AIFs identified via international standard identifiers (LEIs, ISIN, Cusip). Portfolio profile determined by percentage of the funds' portfolios capable of being liquidated within each specified period, investor liquidity profile depends on shortest period within each fund could be withdrawn or investors could receive redemption payments. d= Days. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.258

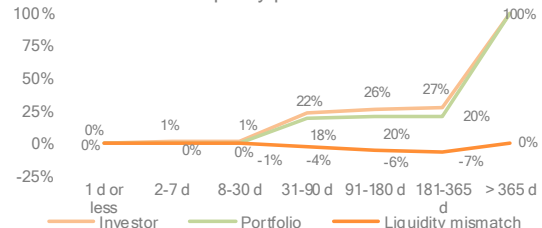
Non-EU PE funds: Liquidity profiles



Note: Portfolio and investors liquidity profiles of private equity funds marketed by non-EU AIFMs w/o passporting rights (art. 42 of AIFMD), end of 2018. AIFs identified via international standard identifiers (LEIs, ISIN, Cusip). Portfolio profile determined by percentage of the funds' portfolios capable of being liquidated within each specified period, investor liquidity profile depends on shortest period within each fund could be withdrawn or investors could receive redemption payments. d= Days. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.259

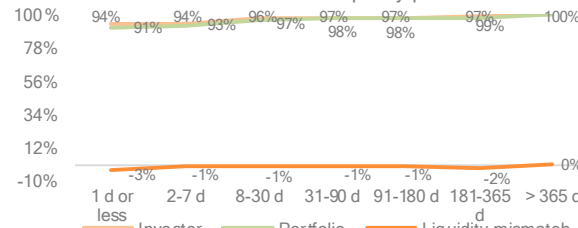
Non-EU RE funds: Liquidity profiles



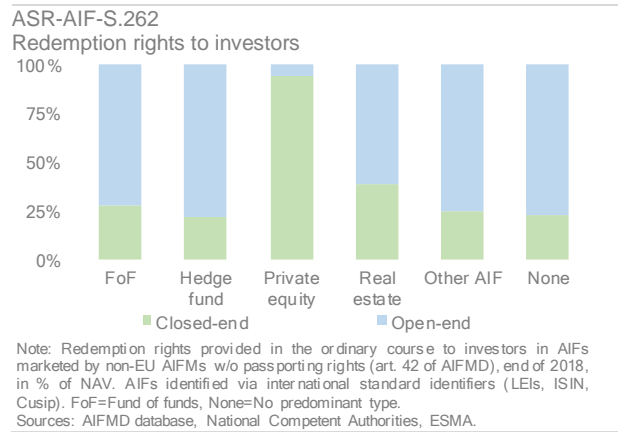
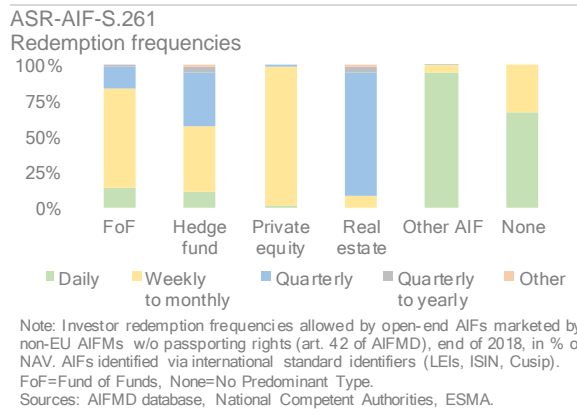
Note: Portfolio and investors liquidity profiles of real estate funds marketed by non-EU AIFMs w/o passporting rights (art. 42 of AIFMD), end of 2018. AIFs identified via international standard identifiers (LEIs, ISIN, Cusip). Portfolio profile determined by percentage of the funds' portfolios capable of being liquidated within each specified period, investor liquidity profile depends on shortest period within each fund could be withdrawn or investors could receive redemption payments. d= Days. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.260

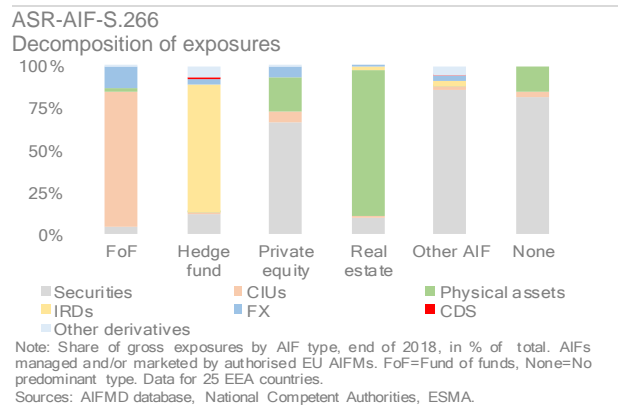
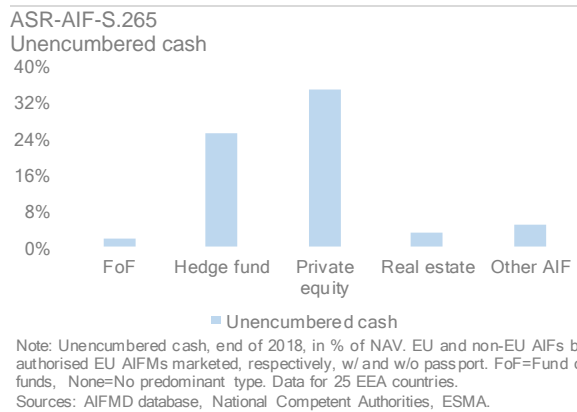
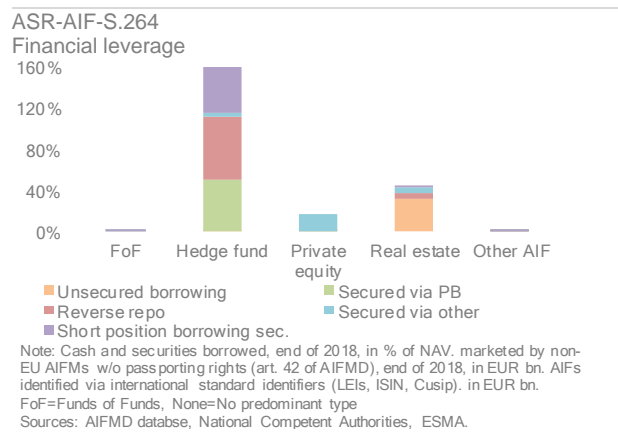
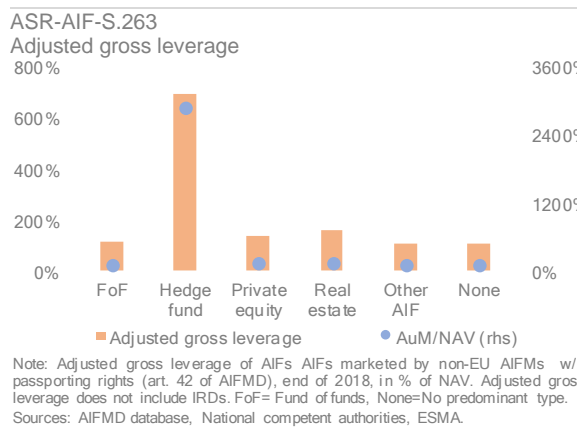
Non-EU AIFs classified as Other: Liquidity profile



Note: Portfolio and investors liquidity profiles of AIFs classified as Other marketed by non-EU AIFMs w/o passporting rights (art. 42 of AIFMD), end of 2018. AIFs identified via international standard identifiers (LEIs, ISIN, Cusip). Portfolio profile determined by percentage of the funds' portfolios capable of being liquidated within each specified period, investor liquidity profile depends on shortest period within each fund could be withdrawn or investors could receive redemption payments. d= Days. Sources: AIFMD database, National Competent Authorities, ESMA.



Leverage and exposure



Annex

Data inventory

Indicator	Description and reporting guidelines	Reporting content	Reporting items	Technical guidance	Data availability
Investment regions	Geographical breakdown of the investments held by the AIF by percentage of the total NAV of the AIF. See: ESMA guidelines, point 83; Q&As Section III, 4 and 73.	3(3)(d)- and 24(1)	78-85	Mandatory (all AIFs)	Total 100%
					FoF 100%
					HF 100%
					PE 100%
					RE 100%
					OTH 100%
Top five beneficial owners	NAV held by the five beneficial owners that have the largest equity interests in the AIF. See: ESMA guidelines, point 100. Note: 11% of AIFs (sold mostly to retail investors), report 0.	3(3)(d) and 24(1)	118	Mandatory (all AIFs)	Total 100%
					FoF 100%
					HF 100%
					PE 100%
					RE 100%
					OTH 100%
Clients	Investor concentration for retail and professional investors. See: ESMA guidelines, point 101; Q&As Section III, 80.	3(3)(d) and 24(1)	119-120	Mandatory (all AIFs)	Total 98%
					FoF 97%
					HF 98%
					PE 99%
					RE 99%
					OTH 98%
Ownership	Ownership of units in the AIF beneficially owned by investor type. See: ESMA guidelines, point 123 and Annex II.	24(2)	208-209	Mandatory (all AIFs)	Total 98%
					FoF 99%
					HF 99%
					PE 93%
					RE 99%
					OTH 99%
Redemption rights	AIF investors provided with withdrawal / redemption rights in the ordinary course	24(2)	193	Optional (AIFs must report if true)	Total 88%
					FoF 87%
					HF 93%
					PE 84%
					RE 84%
					OTH 89%
Redemption frequencies	Frequency of investor redemptions. In case of multiple classes of shares or units, the largest share class by NAV shall be considered. See: ESMA guidelines, point 121 and Annex II.	24(2)	194	Optional (AIFs must report if information is available)	Total 96%
					FoF 97%
					HF 99%
					PE 96%
					RE 97%
					OTH 95%
Liquidity profile – Portfolio	Portfolio liquidity profile. See: ESMA guidelines, points 118-120; Q&As Section III, 10, 11, 42 and 78.	24(2)	178-184, 186-192	Mandatory (all AIFs reporting under Article 24(2))	Total 90%
					FoF 94%
					HF 94%
					PE 82%
					RE 88%
					OTH 93%
Liquidity profile – Investor	Investor liquidity profiles. See: ESMA guidelines, points 118-120; Q&As Section III, 10, 11, 42 and 78.	24(2)	178-184, 186-192	Mandatory (all AIFs reporting under Article 24(2))	Total 86%
					FoF 91%
					HF 92%
					PE 67%
					RE 80%
					OTH 92%
Liquidity financing	Total financing amount by the longest period during which the creditor is contractually committed to providing such financing. See: Q&As Section III, 2, 67	24(2)	211-217	Optional (AIFs must report if information is available)	Total 28%
					FoF 22%
					HF 33%
					PE 35%
					RE 41%
					OTH 27%
Unencumbered cash	Value of unencumbered cash.	24(2)	185	Optional (AIFs must report if information is available)	Total 91%
					FoF 95%
					HF 94%
					PE 71%
					RE 88%
					OTH 93%
		24(2)	148-149		Total EU 53%

Securities trading	Estimated % in terms of market value of securities traded on regulated exchange and OTC markets. See: Q&As Section III, 8 and 27.			Optional (AIFs must report if information is available)	FoF HF PE RE OTH	39% 71% 36% 17% 68%
Derivatives trading	Estimated % in terms of trade volumes of derivatives that are traded on regulated exchange and OTC markets. See: Q&As Section III, 9.	24(2)	150-151	Optional (AIFs must report if information is available)	Total EU FoF HF PE RE OTH	32% 34% 57% 9% 11% 45%
Derivatives clearing	Estimated % in terms of trade volumes of derivatives transactions that are cleared by a CCP and bilaterally. See: ESMA guidelines, point 112; Q&As Section III, 22.	24(2)	152-153	Optional (AIFs must report if information is available)	Total EU FoF HF PE RE OTH	25% 19% 50% 4% 2% 32%
Repo clearing	Estimated % in terms of market value of repo trades that are cleared by a CCP, bilaterally and via tri-party repo. See: ESMA guidelines point 113; Q&As Section III, 23.	24(2)	154-156	Optional (AIFs must report if information is available)	Total EU FoF HF PE RE OTH	6% 2% 9% <1% 2% 9%
Financial leverage	Leverage created by direct borrowing of money or securities from counterparties. See: ESMA guidelines, point 124; Q&As Section III, 34, 44 and 69.	24(2) and 24(4)	283-286, 289	Optional (AIFs must report if information is available)	Total EU FoF HF PE RE OTH	44% 45% 54% 21% 38% 48%

Note: Main indicators and reporting template items analysed in the report. Relative coverage defined as the ratio of the total number of AIFs reporting it to the number of AIFs expected to report it. Optional items filled only when information is applicable.

Glossary

Alternative Investment Fund (AIF): An AIF is a collective investment undertaking, including investment compartments of such an undertaking, that raises capital to invest it in accordance with a defined investment policy for the benefit of investors. An AIF does not include an undertaking that requires authorisation under the UCITS directive.

Alternative Investment Fund Manager (AIFM): An AIFM is an entity that provides portfolio-management and risk-management services to one or more AIFs as its regular business, irrespective of where the AIFs are located or what legal form the AIFM takes.

AIFMD passport: The AIFMD passport allows AIFMs to manage or market AIFs across the EU, on the basis of a single authorisation in one EU Member State. Currently, only EU-authorised AIFMs managing or marketing EU-domiciled AIFs have access to the passport.

Assets under management (AuM): Under the AIFMD, AuM are defined as the value of all assets in a portfolio, including all assets acquired through the use of leverage (borrowing of cash or securities and leverage embedded in derivative positions). This concept of AuM is different from the industry approach to AuM, which typically relates to the assets of the balance sheet of the AIF.

Authorised Alternative Investment Fund Manager (AIFM): Authorised AIFMs are subject to more stringent requirements than registered AIFMs and can manage or market their AIFs across the EU.

Commitment leverage: Ratio of exposures to the NAV, where exposures are computed using the commitment approach, which takes into account netting and hedging, and adjusts IRDs by duration.

Financial leverage: The ratio of total assets to equity (NAV for funds), also called balance-sheet leverage. Financial leverage involves outright borrowing and is defined as the ratio of total assets to equity (or NAV for funds), in percentage. It can be measured by aggregating unsecured cash borrowing, the value of securities borrowed for short positions, collateralised/secured cash borrowing via prime broker, reverse repo or by other means.

Gross exposure: The absolute sum of all portfolio's positions, long and short. It includes gross notional value for derivatives. This measure provides a complete appreciation of all the leverage that is employed by a fund to gain market exposure.

Gross leverage: Leverage computed under the gross method, as indicated in Commission Delegated Regulation (EU) No 231/2013. It is expressed as the proportion of total gross exposure to NAV, in percentage. Under the gross method, exposures are calculated as the absolute value of all positions in the portfolio by including all assets and liabilities, relevant borrowings, derivatives (converted into their equivalent underlying positions) and all other positions, even those held purely for risk-reduction purposes. Cash held in the base currency of the AIF is excluded.

Interest rate derivatives (IRDs): Under the AIFMD reporting requirements, IRDs exposures are reported as the total gross notional value of the AIF's outstanding IRD contracts, including the total notional value of futures and the delta-adjusted notional value of options. For the purpose of computing the commitment leverage, IRDs are adjusted for duration.

Leverage: Ratio of fund market exposures to NAV. Market exposures can be defined according to a variety of approaches, including the gross approach and the commitment approach.

Liquidity management tools (LMTs): Provisions and techniques established by a fund manager as part of the share redemption policy for its funds. LMTs are generally communicated upfront in fund disclosure documents.

Net asset value (NAV): The net value of the assets of the AIF (as opposed to the NAV per unit or proportion of the AIF).

Registered Alternative Investment Fund Manager: Registered AIFMs are subject to lighter requirements than authorised AIFMs and do not have access to the AIFMD passport.

List of abbreviations

AIF	Alternative Investment Fund
AIFM	Alternative Investment Fund Manager
AIFMD	Alternative Investment Fund Manager Directive
AuM	Assets under Management
CIU	Collective Investment Undertakings
CLO	Collateralised Loan Obligation
CRE	Commercial Real Estate
CTA	Commodity Trading Advisor
ECB	European Central Bank
EEA	European Economic Area
EFAMA	European Fund and Asset Management Association
ESCB	European System of Central Banks
ESMA	European Securities and Markets Authority
ETF	exchange-traded fund
FoF	Fund of Funds
HF	Hedge Funds
IOSCO	International Organization of Securities Commissions
IRD	Interest rate derivative
ISIN	International Securities Identification Number
LEI	Legal Entity Identifier
LMT	liquidity management tools
MMF	Money Market Fund
NAV	net asset value
NCA	National Competent Authority
NPPR	national private placement regime
PE	Private Equity
pp	percentage point
QIF	qualifying investor fund
RE	Real Estate
SEC	Securities and Exchange Commission
UCITS	Undertakings for the Collective Investment in Transferable Securities

