ESMA Annual Statistical Report on EU Alternative Investment Funds

2021

© European Securities and Markets Authority, Paris, 2021. All rights reserved. Brief excerpts may be reproduced or translated provided the source is cited adequately. The reporting period of this document is 31 December 2019, unless indicated otherwise. Legal reference of this report: Regulation (EU) No 1095/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (European Securities and Markets Authority), amending Decision No 716/2009/EC and repealing Commission Decision 2009/77/EC, Article 32 ‘Assessment of market developments’, 1. ‘The Authority shall monitor and assess market developments in the area of its competence and, where necessary, inform the European Supervisory Authority (European Banking Authority), and the European Supervisory Authority (European Insurance and Occupational Pensions Authority), the ESRB and the European Parliament, the Council and the Commission about the relevant micro-prudential trends, potential risks and vulnerabilities. The Authority shall include in its assessments an economic analysis of the markets in which financial market participants operate, and an assessment of the impact of potential market developments on such financial market participants.’ This report contributes to ESMA’s risk assessment activities. The report and its contents do not prejudice or impair ESMA’s regulatory, supervisory or convergence activities, nor the obligations of market participants thereunder. Charts and analyses in this report are based on data provided by national competent authorities to ESMA under the Alternative investment fund managers directive (AIFMD). ESMA uses these data in good faith and does not take responsibility for their accuracy or completeness. ESMA is committed to constantly improving its data sources and reserves the right to alter data sources at any time.

European Securities and Markets Authority (ESMA)  
Risk Analysis and Economics Department  
201-203 rue de Bercy  
FR–75012 Paris  
risk.analysis@esma.europa.eu
## Table of contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Executive summary</td>
<td>4</td>
</tr>
<tr>
<td><strong>Market monitoring</strong></td>
<td></td>
</tr>
<tr>
<td>Market structure and developments</td>
<td>8</td>
</tr>
<tr>
<td>Funds of Funds</td>
<td>16</td>
</tr>
<tr>
<td>Real Estate Funds</td>
<td>21</td>
</tr>
<tr>
<td>Hedge Funds</td>
<td>25</td>
</tr>
<tr>
<td>Private Equity Funds</td>
<td>29</td>
</tr>
<tr>
<td>Other AIFs</td>
<td>32</td>
</tr>
<tr>
<td>Non-EU AIFs (NPPR)</td>
<td>38</td>
</tr>
<tr>
<td><strong>Statistical methods</strong></td>
<td>43</td>
</tr>
<tr>
<td>AIFMD data quality improvement – an overview</td>
<td>44</td>
</tr>
<tr>
<td><strong>Statistics</strong></td>
<td>46</td>
</tr>
<tr>
<td>Market overview</td>
<td>47</td>
</tr>
<tr>
<td>Funds of Funds</td>
<td>54</td>
</tr>
<tr>
<td>Real Estate Funds</td>
<td>61</td>
</tr>
<tr>
<td>Hedge Funds</td>
<td>68</td>
</tr>
<tr>
<td>Private Equity Funds</td>
<td>76</td>
</tr>
<tr>
<td>‘Other AIFs’</td>
<td>83</td>
</tr>
<tr>
<td>Non-EU AIFs (NPPR)</td>
<td>90</td>
</tr>
<tr>
<td><strong>Annex</strong></td>
<td>94</td>
</tr>
<tr>
<td>EU AIFMD data reporting</td>
<td>95</td>
</tr>
<tr>
<td>Data inventory</td>
<td>97</td>
</tr>
<tr>
<td>Glossary</td>
<td>99</td>
</tr>
<tr>
<td>List of abbreviations</td>
<td>100</td>
</tr>
</tbody>
</table>
Executive summary

Market structure and developments

The EU Alternative Investment Funds (AIF) market: The size of the EU AIF universe continued to expand to reach EUR 6.8tn in net asset value (NAV) at the end of 2019, a 15% increase from 2018. The growth of the EU AIF market results from the launch of new AIFs in 2019 and positive valuation effects. Overall, AIFs accounted for 40% of the EU fund industry at the end of 2019. Professional investors own most of the shares of AIFs, yet retail investor share is significant at 15% of the NAV, with more retail participation in FoFs (28%) and RE funds (21%). AIFs invest predominantly in the European Economic Area (EEA) and across a broad range of asset classes (securities, derivatives or funds). At the aggregate level adjusted leverage declined slightly to 182% of NAV (compared with 193% in 2018). Overall, 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. This section also reviews the impact of the COVID-19 related market stress on AIFs in 2020.

Funds of Funds: FoFs account for 15% of the NAV of EU AIFs, at around EUR 1tn (+22% compared with 2018). FoFs invest mainly in equity and bond UCITS (72% of identified fund exposures) rather than AIFs. At the very short end, investors are able to redeem 39% of the NAV within one day, whereas only 29% of assets could be liquidated within this time frame. If large redemptions were to occur, AIFs would face challenges due to this liquidity mismatch.

Real Estate Funds: RE funds account for 12% of the NAV of AIFs, at EUR 802bn. They continued to grow, albeit at a more moderate pace (+9% in 2019 after +35% in 2018). Compared with 2018, the proportion of retail investors was stable (21%) but remains high compared with other AIF categories. RE funds are exposed mostly to illiquid physical assets which take time to sell (usually months). Liquidity risk in RE funds remains a concern: Around 54% of funds are open-ended, and almost 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 size of the EU HF sector remained stable in 2019 at EUR 354bn, or 5% of all AIFs. However, when measured by gross exposures, HFs account for 62% of AIFs since they rely heavily on derivatives. The majority of HFs are managed and domiciled outside the EU, with HFs sold through the National Private Placement Regime (NPPR) 160% larger than HFs managed by EU AIFMs. Leverage is very high at more than 900% after adjustments, and particularly so for some strategies highly reliant on derivatives. Typically, HFs using derivatives tend to maintain large unencumbered cash positions, possibly to meet future margin calls related to derivatives positions. EU HFs continue to show limited liquidity mismatch, as their assets can be liquidated quickly to meet investor redemptions. However, HFs are exposed to financing risk, as for some strategies more than half of their funding is overnight, implying potential rollover risks.

Private Equity Funds: PE funds account for 7% of the NAV of all AIFs, or EUR 456bn. Among AIF types, PE funds experienced the largest growth in 2019 (+28% compared with 2018). They follow a range of strategies and are almost exclusively sold to professional investors. PE funds invest mainly in illiquid securities (unlisted securities), but liquidity risk is limited given that PE funds are overwhelmingly closed-ended.

Other AIFs: Other AIFs account for 60% of the NAV of EU AIFs, at around EUR 4tn (+15% compared with 2018). The category covers a range of strategies, with fixed income and equity strategies accounting for 68% of the NAV and an additional residual category amounting to 29%. Other AIFs are mainly sold to professional investors, although there is a significant retail investor presence. They make little use of financial or synthetic leverage. Although most types of Other AIFs have a limited liquidity risk at aggregate level, some funds are subject to liquidity mismatches.

AIFs managed by Non-EU AIFMs: EU Member States can allow non-EU asset managers to market alternative funds at national level under the National Private Placement Regime (NPPR), even though
such funds cannot subsequently be passported on to other EU Members States. The market for such non-EU funds is comparatively large: The NAV of non-EU AIFs marketed under NPPRs’ rules amounts to EUR 2.1tn, i.e. more than one-fifth of the AIF market. 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 data quality improvements – an overview: This article focuses on ongoing work to improve AIFMD data quality. High-quality data is key for identifying and assessing risks to investors and financial stability in the EU and support risk-based supervision and regulatory activities. National Competent Authorities (NCAs) and ESMA have been working closely to promote the usability and quality of the AIFMD data and other reporting regimes, given the cross-border implications of the financial sector. This article presents the main initiatives improving AIFMD data quality and provides an outlook of future work.

Editorial note

Brexit implications for EU AIF statistics: The UK asset management industry was an important part of the EU single financial market, and with that also of the EU AIF market. As of our latest figures, AIFs managed by UK-domiciled AIFMs accounted for 14% of the EU’s AIFs by number of funds and 20% by net assets. The picture was even more pronounced in the important category of hedge funds, where 42% of the funds and 76% of net hedge-fund assets originated from the UK.

The UK formally withdrew from the EU on 31 January 2020, and its participation in the European Single Market ceased on 31 December 2020. As of this departure, UK data are no longer directly reported into the EU’s AIFMD reporting system.

This Report covers reporting periods up to end-2019, i.e. periods during which the UK still was an EU Member State, and the statistics in this Report, therefore, present the EU market as the EU28, including the UK. The table of essential EU AIF market statistics below details the share of the UK market for broad market metrics, illustrating the potential impact that the withdrawal will have on AIF statistics in the future.
## EU AIFs: Essential statistics

<table>
<thead>
<tr>
<th>Size</th>
<th>Funds of Funds</th>
<th>Real Estate</th>
<th>Hedge Funds</th>
<th>Private Equity</th>
<th>Other AIFs</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of funds (Absolute number)</td>
<td>5,780</td>
<td>4,178</td>
<td>1,449</td>
<td>5,286</td>
<td>15,444</td>
<td>32,585</td>
</tr>
<tr>
<td>of which from UK</td>
<td>591</td>
<td>776</td>
<td>612</td>
<td>1,159</td>
<td>1,525</td>
<td>4,718</td>
</tr>
<tr>
<td>Number of leveraged funds (Absolute number)</td>
<td>365</td>
<td>1,385</td>
<td>623</td>
<td>149</td>
<td>2,546</td>
<td>5,116</td>
</tr>
<tr>
<td>of which from UK</td>
<td>103</td>
<td>87</td>
<td>281</td>
<td>34</td>
<td>274</td>
<td>780</td>
</tr>
<tr>
<td>Net Asset Value (EUR bn)</td>
<td>1,029</td>
<td>802</td>
<td>354</td>
<td>456</td>
<td>4,099</td>
<td>6,785</td>
</tr>
<tr>
<td>of which from UK</td>
<td>187</td>
<td>104</td>
<td>269</td>
<td>184</td>
<td>591</td>
<td>1,338</td>
</tr>
<tr>
<td>Average fund size (EUR mn per fund)</td>
<td>180</td>
<td>190</td>
<td>245</td>
<td>85</td>
<td>265</td>
<td>210</td>
</tr>
<tr>
<td>Average UK fund size</td>
<td>315</td>
<td>135</td>
<td>440</td>
<td>160</td>
<td>390</td>
<td>283</td>
</tr>
<tr>
<td>Proportion of total market (NAV % of all AIFs)</td>
<td>15%</td>
<td>12%</td>
<td>5%</td>
<td>7%</td>
<td>61%</td>
<td>100%</td>
</tr>
<tr>
<td>UK share in EU AIF NAV</td>
<td>3%</td>
<td>2%</td>
<td>4%</td>
<td>3%</td>
<td>9%</td>
<td>20%</td>
</tr>
</tbody>
</table>

### Distribution

<table>
<thead>
<tr>
<th></th>
<th>EU passport (% of total)</th>
<th>Retail participation (% of total)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>76%</td>
<td>28%</td>
</tr>
<tr>
<td></td>
<td>90%</td>
<td>21%</td>
</tr>
<tr>
<td></td>
<td>35%</td>
<td>2%</td>
</tr>
<tr>
<td></td>
<td>60%</td>
<td>5%</td>
</tr>
<tr>
<td></td>
<td>90%</td>
<td>12%</td>
</tr>
</tbody>
</table>

### Exposures

<table>
<thead>
<tr>
<th></th>
<th>CIU</th>
<th>PA</th>
<th>IRD</th>
<th>S</th>
<th>S</th>
<th>IRD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main exposures (Asset type)</td>
<td>71%</td>
<td>67%</td>
<td>85%</td>
<td>90%</td>
<td>54%</td>
<td>55%</td>
</tr>
</tbody>
</table>

### Leverage

<table>
<thead>
<tr>
<th></th>
<th>Gross leverage (% of NAV)</th>
<th>Adjusted leverage (% of NAV)</th>
<th>Borrowing (% of NAV)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>120%</td>
<td>136%</td>
<td>6,450%</td>
</tr>
<tr>
<td></td>
<td>119%</td>
<td>133%</td>
<td>991%</td>
</tr>
<tr>
<td></td>
<td>1%</td>
<td>8%</td>
<td>227%</td>
</tr>
</tbody>
</table>

### Liquidity

<table>
<thead>
<tr>
<th></th>
<th>Open ended AIFs (% of total NAV)</th>
<th>Monthly portfolio liquidity (% of NAV)</th>
<th>Monthly investor liquidity (% of NAV)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>74%</td>
<td>54%</td>
<td>78%</td>
</tr>
<tr>
<td></td>
<td>77%</td>
<td>3%</td>
<td>38%</td>
</tr>
<tr>
<td></td>
<td>69%</td>
<td>17%</td>
<td>26%</td>
</tr>
</tbody>
</table>

Note: All values refer to AIFs managed and/or marketed by EU AIFMs at the end of 2019. AIFs reported to ESMA by National Competent Authorities (NCAs). AIFs sold under a National Private Placement Regime (NPPR) are excluded. UK is included in EU data. Statistics for all EU AIFs include 448 funds with no predominant type, for which NAV amounts to EUR 44bn. Leveraged funds are identified using the AIF reporting code as specified in the Annex 2 of ESMA guidelines on AIFMD reporting obligations. Open ended AIFs are funds that issue shares which are redeemable on demand by investors. 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 continued to expand to reach EUR 6.8tn in net asset value (NAV) at the end of 2019, a 15% increase from 2018. The growth of the EU AIF market results from the launch of new AIFs in 2019 and positive valuation effects. Overall, AIFs accounted for 40% of the EU fund industry at the end of 2019. Among AIF types, Funds of Funds (FoFs) account for 15% of the NAV, followed by Real Estate (RE) funds (12%), Private Equity (PE) funds (7%) and Hedge Funds (HFs) (5%). The category of ‘other AIFs’ accounts for 60% of the NAV, pointing to continued classification issues for Alternative Investment Fund Managers (AIFMs). Professional investors own most of the shares of AIFs, yet retail investor share is significant at 15% of the NAV, with more retail participation in FoFs (28%) and RE funds (21%). AIFs invest predominantly in the European Economic Area (EEA) and across a broad range of asset classes (securities, derivatives and funds). At the aggregate level adjusted leverage declined slightly to 182% of NAV (compared with 193% in 2018). Overall, 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. This section also reviews the impact of the COVID-19 related market stress on AIFs in 2020.

EU Alternative Investment Funds 2019: EUR 6.8tn

The AIF industry continued to expand in 2019, with a 15% increase from 2018, to reach a NAV of around EUR 6.8tn at the end of 2019 (ASR-AIF.1). By comparison, the NAV of Undertakings for the Collective Investment in Transferable Securities (UCITS) amounted to EUR 11tn at the end of 2019, according to the European Fund and Asset Management Association (EFAMA). Overall, AIFs account for close to 40% of the EU fund industry. The NAV of UK-domiciled AIFMs amounted to EUR 1.3tn (20% of the EU total)\(^1\).

\[^1\] This Annual Statistical Report refers to 2019 data hence the UK is included in EU data.

The growth in the EU AIF market is attributable to the launch of new AIFs in 2019 (EUR 790bn), and positive valuation and flow effects (EUR 740bn), which compensated for the liquidation of funds in 2019 (ASR-AIF.2).
**ASR-AIF.2**

EU AIFs growth decomposition

**Growth owing to new AIFs, flows and valuation effects**

- 7,500
- 7,000
- 6,500
- 6,000
- 5,500
- 5,000
- 2018 data
- 5,882
- Liquidated after 2018
- 622
- Valuation and flow effects
- 738
- Newly reported AIFs
- 787
- 2019 data
- 6,785

**Note:** Decomposition of NAV by reporting and surviving AIFs, EUR bn. Newly reported funds including AIFs incepted in 2019. Sources: AIFMD database, National Competent Authorities, ESMA.

**By AIF types, PE funds, FoFs and ‘other AIFs’ contributed most to the growth of the AIF sector (ASR-AIF.3).**

**ASR-AIF.3**

EU AIFs growth decomposition by types

**Growth mainly owing to PE and FoFs and ‘other AIFs’**

- 7,000
- 6,500
- 6,000
- 5,500
- 2018 data
- 5,882
- None
- 5
- HF
- 20
- RE
- 68
- PE
- 101
- FoF
- 183
- Other
- 535
- 2019 data
- 6,785

**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 2019, in EUR bn. FoF=Fund of funds, None=No predominant type. Data for 27 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

**ASR-AIF.4**

2020 snapshot: the COVID-19 turmoil

**Sharp drop in NAV and valuation issues for some AIFs**

During the initial stage of the crisis (mid-February to March 2020), the rise in infections across the globe and the entry into force of lockdown measures in many European countries triggered a global sell-off across asset classes. EU AIFs were directly impacted through mark-to-market losses, outflows and valuation issues.

In 2Q20, the NAV of AIFs rebonded in 2Q20, with the size of most AIF types surging by 10% or more.

A significant portion of the decline in NAV was related to the ‘Other AIFs’ category, which experienced substantial valuation issues. Such suspensions were mostly in RE funds, most of them domiciled in the UK and were related to valuation uncertainty.

In several cases, the impact of the COVID-19 market stress on RE funds’ market was not immediate. The analysis of the largest EU RE funds outside the UK revealed that at the end of June, 38% of funds (29% by AuM) were affected by valuation uncertainties and 42% (48% by AuM) by material distortions in the incoming cash-flows, such as rental income defaults (ESMA, 2020a). Two of the largest EU RE funds...
(EUR 3bn AuM) were also suspended in June 2020 due to the material uncertainty over valuation of their holdings.

In light of the deterioration in market liquidity and rising redemption requests experienced during the COVID-19 market turmoil, some large AIFs heavily exposed to corporate debt took recourse to temporary borrowings, while other Liquidity Management Tools (LMTs) such as gates, swing mechanisms and anti-dilution levies have been activated only in a very limited number of cases. Some of these large corporate debt funds also faced valuation issues: around 11% of AIFs reported unusual difficulties in asset valuation (ESMA, 2020a).  

**AIF types:** The composition of the AIF market by type was broadly stable in 2019, with incremental changes. FoFs account for 15% of the NAV (+1pp compared with 2018), followed by RE funds (12%), PE funds (7%, +1pp) and HFs (5%, -1pp). Finally, ‘other AIFs’ remain by far the largest type, accounting for 60% of NAV (ASR-AIF.20). Within this category, around 30% of NAV is attributed to a residual category (which amounts to 17% of the NAV of all AIFs), pointing to continued classification issues for AIFMs, as detailed in the ‘Other AIF section’.

**AIF size:** The AIF market remains highly concentrated, with a few large AIFs accounting for most of the market. In 2019, AIFs with a NAV larger than EUR 1bn accounted for less than 4% of all AIFs but for 56% of the NAV (ASR-AIF.7). Smaller AIFs (NAV lower than EUR 500mn) account for 92% of all AIFs but only 30% 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).

**AIF domicile and distribution:** In terms of domicile of the AIFM, the AIF industry is concentrated in a few countries, with the top six accounting for more than 90% of the NAV (ASR-AIF.22). In 2019, Germany remained the country with the largest AIF industry in the EU (29%, +1pp), followed by the UK (20%, -3pp), the Netherlands (13%, +1pp), Luxembourg (12%, +2pp), France (11%) and Ireland (7%). Compared to 2018, the size of the AIF industry expanded by more than 15% in almost all countries with the exception of the UK (ASR-AIF.8). The stability of the AIFs managed by UK AIFMs might be partly explained by relocation of UK managers in other EU countries, although such relocation is hard to track (ASR-AIF.9).

**ASR-AIF.7**  
**Size and number of AIFs**  
**High concentration among a few large AIFs**

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Number of AIFs</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td>NAV &lt;100mn</td>
</tr>
<tr>
<td>25%</td>
<td>100-500mn</td>
</tr>
<tr>
<td>50%</td>
<td>500mn-1bn</td>
</tr>
<tr>
<td>75%</td>
<td>1-5bn</td>
</tr>
<tr>
<td>100%</td>
<td>&gt;5bn</td>
</tr>
</tbody>
</table>

Note: Share of AIFs by size, end of 2019, in %, AIFs managed and/or marketed by authorised AIFMs and sub-threshold managers registered only in national jurisdictions.

Sources: AIFMD database, National Competent Authorities, ESMA.

**ASR-AIF.8**  
**AIF size by country**  
**Growth in most countries**

<table>
<thead>
<tr>
<th>Country</th>
<th>Growth (2018-2019)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DE</td>
<td>500%</td>
</tr>
<tr>
<td>UK</td>
<td>200%</td>
</tr>
<tr>
<td>NL</td>
<td>150%</td>
</tr>
<tr>
<td>LU</td>
<td>100%</td>
</tr>
<tr>
<td>FR</td>
<td>50%</td>
</tr>
<tr>
<td>IE</td>
<td>0%</td>
</tr>
<tr>
<td>Other</td>
<td>0%</td>
</tr>
</tbody>
</table>

Note: NAV by type of AIF 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.9**  
**AIFMs**  
**Very limited relocation of UK AIFMs to the EU in 2019**

With the withdrawal of the UK from the EU, UK AIFs can no longer be sold in the EU on the basis of the AIFMD’s passporting regime. In the absence of an authorisation and passporting regime for non-EU AIFMs, UK fund managers seeking to retain the possibility of marketing fund shares/units in the EU have the choice of relocating to the EU (to get access to the passporting regime) or marketing the fund under the National Private Placement Regime.

Such relocations of managers of AIFs can be tracked when AIFs provide their Legal Entity Identifier (LEI), since the related AIFM identifier changes as a result. LEI movements can be a helpful proxy for identifying relocation cases. They do not, however, show market movements in their entirety: LEIs are available only for part of the AIF population, namely around 10,700 AIFs (i.e. less than one-third of the registered entities) representing a NAV of 2.9 EUR bn.

Within this sample, only around 50 funds had a change in the domicile of the manager in 2019. For 39 funds with a NAV of EUR 13bn, the AIFM moved from the UK to Luxembourg.

---

2 For further details on liquidity risks in UCITS and AIFs during the March-April period, see ESMA (2020b).
One reason for the relatively low figures is that many UK market participants already had a group entity in the EU27 which could be appointed as UCITS manager or AIFM of the relevant EU funds. ESMA is aware that some of these entities expanded their presence in the EU27 and applied for additional licenses to continue providing their services. In many cases, these entities in the EU27 delegated some of collective portfolio management functions set out in Annex I of the AIFMD and Annex II of the UCITS Directive to UK group entities.

Another potential explanation for the low number of relocations is the possibility to make use of white-label service providers, (i.e. authorised EU27 fund managers that provide a platform to business partners by setting up funds at the initiative of the latter and typically delegating investment management functions to those initiators/business partners or appointing them as investment advisers).

FoFs are mainly domiciled in countries with a large asset management industry such as Germany, the UK, France, Ireland and Luxembourg. The HF industry remains heavily concentrated in the United Kingdom, with more than 75% of the NAV managed by UK AIFMs. UK managers also account for a large share of the NAV of PE funds (40%), although it has been declining (-7pp), while the share of Luxembourg has increased (23%, +5pp). In most EU Member States, ‘other AIFs’ account for the majority of the NAV. Most AIFs have access to the EU passport (76%), allowing AIFs to be sold throughout the EU (ASR-AIF.23).

AIF investors: The AIFMD provides the regulatory framework for marketing AIFs primarily to professional investors, rather than retail investors. The marketing of AIFs to retail investors remains at the discretion of each Member State. Professional investors account for around 85% of the NAV (+1pp compared with 2018), and direct retail investors’ participation is slightly declining but remains significant at 15% of the NAV (ASR-AIF.11). Retail investor participation might be underestimated since they could purchase banking or insurance products that are invested in AIFs.

Among professional investors, unitholders are diversified across AIF types (ASR-AIF.12). Pension funds and insurance companies are the main investors and account for 28% and 16% of the NAV respectively. Banks account for 7%, other financial institutions for 8% and funds for 10%. Remaining investor categories are small, except for ‘unknown’ investors (11%). Still, 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. While the ‘unknown’ category has decreased by 6pp since 2017, efforts should continue as this residual category remains the fourth largest by NAV.
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. 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.

AIF geographical investment focus: AIFs invest mainly in the EEA (59%, -2pp), which includes the UK in 2019, followed by North America (17%) and supranational issuers (8%), with the last category also including investments without predominant geographical focus. Other regions account for around 16% of the NAV (ASR-AIF.13).

Gross exposures: AIFs are exposed to a wide range of asset classes, with variation across AIF types (ASR-AIF.14). 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. The exposures of ‘other AIFs’ are more diversified, reflecting the diversity of strategies used in this residual category.

Leverage and liquidity risks

Leverage: Leverage remained broadly stable across most AIF types (ASR-AIF.24). Using the

---

3 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) recommends that regulators collect data on gross notional exposures, including by adjusting notional for IRDs by duration or expressing positions as 10-year bond equivalent (IOSCO, 2019).
adjusted leverage measure (calculated as gross exposures to NAV excluding IRDs), leverage declined slightly to 182% of NAV compared with 193% in 2018. In contrast, leverage measured by the ratio of AuM to NAV points to a slight increase from 440% to 460%. The aggregate measure does not reflect important differences across AIFs, with HF leverage hovering around 1000%, while for other AIF types leverage is below 150% (ASR-AIF.15). The high leverage of HF s stems mainly from the use of derivatives (synthetic leverage) rather than outright borrowing (financial leverage). In addition, aggregate measures of leverage are upward biased due to extreme outliers: the median adjusted leverage remains below 130% for all AIF types, expect HF s with a median leverage at 170% (compared with an aggregate leverage of close to 1000%).

**Liquidity risk:** Most AIFs are open-ended funds (66% of NAV, -4pp compared with 2018), with variation across types. Within open-ended funds, around 66% offer daily liquidity to investors (+4pp compared with 2018), and 25% offer weekly to monthly redemptions (ASR-AIF.25).

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 29% of the NAV, whereas only 24% of the assets can be liquidated within this time frame (ASR-AIF.16). For funds with a liquidity mismatch, the liquidity shortage amounts to around 18% (ASR-AIF.17) of the NAV of all AIFs (more than EUR 810bn). Such relatively large estimates can be partly explained by the fact the liquidity shortage measure does not take into account the levels of portfolio and investor liquidity (ASR-AIF.18).
Liquidity profile

Measuring liquidity shortage

Aggregating liquidity profiles across funds is challenging. As explained in the 2020 Annual Statistical Report (ESMA, 2020b), the method was revised to avoid having funds with excess liquidity compensating for liquidity mismatch in other funds, i.e. where the investor liquidity is higher than the portfolio liquidity.

However, even with the adjusted measure, the liquidity profile tends to underestimate liquidity mismatch risk, since it is based on the weighted average liquidity profile of each AIF. For example, if we assume two funds of equal size with one having a liquidity mismatch of 20% of NAV and the other having no liquidity mismatch, the aggregate mismatch will be equal to 10% of NAV. Therefore, we introduce a complementary measure based on the liquidity shortage for funds with a liquidity mismatch.

For funds with a liquidity mismatch, we estimate the liquidity shortage. The shortage measure at fund level is equal to the difference between the investor liquidity (in % of NAV) and the portfolio liquidity (where the percentage is divided by the AUM/NAV ratio to adjust for the use of leverage by funds). Once estimates at fund level are done, they are converted in EUR and then summed up for each bucket. The final measure is the ratio of the EUR liquidity shortage divided by the NAV of the AIFs (including funds without shortage).

Since this approach focuses on the liquidity mismatch, it does not take into account the levels of portfolio and investor liquidity. For example, assume two funds of equal size. Fund A has an investor liquidity of 80% and a portfolio liquidity of 70%, resulting in a mismatch of 10%. Fund B has an investor liquidity of 25% and a portfolio liquidity of 15%, resulting in a mismatch of 10% too.

Both funds would be treated similarly for the liquidity shortage measure, even though fund B is riskier. If investors redeem more than 15% of the NAV, fund B would not be able to raise cash sufficiently quickly, while for fund A, redemptions would need to be above 70% to generate such liquidity strains. Overall, the liquidity shortage measure complements the analysis based on the liquidity profile.

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.

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.

Around 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.19).

References


ESMA Annual Statistical Report on EU Alternative Investment Funds 2021

ASR-AIF.20
Size of the AIF industry
Growing market

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 2019, in %. FoF=Fund of funds, None=No predominant type. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF.22
Size of AIF by type and country
Concentration in a few countries

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

ASR-AIF.24
Leverage
Steady increase in leverage

Note: Leverage of all AIF in % of NAV.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF.21
AIF industry by type
‘Other AIFs’ largest type

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 2019, in %. FoF=Fund of funds, None=No predominant type. Data for 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF.23
EU passport
Most AIFs can be passported

Note: NAV of AIFs by manager’s access to AIFMD passport, end of 2019, in EUR bn. 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 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF.25
Redemption frequency
Daily frequency for most open-ended AIFs

Note: Share of open-end AIFs by redemption frequency.
Sources: AIFMD database, National Competent Authorities, ESMA.
Funds of Funds

FoFs account for 15% of the NAV of EU AIFs, at around EUR 1tn (+22% compared with 2018). FoFs invest mainly in equity and bond UCITS (72% of identified fund exposures) rather than AIFs. At the very short end, investors are able to redeem 39% of the NAV within one day, whereas only 29% of assets could be liquidated within this time frame. If large redemptions were to occur, AIFs would face challenges due to this liquidity mismatch.

Funds of Funds: market size and structure

Size: As of the end of 2019, the NAV of FoFs sold in the EU by European AIFMs amounted to EUR 1tn, a 22% increase (EUR 183bn) compared with 2018, resulting also in a slight increase in their relative size (+1 pp at 15% of all AIFs). Unlike ‘other AIFs’, FoFs are spread across EU Member States (ASR-AIF.26), with a larger presence in countries with a large asset-management industry.

Information on the most traded instruments provided by AIFMs on behalf of the managed funds allows to classify the CIUs in which FoFs invest and ultimately better understand their activity. For FoFs investing in PE funds and HFs the top five traded instruments account for more than 50% for of the portfolio, while the remaining FoFs have only a slightly more diversified portfolio (ASR-AIF.27).

Funds of funds strategies: Funds of funds invest in underlying collective investment undertakings and serve the purpose of diversifying fund-specific risk, relieving burdens for investors to perform due diligence on individual fund managers. FoFs pursuing strategies beyond PE funds or HFs have registered the largest growth in the segment (+22pp) and account for more than 75% of NAV (ASR-AIF.28).

Identifiers are available for 73% of the top traded instruments listed as funds by the AIFs. Using
institutional and commercial data sources, almost 90% of these funds in FoFs holdings are retrieved.4 Overall, based on the above sample of identified Collective Investment Units (CIUs), FoFs invest 72% in UCITS and 17% in AIFs, with a preference for EU domiciled equity and bond funds (ASR-AIF.29).

ASR-AIF.29
Funds in FoF portfolios
Majority of UCITS investing in equities

<table>
<thead>
<tr>
<th>Commodity</th>
<th>22</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other</td>
<td>127</td>
</tr>
<tr>
<td>MMF</td>
<td>173</td>
</tr>
<tr>
<td>Real estate</td>
<td>178</td>
</tr>
<tr>
<td>Hedge</td>
<td>296</td>
</tr>
<tr>
<td>Mixed</td>
<td>576</td>
</tr>
<tr>
<td>Bond</td>
<td>1,637</td>
</tr>
<tr>
<td>Equity</td>
<td>2,185</td>
</tr>
</tbody>
</table>

Note: Funds listed as top traded instruments in FoF portfolios, end of 2019. Sources: AIFMD database, Lipper, National Competent Authorities, ESMA.

Distribution: Most FoFs have access to the EU passport to a large extent, with 96% licensed to be sold throughout the EU (ASR-AIF.37).

Funds of Fund investors: Among AIF types, FoFs have the largest proportion of retail investors (28%), although they are sold mainly to professional investors (72%) (ASR-AIF.30). FoFs are diversified and usually require less initial investment than other types of sophisticated vehicles, so are easier to access, especially for retail investors.

Nevertheless, retail participation varies significantly between FoF strategies — 3% and 4% for, respectively, funds of PE funds and funds of HFs, and around to 35 % for ‘other FoFs’ (-5 pp compared to 2018). Among professional investors, pension funds and insurance companies are the main investors, accounting for 19% and 10% of the NAV respectively. Around 10% of FoFs’ NAV is instead held by other CIUs, (ASR-AIF.37). In particular pension funds and other CIUs have a large participation in FoFs investing in PE and HFs (~30%).

---

4 The European Central Bank (ECB) publishes the list of EU investment funds collected by the European System of Central Banks (ESCB).
This results also from the analysis of the main traded instruments of FoFs investing in funds different from PE funds and HFs. For this large residual category of FoFs, 18% of total portfolio exposure resulting from the top five instruments in portfolio relates to cross investment. For funds of PE funds and HFs, the shares of CIUs managed by other management companies is, respectively, around 39% and 29%. Looking at the use of derivatives, funds of HF rely to some extent on FX derivatives (ASR-AIF.32 and ASR-AIF.40). The use of these derivatives may serve to hedge the exposures arising from foreign currency share classes held in portfolio.

**Leverage:** FoFs display limited use of leverage: regulatory AuM to NAV is 140% on aggregate, with some variation by type (ASR-AIF.41). Relatively low leverage levels come from limited exposures to derivatives and little use of financial leverage (less than 1% of NAV). Leverage appears even more limited in funds investing in HFs and PE funds.

**Liquidity risk:** Most FoFs are open-ended funds (74% by NAV), with the exception of funds of PE funds. Among open-ended FoFs, most of funds investing in strategies beyond HFs and PE funds offer daily liquidity to investors (ASR-AIF.41). 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 39% of the NAV, whereas 29% of the assets can be liquidated within this time frame (ASR-AIF.33).
Most FoFs, and in particular those investing beyond HF and PE strategies, usually hold UCITS in their portfolios, which offer predominantly daily liquidity to investors. The relatively low proportion of fund units that can be liquidated within one day and the related liquidity gap may then depend on the settlement period required by the underlying funds. Another explanation for the liquidity gap could be that when FoFs own a large proportion of a fund, 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. When considering only FoFs with a liquidity deficit, the potential liquidity shortage in the very short term (within 1 day) is around 20% of NAV and it reduces significantly within the six-months horizon (ASR-AIF.34).

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, between 2% and 3% of the NAV across types (ASR-AIF.36).

**Share of NAV represented by unencumbered cash and cash buffers**

<table>
<thead>
<tr>
<th>Source</th>
<th>Fund of HF</th>
<th>Fund of PE</th>
<th>Other FoF</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unencumbered cash</td>
<td>5%</td>
<td>3%</td>
<td>2%</td>
<td>10%</td>
</tr>
<tr>
<td>Low cash buffers</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>

Sources: AIFMD database, National Competent Authorities, ESMA.

**Redemption frequency and notice period**

<table>
<thead>
<tr>
<th>Frequency</th>
<th>0 days</th>
<th>1 day</th>
<th>2-7 days</th>
<th>8-30 days</th>
<th>&gt;30 days</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily</td>
<td>43</td>
<td>21.5</td>
<td>5.5</td>
<td>2.9</td>
<td>5.1</td>
<td>70</td>
</tr>
<tr>
<td>Weekly</td>
<td>7.4</td>
<td>5.5</td>
<td>1.3</td>
<td>2.4</td>
<td>3.2</td>
<td>22.2</td>
</tr>
<tr>
<td>Monthly</td>
<td>0.6</td>
<td>0.1</td>
<td>2.7</td>
<td>0.8</td>
<td>3.7</td>
<td>4.7</td>
</tr>
<tr>
<td>Longer than quarterly</td>
<td>0.2</td>
<td>0.1</td>
<td>0.6</td>
<td>0.1</td>
<td>0.9</td>
<td>1.8</td>
</tr>
<tr>
<td>Total</td>
<td>51.4</td>
<td>27</td>
<td>7.4</td>
<td>5.8</td>
<td>8.4</td>
<td>100</td>
</tr>
</tbody>
</table>

Sources: AIFMD database, National Competent Authorities, ESMA.

Note: Fund of funds by redemption frequency and notice period given to investors, in % of NAV, end of 2019.

FoFs offering daily redemptions and not requiring any notice period to investors for redeeming their shares represent 40% of the NAV. A notice period ranging from 1 to 7 days for FoFs allowing to redeem on a daily basis is instead requested on a more limited basis. Overall, around 50% by NAV of FoFs do not require any redemption notice to investors (ASR-AIF.35).
ASR-AIF.37
EU passport
Most FoFs can be passported

Note: NAV of funds by manager’s access to AIFMD passport, end of 2019, in %. Authorised EU AIFMs with access to AIFMD passport or marketing non-EU AIFs w/o pass port, sub-threshold managers are registered only in national jurisdictions w/o passport rights. Data for 27 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF.39
Regional investment focus
Mainly EEA

Note: Regional investment focus of funds managed and/or marketed by authorised EU AIFMs and sub-threshold managers registered only in national jurisdictions, end of 2019, in % of NAV. Geo-focus determined according to the domicile of investments and the supranational category including investments w/o predominant geo-focus. Data for 27 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF.41
Leverage
Limited leverage

Note: Adjusted gross leverage of funds of funds managed and/or marketed by authorised EU AIFMs, end of 2019, in % of NAV. Adjusted gross leverage computed as total exposure less IRDs with respect to NAV. Fund of funds, PE=Private equity fund, HF=Hedge fund. Data for 27 EEA countries. Sources: AIFMD database, National competent authorities, ESMA.

ASR-AIF.38
FoF investors
Mainly professional investors

Note: Ownership of units in funds of funds managed and/or marketed by authorised EU AIFMs, end of 2019, in % of NAV. FoF=Fund of funds; PE=Private equity fund; HF=Hedge fund. Data for 27 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF.40
Gross exposures
Mainly investment in funds

Note: Share of exposures by funds of funds’ investment strategies, end of 2019, 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 27 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF.42
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 2019, in % of NAV. EEA 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 27 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.
Real Estate Funds

RE funds account for 12% of the NAV of AIFs, at EUR 802bn. RE funds continued to grow in 2019, albeit at a more moderate pace (+9% compared with 2018). Compared with 2018, the proportion of retail investors was stable (21%) but remains high compared with other AIF categories. RE funds are exposed mostly to illiquid physical assets which take time to sell (usually months). Liquidity risk in RE funds remains a concern: around 54% are open-ended, and almost 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 802bn, or 12% of all AIFs. The size of the RE fund industry increased by 9% in 2019, a more moderate pace compared to 2018 (35% increase), as the result of positive developments in housing markets. The RE fund industry remains concentrated in a few countries (ASR-AIF.43), with the top five accounting for 85% of the NAV. Except UK, fund NAV increased for the countries with the largest RE fund industry.

Real Estate fund investors: RE funds are sold mainly to professional investors (79%), with the proportion of retail investors remaining stable at 21% in 2019. The retail investor share is however higher for CRE funds, at 29% of the NAV (-2pp) and increased to 18% for the residential category (+4pp, ASR-AIF.45). Among professional investors, pension funds and insurance companies are the main investors, accounting for 25% and 16% of the NAV respectively (ASR-AIF.51). Other funds also account for a sizeable percentage of RE fund ownership, with 12% of the NAV. Banks have limited exposures to RE funds, except for residential RE funds for which banks hold 13% of NAV.

Real Estate fund strategies continue to be dominated by CRE with 67% of the NAV (+8pp compared with 2018); and exposure to residential markets slightly decreased to 14% of NAV (-3pp, ASR-AIF.50).

Distribution: Among AIFs, RE funds have an extensive access to the EU passport, with 90% able to be sold throughout the EU which is a substantial increase of +14 pp from 2018 (ASR-AIF.44).
Geographical investment focus: RE funds invest overwhelmingly in the EEA (84%, +6pp compared with 2018, ASR-AIF.52), followed by North America (6%), whose relative proportion narrowed significantly (-8pp) after nearly tripling the year before, as RE fund exposures to North American assets decreased from EUR 101bn to EUR 42bn.

Leverage and liquidity risks

Gross exposures: RE gross exposures are concentrated in physical assets (around 67% of exposures, across most RE types), in line with the strategy used (ASR-AIF.53).

Leverage: RE funds make limited use of leverage. Regulatory AuM to NAV is 136% on aggregate, as they have limited exposures to derivatives, with low dispersion across RE fund types (ASR-AIF.54). 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.46). 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) slightly increased by 3 pp since 2018 to amount to 23% of financing liquidity. A higher demand for short-term liquidity is noticed for residential RE funds (+12pp for 91-180 days; +38pp for 181-365 days as compared to 2018, ASR-AIF.47).

Liquidity risk: In terms of NAV, 54% of RE funds are open-ended funds compared with around 60% in 2018 and there is considerable heterogeneity regarding redemption frequencies for open-ended RE funds (ASR-AIF.55). RE funds offering daily to monthly liquidity account for 50% of the NAV compared with 47% in 2018.

5 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 based on national law, and in other Member States they can either be open-ended or closed-ended.
However, 44% of CRE funds still offer daily liquidity to investors (-1pp). At the aggregate level, the liquidity profile of RE fund points to significant liquidity mismatch: within a month, investors can redeem up to 17% of the NAV, whereas only 10% of the assets can be liquidated within this time frame. The liquidity mismatch occurs across all time buckets within one year and is most prevalent for the two main strategies (CRE and residential) which account for 81% of NAV (ASR-AIF.48). 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, albeit to a lesser extent: unencumbered cash for RE funds has decreased for most RE categories in 2019 (ASR-AIF.49). Furthermore, 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 21% have lock-up periods.
ESMA Annual Statistical Report on EU Alternative Investment Funds 2021

**ASR-AIF.50**

**RE fund strategies**

**Mainly CRE**

Note: Investment strategies of real estate funds, end of 2019, 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 27 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

**ASR-AIF.51**

**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 2019, in % of NAV. RE=Real estate. Data for 27 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

**ASR-AIF.52**

**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 2019, 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 27 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

**ASR-AIF.53**

**Gross exposures**

**Mainly physical assets**

Note: Share of exposures by real estate funds’ investment strategies, end of 2019, in % of total. RE=Real estate. Data for 27 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

**ASR-AIF.54**

**Leverage**

**Limited use of leverage**

Note: Adjusted gross leverage of real estate funds managed and/or marketed by authorised EU AIFMs, end of 2019, in % of NAV. Adjusted gross leverage computed as total exposure less IRDs with respect to NAV. RE=Real estate. Data for 27 EEA countries. Sources: AIFMD database, National competent authorities, ESMA.

**ASR-AIF.55**

**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 2019, in % of NAV. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. RE=Real estate. Data for 27 EEA countries.
Hedge Funds

The size of the EU HF sector remained stable in 2019 at EUR 354bn, or 5% of all AIFs. However, when measured by gross exposures, HFs account for 62% of AIFs since they rely heavily on derivatives. The majority of HFs are managed and domiciled outside the EU, with HFs sold through the National Private Placement Regime (NPPR) 160% larger than HFs managed by EU AIFMs. Leverage is very high, particularly for some strategies highly reliant on derivatives. HFs using derivatives tend to maintain large unencumbered cash positions, possibly to meet future margin calls relating to derivatives positions. HFs are exposed to little liquidity mismatch, as their assets can be liquidated quickly to meet investor redemptions. However, HFs are exposed to financing risk, as for some strategies more than half of their funding is overnight, implying potential rollover risk.

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 2019, the NAV of HFs sold in the EU by European AIFMs amounted to EUR 354bn, a 6% increase compared with 2018. Although HFs account for only 5% of the NAV of all AIFs, they account for 62% of regulatory AuM of the AIF industry (at close to EUR 21tn).

Most of the European HF industry remains concentrated in one Member State: UK AIFMs account for 76% of the NAV compared with 75% in 2018 (ASR-AIF.63).

The NAV of AIF HFs domiciled in the euro area amounts to EUR 131bn (with EUR 58bn managed by UK AIFMs and EUR 73bn by other AIFMs domiciled in the EU), 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 435bn, including EUR 270bn registered as AIFs, and EUR 165bn of funds registered under the UCITS framework (ASR-AIF.56). 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 categorisation.

There are also AIF 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 568bn at the end of 2019. Therefore, the majority of HFs are managed and domiciled outside the EU; the size of such HFs being 160% larger than HFs managed by EU AIFMs. Most of HFs sold under NPPR are domiciled in offshore centres such as the Cayman Islands (61% of NAV) and the British Virgin Islands (18%), and around 18% are domiciled in the United States. Overall, those HFs tend to be less leveraged than their EU counterparts, with an adjusted leverage of around 660% compared with 1000% for EU HFs.

Hedge Fund types: HFs pursue a wide range of strategies. Strategies relating to equities (such as long/short) remain dominant (48%, +6pp), followed by macro (10%, -2pp) and commodity trading advisors (CTA) (9%, -1pp), and relative value (8%, +1pp).

Note: NAV of the hedge fund sector for funds domiciled in the euro area in EUR bn, end-2019.
Sources: AIFMD database, National Competent Authorities, ECB, ESMA.

6 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).
Distribution: Unlike other types of AIFs, most HFs do not have access to the EU passport. Only 35% of HFs are able to be sold throughout the EU, although the use of passport has increased compared with 2019 (+5 pp). The low share of EU passport can be explained by the domicile of HF AIFs: most of them are domiciled outside the EU but managed by sub-threshold AIFMs under national law and hence not eligible for passporting.

Hedge Fund investors: HFs are almost exclusively owned by professional investors, with retail investors accounting for less than 2% of NAV. Among professional investors, investment funds are the main holders of HF shares at 41% (ASR-AIF.57), followed by pension funds (14%) and other financial institutions (13%, +3pp). 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 for HFs with passport and more than 90% for other HFs.

HF investors

Mainly funds and pension funds

<table>
<thead>
<tr>
<th>Credit</th>
<th>CTA</th>
<th>Equity</th>
<th>Event Driven</th>
<th>Macro</th>
<th>Multi-strategy HF</th>
<th>Other HF</th>
<th>Relative Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>20%</td>
<td>20%</td>
<td>20%</td>
<td>20%</td>
<td>20%</td>
<td>20%</td>
<td>20%</td>
<td>20%</td>
</tr>
</tbody>
</table>

Investment focus: HFs invest primarily in North America (48%, +2pp), followed by the EEA (32%, -1pp) and Asia (11%, +4pp).

Leverage and liquidity risks

Gross exposures: Gross exposures of HFs are diverse and heterogeneous across strategies (ASR-AIF.65). Macro, CTA and relative value HFs have high exposures relating to interest-rate derivatives, while credit HFs are exposed mainly to credit derivatives (78% of exposures). Securities account for the main part of gross exposures for event-driven and equity HFs (62% and 39% respectively).

HFs have high levels of unencumbered cash compared to other types of AIFs (31% for HFs versus 5% 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.58). This suggests that part of the unencumbered cash is used to cover future margin calls.

Leverage: HFs are in general highly leveraged, with adjusted leverage at around 1000% of NAV (ASR-AIF.59), although leverage declined slightly in 2019. The high levels of aggregate leverage are driven by a few very large outliers: half of HFs have a leverage below 200%, as indicated by the median leverage which remained stable at 171%. In addition, 3/4th of HFs have leverage below 330% (75th percentile). Among HF strategies (ASR-AIF.65), CTAs have the highest median leverage (at 660%), followed by macro (570%) and relative value (340%).

ASR-AIF.58
Unencumbered cash
Cash correlated with derivatives exposures

<table>
<thead>
<tr>
<th></th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median</td>
<td>20%</td>
<td>20%</td>
<td>20%</td>
</tr>
<tr>
<td>75th pc</td>
<td>10%</td>
<td>10%</td>
<td>10%</td>
</tr>
<tr>
<td>HF total</td>
<td>60%</td>
<td>60%</td>
<td>60%</td>
</tr>
</tbody>
</table>

Note: Adjusted leverage in % of NAV.
Sources: EFAMA, AIFMD database, National Competent Authorities, ESMA.
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.60), amounting to around 170% (+10pp) of the NAV (compared with 6% for all AIFs). Such direct borrowings are estimated to amount to close to EUR 610bn in 2019, compared with EUR 540bn in 2018. Secured borrowing through repo and reverse repo accounts for 150% of the NAV and funding from prime brokers accounts for 12% of the NAV. In contrast, HFs reporting to the US SEC have more limited borrowings (close to 100%, with a higher share from prime brokers).

**Liquidity risk**: HFs reliant on short-term borrowings are exposed to **financing liquidity risk** (ASR-AIF.67). 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, 18% of the funding is overnight, with heterogeneity across strategies. For some strategies, such as CTA and equity, most of their available borrowing is overnight (70% and 86% respectively), exposing them to potential rollover risk. Around EUR 75bn of estimated borrowing is overnight, mainly for equity and macro HFs (ASR-AIF.61).

Regarding liquidity risk, most HFs are open-ended funds (78% of NAV) which offer weekly to monthly liquidity to investors across strategies (ASR-AIF.67). 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 14% of the NAV, whereas 34% of the assets can be liquidated within this time frame (ASR-AIF.62). 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%, ASR-AIF.19), which are on average around one month.
ESMA Annual Statistical Report on EU Alternative Investment Funds  2021

ASR-AIF.63
Size of HFs by country
High concentration in the UK

ASR-AIF.65
Gross exposures
Heterogeneity across HF strategies

ASR-AIF.66
Redemption profile
Mostly weekly to monthly frequency

ASR-AIF.67
Leverage
Very high leverage

ASR-AIF.68
Liquidity financing
High short-term funding

Note: NAV of HFs by strategy, in EUR bn.
Sources: AIFMD database, National Competent Authorities, ESMA.

Note: Share of exposures by hedge fund investment strategies, end of 2019, in % of total. HFs managed and/or marketed by authorised EU AIFMs. HF=Hedge fund. Data for 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

Note: Investor redemption frequencies allowed by open-end hedge funds managed and/or marketed by authorised EU AIFMs, end of 2019, in % of NAV. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. HF=Hedge fund. Data for 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

Note: Median adjusted leverage, in % of NAV.
Sources: AIFMD database, National Competent Authorities, ESMA.
Private Equity Funds

PE funds account for 7% of the NAV of all AIFs, or EUR 456bn. Among AIF types, PE funds experienced the largest growth in 2019 (+28% compared with 2018). They follow a range of strategies and are almost exclusively sold to professional investors. PE funds invest mainly in illiquid securities (unlisted securities), but liquidity risk is limited given that PE funds are overwhelmingly closed-ended.

Private Equity Funds: market size and structure

Size: PE funds surged in 2019 with a 28% rise in NAV at EUR 456bn, or 7% of all AIFs (which represents +1pp compared with 2018). The PE fund industry is concentrated in a few countries (ASR-AIF.69), with the top five accounting for 89% of the NAV and the UK accounting for almost half of the NAV (40%, -7pp compared with 2018).

Private Equity Fund investors: Among AIFs, PE funds have the second lowest proportion of retail investors (5%). Among PE fund types, venture capital has a larger proportion of retail investors, at 13% of the NAV (ASR-AIF.71). Among professional investors, no important shifts in composition occurred in 2019. The main investor type is other CIUs with 19% of the NAV in 2019, followed by pension funds (15%) and non-profit funds (15%). The distribution of the investors remains similar to the one of 2018 (ASR-AIF.74).

Private Equity Fund types: PE investment strategies are diversified, with 41% of the NAV invested in growth capital, followed by venture capital (13%) and mezzanine capital (4%). A large part of the NAV (41%) is related to other unspecified strategies (ASR-AIF.75). 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 72% of fundraising in 2019 according to Invest Europe)7.

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.70).

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.

---

7 See Invest Europe (2020).
Geographical investment focus: PE funds continue to invest mainly in the EEA (67% of NAV (ASR-AIF.75) and the relative share remain stable (-1pp). The second region of investments for PE funds is still North America (17% of the NAV)

Leverage and liquidity risks

Gross exposures: PE gross exposures are concentrated in securities (around 90%, +11pp) but 2019 saw a decrease in physical assets (2%, -9pp), especially for other PE funds. Unlisted equities account for around 90% of PE exposures.

Leverage: PE funds make limited use of leverage. The AuM-to-NAV ratio is at 111% on aggregate, the lowest among AIF types, with low dispersion across PE fund types (ASR-AIF.77). PE funds make limited use of financial leverage, with outright borrowing amounting to less than 2% of the NAV. The borrowings are concentrated in Mezzanine capital and other PE funds (ASR-AIF.70). Around half of available financing is

around one month, implying limited financing liquidity risk for most PE funds.

The low level of leverage is explained by the structures used by PE funds. PE funds are not usually leveraged but they invest in a portfolio company that could be leveraged. According to the AIFMD, leverage should not be reported by the AIF at the portfolio company level. However, in the context of the on-going AIFMD review, ESMA recommended to change this approach in order to include the leverage at the portfolio company level in the future.

Liquidity risk: Most PE funds are closed-ended funds (93% of the NAV, ASR-AIF.78) and the redemption frequency for open-ended PE funds is usually weekly to monthly. PE funds have low levels of unencumbered cash compared with 2018 at 2% of the NAV (-24pp), with a similar share compared with NAV across PE fund types. Other PE funds and Growth capital funds account for the most of unencumbered cash (respectively 50% and 32%).

---

8 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”.

9 ESMA’s proposed changes to AIFMD regarding the reporting regime and data use (section 9 in ESMA (2020a)).
**ESMA Annual Statistical Report on EU Alternative Investment Funds 2021**

---

**ASR-AIF.73**

PE fund strategies

**Diversified strategies**

![Circle diagram showing portfolio distribution]

- Venture Capital: 14%
- Mezzanine Capital: 4%
- Growth Capital: 41%
- Other private equity: 41%

**Note:** Investment strategies of private equity funds, end of 2019, 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 27 EEA countries.

Sources: AIFMD database, National Competent Authorities, ESMA.

---

**ASR-AIF.75**

Regional investment focus

**Mostly EEA**

![Pie chart showing regional focus]

- EEA: 67%
- North America: 17%
- Other Europe: 4%
- Asia: 9%
- Supra National: 1%
- Rest: 2%

**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 2019, 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 27 EEA countries.

Sources: AIFMD database, National Competent Authorities, ESMA.

---

**ASR-AIF.77**

Leverage

**Limited use of leverage**

![Bar chart showing leverage distribution]

- Growth capital: 160%
- Mezzanine capital: 120%
- Multi-strategy: 80%
- Other PE: 40%
- Venture capital: 0%

**Note:** Adjusted gross leverage of private equity funds managed and/or marketed by authorised EU AIFMs, end of 2019, in % of NAV. Adjusted gross leverage computed as total exposure less IRDs with respect to NAV. PE=Private equity fund. Data for 27 EEA countries.

---

**ASR-AIF.74**

PE fund investors

**Stable distribution of investors**

![Bar chart showing investor distribution]

- Growth Capital: 0%
- Mezzanine Capital: 20%
- Multi-strategy PE: 40%
- Other PE: 60%
- Venture Capital: 80%
- Pension funds: 100%

**Note:** Ownership of units in real estate funds AIF’s managed and/or marketed by authorised EU AIFMs, end of 2019, in % of NAV. RE=Real estate. Data for 27 EEA countries.

Sources: AIFMD database, National Competent Authorities, ESMA.

---

**ASR-AIF.76**

Gross exposures

**Mainly unlisted securities**

![Bar chart showing security distribution]

- Growth capital: 0%
- Mezzanine capital: 25%
- Multi-strategy PE: 50%
- Other PE: 75%
- Venture capital: 100%

**Note:** Share of exposures by private equity funds’ investment strategies, end of 2019, in % of total AIFs managed and/or marketed by authorised EU AIFMs. PE=Private equity fund. Data for 27 EEA countries.

Sources: AIFMD database, National Competent Authorities, ESMA.

---

**ASR-AIF.78**

Redemption rights

**Mainly closed-ended funds**

![Bar chart showing redemption rights]

- Growth Capital: 0%
- Mezzanine Capital: 25%
- Multi-strategy PE: 50%
- Other PE: 75%
- Venture capital: 100%

**Note:** Redemption rights provided in the ordinary course to investors in private equity funds managed and/or marketed by authorised EU AIFMs, end of 2019, in % of NAV. PE=Private equity fund. Data for 27 EEA countries.

Sources: AIFMD database, National Competent Authorities, ESMA.

---
Other AIFs

‘Other AIFs’ account for 60% of the NAV of EU AIFs, at around EUR 4.099bn (+15% compared with 2018). This category of the AIFMD reporting regime covers a range of strategies, with fixed income and equity strategies accounting for 68% of the NAV and an additional residual category amounting to 29%.

‘Other AIFs’ are mainly sold to professional investors, although there is a significant retail investor presence in the residual category. They make little use of financial or synthetic leverage. Although most types of ‘other AIFs’ have a limited liquidity risk at aggregate level, some funds in this residual category may be subject to liquidity deficit.

‘Other AIFs’: market size and structure

**Size:** At the end of 2019, the size of the ‘other AIFs’ amounted to EUR 4.099bn (+15% compared with 2018), concentrated in a few countries (ASR-AIF.79). According to the AIFMD fund classification the category of ‘other AIFs’ is to be a residual category. However, almost half of the reported AIFs, accounting for 60% of total NAV, fall in this category that comprehend an heterogeneous group of strategies. In relative terms, ‘other AIFs’ constitutes the main AIF type in most EU countries, accounting for around 80% of the NAV in Germany, the Netherlands, Poland, Spain, Ireland and between 40% and 50% in France, Luxembourg and the United Kingdom.

**ASR-AIF.79**

Size of ‘other AIFs’

<table>
<thead>
<tr>
<th>Main AIF type in most countries</th>
<th>2018</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>DE</td>
<td>1,230</td>
<td>1,208</td>
</tr>
<tr>
<td>UK</td>
<td>1,150</td>
<td>1,123</td>
</tr>
<tr>
<td>NL</td>
<td>849</td>
<td>951</td>
</tr>
<tr>
<td>FR</td>
<td>591</td>
<td>643</td>
</tr>
<tr>
<td>LU</td>
<td>643</td>
<td>532</td>
</tr>
<tr>
<td>IE</td>
<td>532</td>
<td>643</td>
</tr>
<tr>
<td>Other</td>
<td>643</td>
<td>532</td>
</tr>
</tbody>
</table>

Note: NAV by AIFs classified as ‘other’ 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.

Within ‘other AIFs’ there is an additional residual fund category, the so-called ‘other-other’ AIFs, accounting for a significant portion of the NAV (29%) which is difficult to identify as managers did not refer to a specified strategy. Benchmarking the strategies self-reported under the AIFMD with the information collected by the ECB allows to clarify the characteristics of the investment policies of those AIFs classified in residual categories. A relevant portion of ‘other 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, while one third remain still unidentified (ASR.AIF-81).

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. For a detailed description of this category and a discussion of the related potential classification issues, see the section “AIFMD fund classification – shedding light on ‘other AIFs’” in ESMA (2020b).

The ECB publishes the list of European investment funds based on information provided regularly by all members of the ESCB. Funds domiciled in Denmark, Norway and the United Kingdom are not covered. MMF and Pension funds are excluded from the definition of investment fund adopted for ESCB data collection.
Traded instruments and portfolio characteristics: Commodity and infrastructure AIFs appear highly concentrated with more than 60% invested in the top-five assets (ASR-AIF.82). Equity AIFs have around 20% of their long-position assets invested in their five largest positions. When not considering outliers (i.e. a limited number of funds heavily exposed to unspecified derivatives), the typical fixed income AIFs appear rather diversified, with the top five positions representing 8% of total AuM. Mixed funds and unidentified ‘other-other’ AIFs show instead a higher degree of asset concentration, implying that the returns of these AIFs depend on the performance of a small number of key assets. For all strategies, the highest ranked asset accounts for half of the main instruments in which AIFs are trading.

For mixed and ‘other-other’ AIFs, the top five instruments show sizable shares of CIUs and sovereign bonds, 6.8% and 6.3%, respectively. Looking at the use of derivatives, these AIFs rely to some extent on IRDs, FX derivatives and CDS (ASR-AIF.83). Derivatives may be used by funds engaging into bond trading as risk management tool\(^\text{12}\) or as a flexible and less capital-intensive alternative to other assets to enhance the risk-return profile of the fund through leverage.

---
\(^{12}\) For example, managers investing in debt securities could use derivatives to adjust exposures to interest rate, credit, and currency risk.
clients participate in ‘other AIFs’ for EUR 480bn. Among professional investors, pension funds and insurance companies are the main investors, accounting for 31% and 21% of the NAV respectively. However, there are large differences by strategy with insurances holding one-third of fixed income AIFs’ NAV and pension funds highly exposed also to equity and infrastructure funds (ASR-AIF.90). The high proportion of pension funds might be partly explained by country-specific factors.13

**Geographical investment focus:** ‘other AIFs’ are primarily exposed to securities issued in the EEA (57%), with a significant geo-focus also on North America (19%) and Asia (8%) (ASR-AIF.92).

**Leverage and liquidity risks**

**Gross exposures:** AIF gross exposures are in line with the strategy used (ASR-AIF.85). 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. As indicated above, the residual category (‘other-other’) is more diversified, reflecting a variety of strategies pursued by the AIFMs.

---

13 Pension funds in Netherlands hold the majority of the NAV of AIFs, typically investing in equity and fixed income AIFs, partially explaining the higher proportion of pension funds in ‘other AIFs’ at European level. A large share of German ‘Spezialfonds’ are also classified in this category. For a detailed discussion see ESMA (2020b).
Leverage: ‘Other AIFs’ display limited use of leverage: regulatory AuM to NAV is 156% on aggregate as their exposures to derivatives is overall limited (ASR-AIF.92) and is accompanied by a limited use of financial leverage (around 5% of the NAV).

Liquidity risk: Open-ended ‘other AIFs’ represent around 75% of the NAV of this segment, with the exception of infrastructure funds that have instead mostly a closed structure. Open-ended AIFs offer mainly daily liquidity to investors (75%) or weekly and monthly liquidity (22%; ASR-AIF.86).

At the aggregate level, the liquidity profile of ‘other AIFs’ indicates that within one week, investors can redeem up to 65% of the NAV, whereas 76% of the assets can be liquidated within this time frame. The liquidity shortage of those funds with a liquidity deficit is 20% of the NAV in the very short term (within 1 day) and it reduces significantly already within one week (ASR-AIF.87).

The majority of AIFs in the broad ‘other’ category that offer to investors the possibility to redeem on a daily basis do not require any notice period (37% of the NAV). A similar proportion of funds allowing daily redemptions require a notice period ranging from 1 to 7 days. Overall, around 40% by NAV of ‘other-AIFs’ do not require any redemption notice to investors. (ASR-AIF.88).

Some types of ‘other AIFs’ report high levels of unencumbered cash (ASR-AIF.89): for commodity funds cash accounts for 25% of the NAV (-17pp). Such a high level of cash is in line with the reliance on commodity derivatives for this type of AIF.
Unencumbered cash

Sizeable buffers for commodity funds

Note: Unencumbered cash held by AIFs classified as Other, end of 2019, in % of NAV. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. Data for 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.
Non-EU AIFs (NPPR)

EU Member States can allow non-EU asset managers to market alternative funds at national level under the National Private Placement Regime (NPPR), even though such funds cannot subsequently be passported on to other EU Member States. The market for such non-EU funds is comparatively large: The NAV of non-EU AIFs marketed under NPPRs’ rules amounts to EUR 2.1tn, i.e. more than one-fifth of the AIF market. 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 a minimum estimated EUR 2.1tn NAV, the NPPR market is equivalent to more than one-fifth of the EU AIF market.

In terms of NAV, the NPPR segment is dominated by US ETFs (mostly equity) that are classified as ‘other AIFs’ (ASR-AIF.98). When considering the total exposure, the top 20 AIFs marketed under NPPR account for almost 75% of the regulatory AuM. Out of the top 20 AIFs, 15 are off-shore HFs all domiciled in the Cayman and Virgin Islands and marketed in UK (ASR-AIF.98).

AIF domicile and EU jurisdictions: According to data reported by National Competent Authorities, non-EU AIFs are marketed in 12 EU member states. A total of 911 non-EU AIFs marketed under the NPPR can be uniquely identified. The total regulatory AuM of these uniquely identified AIFs reach EUR 11.7tn for the NPPR market. The difference between the regulatory AuM and the NAV is owing to the large exposure of off-shore HFs to IRDs. In terms of cross-country distribution, the AIF industry is concentrated in four countries, with UK as the largest hub of non-EU AIFs (ASR-AIF.97).

Note: NAV by authorising EU country of AIFs marketed by non-EU AIFMs w/o passporting rights (art. 42 of AIFMD), end of 2019, in EUR bn. AIFs identified via international standard identifiers (LEIs, ISIN, Cusip).

Sources: AIFMD database, National Competent Authorities, ESMA.

14 Around 1,500 AIFs marketed under NPPR in different EU jurisdictions cannot be uniquely identified owing to the lack of international identifiers.
The AIF market regulated by Article 42 of the AIFMD appears extremely concentrated: 7% of NPPR AIFs have a NAV higher than EUR 5bn — these funds represent 70% of the NPPR NAV.

**Non-EU AIF investors**: RE funds and FoFs marketed under the NPPR by non-EU AIFMs see a retail participation of, respectively, 12% and 16% (ASR-AIF.99). Overall non-EU AIFs sold by non-EU AIFMs are owned almost entirely to professional investors (98%).

On average, the top-5 holders of US ETFs, FoFs and RE funds shares account for around 60% of the NAV (ASR-AIF.100) Only HFs display a more concentrated ownership (above 80% NAV). A large proportion of NPPR investors cannot be identified (25% of the NAV). Banks, pension funds and insurance companies have only a limited exposure, amounting to 8% of NAV (ASR-AIF.106).

**Geographical investment focus**: Non-EU funds appear not to be focused on EU assets. Their investments are domiciled mostly in North America (66%) and Asia (15%) (ASR-AIF.108).

This result is driven by the high number of US domiciled ETFs identified through their ISINs.

**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.108).

**Leverage**: With the exception of HFs, non-EU funds make limited use of leverage. Regulatory AuM to NAV is 147% on aggregate when excluding HFs, as the exposures to derivatives are limited. When the effect of IRDs is netted, HFs pass from a level of leverage of 2,800% to 660% (ASR-AIF.101). The ratio of regulatory AuM to NAV reaches 3,320% for HFs domiciled offshore (Cayman Islands, Virgin Islands, Bahamas, Bermuda).

---

15 This includes 230 HFs uniquely identified.
The vast majority offer daily or weekly liquidity to their investors. In the case of US ETFs, 95% of their NAV is redeemable on a daily basis (ASR-AIF.107). 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 75% of the NAV, whereas only 32% of the assets can be liquidated within this time frame. The liquidity gap reduces within the one-month bucket (ASR-AIF.103).

Non-EU HF borrowings stand at 150% of their NAV (ASR-AIF.102). Whereas EU HF increase their financial leverage by engaging in repo trades, non-EU HF borrow comparatively more from their prime broker (42% of NAV). Non-EU RE funds also use financial leverage extensively but, in contrast to EU RE funds, most of the borrowing is unsecured (33% of NAV).

As for EU AIFs, the assessed proportion of NAV covered by LMTs and special liquidity arrangements is negligible. This result could also reflect the limited coverage of LMTs as reported by non-EU AIFMs. However, 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. Contractual arrangements like a notice period for redeeming are common across non-EU hedge funds (90%). 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.104
**NPPR strategies**
**US ETFs dominant in terms of NAV**

![Chart showing ETFs in terms of NAV](chart)

**Note:** Investment strategies of AIFs marketed by non-EU AIFMs w/o passporting rights (art. 42 of AIFMD), end of 2019, in % of NAV. AIFs identified via international standard identifiers (LEIs, ISIN, Cusip). Sources: AIFMD database, National Competent Authorities, ESMA.

### ASR-AIF.105
**Size distribution**
**Large funds dominating the segment**

![Bar chart showing fund size distribution](chart)

**Note:** Share of AIFs marketed by non-EU AIFMs w/o passporting rights (art. 42 of AIFMD) by size, end of 2019. In %, AIFs identified via international standard identifiers (LEI, ISIN, Cusip). Sources: AIFMD database, National Competent Authorities, ESMA.

### ASR-AIF.106
**NPPR investors types**
**Large proportion of ownership unidentified**

<table>
<thead>
<tr>
<th>Total</th>
<th>FoF</th>
<th>HF</th>
<th>PE</th>
<th>RE</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0%</td>
<td>20%</td>
<td>40%</td>
<td>60%</td>
<td>80%</td>
<td>100%</td>
</tr>
</tbody>
</table>

**Note:** Ownership of units in AIFs marketed by non-EU AIFMs w/o passporting rights (art. 42 of AIFMD), end of 2019 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.

### ASR-AIF.107
**Redemption frequency**
**Mainly weekly to monthly frequency**

![Bar chart showing redemption frequency](chart)

**Note:** Investor redemption frequencies allowed by open-end AIFs marketed by non-EU AIFMs w/o passporting rights (art. 42 of AIFMD), end of 2019, 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.

### ASR-AIF.108
**Regional investment focus**
**Mostly North America**

![Pie chart showing regional investment focus](chart)

**Note:** Regional investment focus of AIFs marketed by non-EU AIFMs w/o passporting rights (art. 42 of AIFMD), end of 2019, in EUR bn. 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.109
**Exposures**
**Use of derivatives limited to HFs**

![Bar chart showing exposures](chart)

**Note:** Share of gross exposures by AIF type, end of 2019, in % of total. AIFs managed and/or marketed by authorised EU AIFMs. FoF=Fund of Funds, None=No predominant Type. Sources: AIFMD database, National Competent Authorities, ESMA.
References
Statistical methods
AIFMD data quality improvement – an overview

High-quality data is key for identifying and assessing risks to investors and financial stability in the EU and support risk-based supervision and regulatory activities. National Competent Authorities (NCAs) and ESMA have been working closely to promote the usability and quality of the AIFMD data and other reporting regimes, given the cross-border implications of the financial sector\textsuperscript{16}. The current article presents the main initiatives that aim at improving AIFMD data quality and provides an outlook of future work.

Introduction

Approaches to data quality improvement can be broadly classified depending on when they are implemented. \textit{Ex-ante} approaches seek to improve the data before transmission, while \textit{ex-post} approaches aim at improving the data after it has been transmitted and preliminary accepted by supervisors.

The \textit{ex-ante} approach is composed by all elements that reduce the possibility of transmission of low-quality data, including those that apply divergent definitions. This is achieved through the publication of Guidelines, Q&As and through IT technical guidance and schema validations\textsuperscript{17} as well as other actions that help clarifying the expected content.

This is completed by \textit{ex-post} monitoring of quality of the reported data and reacting through the request of corrections to be performed by reporting entities, as detailed further below.

In addition, as part of the AIFMD review by the European Commission, ESMA highlighted areas for improvement of the reporting framework. These areas are described in the last part of this section.

The monitoring and corrective actions

The data quality monitoring is performed both at national level and through a data quality action plan coordinated among NCAs through ESMA’s Data Standing Committee. This committee promotes a convergent approach to data reporting, including the implementation of remedial actions.

ESMA and the NCAs carry out a series of data quality tests on the available data, followed by supervisory reaction and monitor the final correction by reporting entities when needed. The scope of those data quality tests considered both the priorities of the users of this data and the feasibility to perform those tests and to react to the observed quality shortcomings.

Under the data quality action, new data quality tests were applied on the top of the IT data validations. Data quality is a multi-dimensional concept and the performed tests are categorised according to the targeted dimension

\begin{table}
\centering
\begin{tabular}{|c|c|}
\hline
\textbf{Completeness} & \textbf{Accuracy} \\
existence of non-null values assigned to specific data elements & degree with which data correctly represent reality \\
\hline
\textbf{Consistency} & \textbf{Timeliness} \\
data values in one data set being consistent with values in another data set & time expectation for accessibility and availability of information \\
\hline
\end{tabular}
\caption{Data quality dimensions}
\end{table}

The tests focused on the completeness and timeliness of the reported data on entities; the provision of key identifiers as LEI on AIFs and AIFMs; plausibility analysis on key values as AuM, NAV and the leverage metrics; and consistency of the information on values of main instruments as well as other information on funds (e.g. reported liquidity).

\textsuperscript{16}See ESMA 2020 Annual Work Programme, section 4.2.6, for further details.

\textsuperscript{17}These documents are available at https://www.esma.europa.eu/policy-activities/fund-management/fund-management-reporting.
This data correction cycle is summarised in the graph below (see ASR-AIF.111). The process starts with tests that could reveal an impossible value (i.e. an undisputed reporting error) or implausible value (e.g. an outlier that is likely to be erroneous, but which might constitute a correct value), or a correct value. The NCA follows up with the reporting entities asking to correct the data or inform on a possible false positive (i.e. a correct value classified as erroneous). The process is repeated during the year to monitor the effective correction of the data. In areas where a significant number of warnings were generated, the national competent authorities might adopt a risk-based approach in addressing those cases by prioritising the entities with a higher impact.

In addition to the commonly agreed activities, several NCAs have drafted additional guidance or organised information meetings with the fund managers to clarify the reporting expectations. Moreover, some NCAs plan to implement selected data quality checks as validation rules – hence pre-emptively identifying issues and avoiding that errors enter in the AIFMD database.

The implementation of the above data quality actions during 2020 improved the AIFMD quality of data especially on completeness. For example, the manager LEI completeness in the AIFMD system almost doubled from 26% to 48% and increased from 50% to 63% for funds. Furthermore, we observe improvements regarding accuracy and consistency, for example a slightly more plausible distribution of leverage data.

Despite these data quality improvements, it is important to notice that for the production of this ASR, ESMA staff still executes its own data quality review and performs specific statistical remedial actions to further ensure its quality (e.g. remove outliers, review aggregated results with the NCAs and avoid analyses that could be most affected by known issues).

**AIFMD review: ESMA proposed priorities to improve reporting**

The previous data quality activities monitor compliance within the obligations foreseen in the current Directive and Delegated Regulation. Therefore, they do not include shortcomings in the usability of the data that are related to the lack of data not requested by the current reporting rules, both in terms of granularity, frequency, completeness or the use of identifiers as ISINs.

To address those issues and increase the usability and the quality of the AIFMD data, ESMA submitted several proposals\(^\text{18}\) to the European Commission for the AIFMD review on data items. An important proposal aims to improve the identification of the managers and their funds by making the LEI reporting mandatory. Besides transparency and better risk assessments, LEI reporting is directly contributing to the improvement of the quality of financial data. The quest for higher transparency is further supported by the proposal to include in the ESMA public register information on AIFMs and AIFs for all reporting regimes instead of only the authorised AIFMs and their AIFs as it is currently. Moreover, ESMA proposed to support the request of more granular information and ask for having detailed information on the composition of assets (at ISIN level) and liabilities of the fund. In all those proposals to the European Commission, ESMA has made a conscious effort to ensure consistency with other reporting regimes to which AIFMs might be subject to reduce overall reporting costs.

---

Statistics
Market overview

AIF characteristics

ASR-AIF-S.1
AIFMD passport

EU w/o passport 17%
Non-EU w/o passport 3%
Non-EU not marketed in EU 4%
EU passport 76%

Note: NAV of AIFs by manager’s access to AIFMD passport, end of 2019, 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 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.2
EU and non-EU AIFs

100%
75%
50%
25%
0%

FoF 15%
Hedge fund 5%
Private equity 7%
Real estate 12%
Other 60%
None 1%

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 2019, in % on NAV. Non-EU AIFs marketed w/o passport.
Data for 27 EEA countries.
Sources: AIFMD database, National competent Authorities, ESMA.

ASR-AIF-S.3
AIF distribution by size

<100mn 15%
100-500mn 25%
500mn-1bn 7%
1-5bn 24%
>5bn 7%

Note: Share of AIFs by size, end of 2019, in %.
AIFs managed and/or marketed by authorised EU AIFMs and sub-threshold managers registered only in national jurisdictions.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.4
AIF types

Private equity 60%
Real estate 12%
Hedge fund 5%
FoF 15%
Other 60%
None 1%

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 2019, in % of NAV. FoF=Fund of funds, PE=Private equity funds, RE=Real estate. Data for 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.5
AIF strategies

Commercial RE 8%
Equity 14%
Other other 17%
Other RE 2%
Other PE 3%
Other FoF 11%

Note: Investment strategy of AIFs managed and/or marketed by authorised EU AIFMs and sub-threshold managers registered only in national jurisdictions, end of 2019, in % of NAV. FoF=Fund of funds, PE=Private equity funds, RE=Real estate. Data for 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.6
Investment regions

EEA 59%
Asia 7%
Supra National 8%
Resi 3%
Other Europe 6%
Other 3%
North America 17%

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 2019, in % of NAV. Geo-focus determined according to the domicile of investments, supra national category including investments without predominant geo-focus. Data for 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.
ASR-AIF-S.7
Base currencies

<table>
<thead>
<tr>
<th>Currency</th>
<th>0%</th>
<th>20%</th>
<th>40%</th>
<th>60%</th>
<th>80%</th>
</tr>
</thead>
<tbody>
<tr>
<td>EUR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GBP</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>USD</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>JPY</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SEK</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PLN</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CZK</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Base currency managed and/or marketed by authorised EU AIFMs and sub-threshold managers registered only in national jurisdictions, end of 2019, in % of NAV. Sources: AIFMD database, National Competent Authorities, ESMA. Data for 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.8
Clients

<table>
<thead>
<tr>
<th>Category</th>
<th>0%</th>
<th>20%</th>
<th>40%</th>
<th>60%</th>
<th>80%</th>
<th>100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total EU</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other AIF</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Real estate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private equity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hedge fund</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FoF</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Clients of AIFs managed and/or marketed by authorised EU AIFMs and sub-threshold managers registered only in national jurisdictions, end of 2019, in % of NAV. FoF=Fund of funds. Data for 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.9
Ownership of AIF

<table>
<thead>
<tr>
<th>Category</th>
<th>0%</th>
<th>20%</th>
<th>40%</th>
<th>60%</th>
<th>80%</th>
<th>100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total EU</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FoF</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hedge fund</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private equity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Real estate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other AIF</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Ownership of units in AIFs managed and/or marketed by authorised EU AIFMs, end of 2019, in % of NAV. FoF=Fund of funds. Data for 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.10
Top 5 beneficial owners

<table>
<thead>
<tr>
<th>Category</th>
<th>0%</th>
<th>25%</th>
<th>50%</th>
<th>75%</th>
<th>100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>EU passport</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EU w/o passport</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-EU w/o passport</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FoF</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hedge fund</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private equity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Real estate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other AIF</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Investor concentration of AIFs managed and/or marketed by authorised EU AIFMs, end of 2019, in % of NAV. Investor concentration computed as share of AIF equity beneficially owned by the 5 largest investors. Data for 27 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 2019. Portfolio liquidity defined as the percentage of the funds’ assets capable of being liquidated within each specified period. Investor liquidity defined as the shortest period for which investors can redeem. d=Days. | 0| 1 day or less | 2-7 d | 8-30 d | 31-90 d | 91-180 d | >365 d |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Investor</td>
<td>4%</td>
<td>14%</td>
<td>38%</td>
<td>20%</td>
<td>60%</td>
<td>82%</td>
</tr>
<tr>
<td>Portfolio</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Portfolio and investor liquidity profiles of fund of funds managed and/or marketed by authorised EU AIFMs, end of 2019. Portfolio liquidity defined as the percentage of the funds’ assets capable of being liquidated within each specified period. Investor liquidity defined as the shortest period for which investors can redeem. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. d=Days. Data for 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

Liquidity and counterparty risk profile

ASR-AIF-S.12
HFs: Liquidity profile

Note: Portfolio and investor liquidity profiles of hedge funds managed and/or marketed by authorised EU AIFMs, end of 2019. Portfolio liquidity defined as the percentage of the funds’ assets capable of being liquidated within each specified period. Investor liquidity defined as the shortest period for which investors can redeem. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. d=Days. Data for 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.
ASR-AIF-S.13
PE funds: Liquidity profile

ASR-AIF-S.15
Funds classified as ‘Other’: Liquidity profile

ASR-AIF-S.17
Redemption rights to investors

ASR-AIF-S.14
RE funds: Liquidity profile

ASR-AIF-S.16
Liquidity financing

ASR-AIF-S.18
Liquidity financing

Note: Portfolio and investor liquidity profiles of private equity funds managed and/or marketed by authorised EU AIFMs, end of 2019. Portfolio liquidity defined as the percentage of the funds' assets capable of being liquidated within each specified period. Investor liquidity defined as the shortest period for which investors can redeem. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. d=Days. Data for 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

Note: Portfolio and investor liquidity profiles of private equity funds managed and/or marketed by authorised EU AIFMs, end of 2019. Portfolio liquidity defined as the percentage of the funds' assets capable of being liquidated within each specified period. Investor liquidity defined as the shortest period for which investors can redeem. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. d=Days. Data for 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

Note: Portfolio and investor liquidity profiles of AIFs classified as 'Other' managed and/or marketed by authorised EU AIFMs, end of 2019. Portfolio liquidity defined as the percentage of the funds' assets capable of being liquidated within each specified period. Investor liquidity defined as the shortest period for which investors can redeem. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. d=Days. Data for 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

Note: Redemption rights provided in the ordinary course to investors in AIFs managed and/or marketed by authorised EU AIFMs, end of 2019. % of NAV. FoF=Fund of Funds. Open-end=AIF managed, Closed-end=AIF managed. Data for 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

Note: Liquidity financing of AIFs managed and/or marketed by authorised EU AIFMs, end of 2019. 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 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.
**Leverage and exposure**

**ASR-AIF-S.23** Adjusted gross leverage

- FoF: 80%
- Hedge fund: 60%
- Private equity: 40%
- Real estate: 20%
- Other AIF: 0%
- None: 0%

**ASR-AIF-S.24** Leverage and unleveraged AIFs

- FoF: 3000
- Hedge fund: 2000
- Private equity: 1000
- Real estate: 0
- Other AIF: 0
- None: 0

Note: Adjusted gross leverage of AIFs managed and/or marketed by authorised EU AIFMs, end of 2019, in % of NAV. Adjusted gross leverage does not include IRDs. FoF=Fund of funds, None=No predominant type. Data for 27 EEA countries. Sources: AIFMD database, National competent authorities, ESMA.

Note: Leveraged and unleveraged AIFs managed and/or marketed by authorised EU AIFMs and sub-threshold managers registered only in national jurisdictions, end of 2019, EUR bn. Leveraged funds identified using the AIF reporting code as specified in Annex 2 of ESMA guidelines on AIFMD reporting obligations. FoF=Fund of funds. Data for 27 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.
### ASR-AIF-S.31
**Cash and cash equivalents**

<table>
<thead>
<tr>
<th>1Q19</th>
<th>2Q19</th>
<th>3Q19</th>
<th>4Q19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Certificates of deposit</td>
<td>15%</td>
<td>10%</td>
<td>5%</td>
</tr>
<tr>
<td>Commercial papers</td>
<td>10%</td>
<td>5%</td>
<td>2%</td>
</tr>
<tr>
<td>Other cash equivalent</td>
<td>5%</td>
<td>2%</td>
<td>1%</td>
</tr>
<tr>
<td>Other deposits</td>
<td>5%</td>
<td>2%</td>
<td>1%</td>
</tr>
</tbody>
</table>

**Note:** Cash and cash equivalents exposure, funds reported quarterly, in % of NAV. Government bonds excluded from other cash equivalents. Data for 27 EEA countries.

**Sources:** AIFMD database, National Competent Authorities, ESMA.

### ASR-AIF-S.33
**Equities**

<table>
<thead>
<tr>
<th>1Q19</th>
<th>2Q19</th>
<th>3Q19</th>
<th>4Q19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Listed financial inst.</td>
<td>25%</td>
<td>20%</td>
<td>15%</td>
</tr>
<tr>
<td>Other listed</td>
<td>20%</td>
<td>15%</td>
<td>10%</td>
</tr>
<tr>
<td>Unlisted</td>
<td>5%</td>
<td>5%</td>
<td>5%</td>
</tr>
</tbody>
</table>

**Note:** Exposure to equities, funds quarterly reported, in % of NAV. AIFs managed and/or marketed by authorised EU AIFMs. Data for 27 EEA countries.

**Sources:** AIFMD database, National Competent Authorities, ESMA.

### ASR-AIF-S.35
**Sovereign bonds**

<table>
<thead>
<tr>
<th>1Q19</th>
<th>2Q19</th>
<th>3Q19</th>
<th>4Q19</th>
</tr>
</thead>
<tbody>
<tr>
<td>EU Sov &gt;1Y TM</td>
<td>28%</td>
<td>21%</td>
<td>14%</td>
</tr>
<tr>
<td>G10 Sov &gt;1Y TM</td>
<td>14%</td>
<td>10%</td>
<td>7%</td>
</tr>
<tr>
<td>Non-G10 Sov &gt;1Y TM</td>
<td>7%</td>
<td>5%</td>
<td>3%</td>
</tr>
<tr>
<td>EU Sov up 1Y TM</td>
<td>14%</td>
<td>10%</td>
<td>7%</td>
</tr>
<tr>
<td>G10 Sov up 1Y TM</td>
<td>10%</td>
<td>7%</td>
<td>5%</td>
</tr>
<tr>
<td>Non-G10 Sov up 1Y TM</td>
<td>5%</td>
<td>3%</td>
<td>2%</td>
</tr>
</tbody>
</table>

**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 27 EEA countries.

**Sources:** AIFMD database, National Competent Authorities, ESMA.

### ASR-AIF-S.32
**Cash and cash equivalents by AIF type**

<table>
<thead>
<tr>
<th>1Q19</th>
<th>2Q19</th>
<th>3Q19</th>
<th>4Q19</th>
</tr>
</thead>
<tbody>
<tr>
<td>FoF</td>
<td>18%</td>
<td>15%</td>
<td>12%</td>
</tr>
<tr>
<td>Hedge fund</td>
<td>6%</td>
<td>5%</td>
<td>4%</td>
</tr>
<tr>
<td>Private equity</td>
<td>4%</td>
<td>3%</td>
<td>2%</td>
</tr>
<tr>
<td>Real estate</td>
<td>4%</td>
<td>3%</td>
<td>2%</td>
</tr>
<tr>
<td>Other AIFs</td>
<td>5%</td>
<td>4%</td>
<td>3%</td>
</tr>
</tbody>
</table>

**Note:** Cash and cash equivalents exposure by AIF type, funds quarterly reported, in % of NAV. Data for 27 EEA countries. FoF=Funds of Funds. Sources: AIFMD database, National Competent Authorities, ESMA.

### ASR-AIF-S.34
**Equities by AIF type**

<table>
<thead>
<tr>
<th>1Q19</th>
<th>2Q19</th>
<th>3Q19</th>
<th>4Q19</th>
</tr>
</thead>
<tbody>
<tr>
<td>FoF</td>
<td>80%</td>
<td>70%</td>
<td>60%</td>
</tr>
<tr>
<td>Hedge fund</td>
<td>15%</td>
<td>10%</td>
<td>5%</td>
</tr>
<tr>
<td>Private equity</td>
<td>5%</td>
<td>3%</td>
<td>2%</td>
</tr>
<tr>
<td>Real estate</td>
<td>5%</td>
<td>3%</td>
<td>2%</td>
</tr>
<tr>
<td>Other AIFs</td>
<td>5%</td>
<td>3%</td>
<td>2%</td>
</tr>
</tbody>
</table>

**Note:** Equities exposure by AIF type, funds quarterly reported, in % of NAV. AIFs managed and/or marketed by authorised EU AIFMs. Data for 27 EEA countries. FoF=Funds of Funds. Sources: AIFMD database, National Competent Authorities, ESMA.

### ASR-AIF-S.36
**Sovereign bonds by AIF type**

<table>
<thead>
<tr>
<th>1Q19</th>
<th>2Q19</th>
<th>3Q19</th>
<th>4Q19</th>
</tr>
</thead>
<tbody>
<tr>
<td>FoF</td>
<td>250%</td>
<td>200%</td>
<td>150%</td>
</tr>
<tr>
<td>Hedge fund</td>
<td>100%</td>
<td>80%</td>
<td>60%</td>
</tr>
<tr>
<td>Private equity</td>
<td>50%</td>
<td>40%</td>
<td>30%</td>
</tr>
<tr>
<td>Real estate</td>
<td>25%</td>
<td>20%</td>
<td>15%</td>
</tr>
<tr>
<td>Other AIFs</td>
<td>10%</td>
<td>8%</td>
<td>6%</td>
</tr>
</tbody>
</table>

**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 27 EEA countries. FoF=Funds of Funds. Sources: AIFMD database, National Competent Authorities, ESMA.
ASR-AIF-S.37

CIUs 28%

0% 1Q19 2Q19 3Q19 4Q19
21%
14%
7%

CIUs by the AIFM CIUs by others ETF by the AIFM ETF by others MMFs by the AIFM MMFs by others

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 27 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.39

Structured products 3.8%

0.0% 1Q19 2Q19 3Q19 4Q19
2.4%
1.8%
1.2%
0.6%

ABCP Agency MBS CMBS Other Structured certificate

Note: Structured products exposure, funds reported quarterly, in % of NAV. AIFs managed and/or marketed by authorised EU AIFMs. Data for 27 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.
Funds of Funds

AIF characteristics

ASR-AIF-S.41
AIFMD passport

Non-EU w/o passport
EU w/o passport
EU passport
Non-EU not marketed in EU

Note: NAV of funds of funds by manager's access to AIFMD passport, end of 2019, 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 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.42
EU and non-EU AIFs

Fund of HF
Fund of PE
Other FoF

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 2019, in % of NAV. Non-EU AIF’s marketed w/o passport. FoF=Funds of funds, PE=Private equity fund, HF=Hedge fund. Data for 27 EEA countries.

ASR-AIF-S.43
Market concentration

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 2019, in % of NAV. Data for 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.44
Investment strategies by NAV

Fund of HF
Fund of PE
Other FoF

Note: Investment strategies of funds of funds, end of 2019, in % of NAV. Funds of funds managed and/or marketed by authorised EU AIFMs and sub-threshold managers registered only in national jurisdictions. FoF=Funds of funds, PE=Private equity fund, HF=Hedge fund. Data for 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.45
Investment regions by NAV

Supra National
EEA
North America
Rest
Asia
Other Europe

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 2019, 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 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.46
Investor type

Fund of PE
Fund of HF
Other FoF

Note: Clients of funds of funds managed and/or marketed by authorised EU AIFMs and sub-threshold managers registered only in national jurisdictions, and of 2019, in % of NAV. FoF=Funds of funds, PE=Private equity fund, HF=Hedge fund. Data for 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.
### Liquidity and counterparty risk profile

#### ASR-AIF-S.47

**Ownership of AIFs**

<table>
<thead>
<tr>
<th>Fund of HF</th>
<th>Fund of PE</th>
<th>Other FoF</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td>20%</td>
<td>40%</td>
</tr>
</tbody>
</table>

- Banks
- General government
- Insurances
- Non-profit
- Other CIUs
- Unknown

Note: Ownership of units in funds managed and/or marketed by authorised EU AIFMs, end of 2019, in % of NAV. FoF=Fund of funds; PE=Private equity fund; HF=Hedge fund. Data for 27 EEA countries.

Sources: AIFMD database, National Competent Authorities, ESMA.

#### ASR-AIF-S.48

**Top five beneficial owners**

<table>
<thead>
<tr>
<th>EU passport</th>
<th>EU w/o passport</th>
<th>Non-EU w/o passport</th>
</tr>
</thead>
<tbody>
<tr>
<td>100%</td>
<td>75%</td>
<td>50%</td>
</tr>
</tbody>
</table>

Note: Investor concentration of funds of funds managed and/or marketed by authorised EU AIFMs, end of 2019, 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 27 EEA countries.

Sources: AIFMD database, National Competent Authorities, ESMA.

#### ASR-AIF-S.49

**Funds of HF’s: liquidity profile**

<table>
<thead>
<tr>
<th>1 day or less</th>
<th>8-30 d</th>
<th>91-180 d</th>
<th>&gt; 365 d</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td>10%</td>
<td>43%</td>
<td>100%</td>
</tr>
</tbody>
</table>

- Investor
- Portfolio

Note: Portfolio and investor liquidity profiles of funds of hedge funds managed and/or marketed by authorised EU AIFMs, end of 2019. Portfolio liquidity defined as the percentage of the funds’ assets capable of being liquidated within each specified period; investor liquidity defined as the shortest period for which investors can redeem. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport.

Days. Data for 27 EEA countries.

Sources: AIFMD database, National Competent Authorities, ESMA.

#### ASR-AIF-S.50

**Funds of PE funds: liquidity profile**

<table>
<thead>
<tr>
<th>1 day or less</th>
<th>8-30 d</th>
<th>91-180 d</th>
<th>&gt; 365 d</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td>8%</td>
<td>2%</td>
<td>100%</td>
</tr>
</tbody>
</table>

- Investor
- Portfolio

Note: Portfolio and investor liquidity profiles of funds of private equity funds managed and/or marketed by authorised EU AIFMs, end of 2019. Liquidity defined as the percentage of the funds’ assets capable of being liquidated within each specified period; investor liquidity defined as the shortest period for which investors can redeem.

EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport.

Days. Data for 27 EEA countries.

Sources: AIFMD database, National Competent Authorities, ESMA.

#### ASR-AIF-S.51

**FoFs: liquidity profile**

<table>
<thead>
<tr>
<th>1 day or less</th>
<th>8-30 d</th>
<th>91-180 d</th>
<th>&gt; 365 d</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td>54%</td>
<td>91%</td>
<td>100%</td>
</tr>
</tbody>
</table>

- Investor
- Portfolio

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 2019. Liquidity defined as the percentage of the funds’ assets capable of being liquidated within each specified period; investor liquidity defined as the shortest period for which investors can redeem.

EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport.

Days. Data for 27 EEA countries.

Sources: AIFMD database, National Competent Authorities, ESMA.

#### ASR-AIF-S.52

**Redemption frequencies**

<table>
<thead>
<tr>
<th>0%</th>
<th>25%</th>
<th>50%</th>
<th>75%</th>
<th>100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily</td>
<td>Weekly</td>
<td>Quarterly</td>
<td>Other FoF</td>
<td></td>
</tr>
</tbody>
</table>

- Fund of HF
- Fund of PE
- Other FoF

Note: Investor redemption frequencies allowed by open-end funds of funds managed and/or marketed by authorised EU AIFMs, end of 2019, in % of NAV. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport.

Data for 27 EEA countries.

Sources: AIFMD database, National Competent Authorities, ESMA.
**ASR-AIF-S.53**
Redemption rights to investors

- **Fund of HF**
- **Fund of PE**
- **Other FoF**

Legend: Open-end, Closed-end

Note: Redemption rights provided in the ordinary course to investors in funds of funds managed and/or marketed by authorised EU AIFMs. The amount of redemption rights is reported in percentage of NAV.

Sources: AIFMD database, National Competent Authorities, ESMA.

**ASR-AIF-S.55**
Securities trading

- **Fund of HF**
- **Fund of PE QF**
- **Other FoF**

Legend: Regulated market, OTC

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 %.

Data for 27 EEA countries.

Sources: AIFMD database, National Competent Authorities, ESMA.

**ASR-AIF-S.57**
Repo trades clearing

- **Fund of HF**
- **Fund of PE**
- **Other FoF**

Legend: CCP, Tri-party, Bilateral

Note: Estimated market value of repo trades cleared by market by funds of funds managed and/or marketed by authorised EU AIFMs in %.

Data for 27 EEA countries.

Sources: AIFMD database, National Competent Authorities, ESMA.

**ASR-AIF-S.54**
Liquidity financing

- **Fund of HF**
- **Fund of PE**
- **Other FoF**

Note: Liquidity financing of funds of funds managed and/or marketed by authorised EU AIFMs, end of 2019. 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 27 EEA countries.

Sources: AIFMD database, National Competent Authorities, ESMA.

**ASR-AIF-S.56**
Derivatives trading

- **Fund of HF**
- **Fund of PE**
- **Other FoF**

Legend: Regulated market, OTC

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 %.

Data for 27 EEA countries.

Sources: AIFMD database, National Competent Authorities, ESMA.

**ASR-AIF-S.58**
Derivatives trades clearing

- **Fund of HF**
- **Fund of PE**
- **Other FoF**

Legend: CCP, Bilateral

Note: Estimated volume of derivatives cleared bilaterally and via CCP by funds of funds managed and/or marketed by authorised EU AIFMs in %.

Data for 27 EEA countries.

Sources: AIFMD database, National Competent Authorities, ESMA.
Leverage and exposure

ASR-AIF-S.59
Adjusted gross leverage

160%
120%
80%
40%
0%
Fund of HF
Fund of PE
Other FoF

Note: Adjusted gross leverage of funds of funds managed and/or marketed by authorised EU AIFMs, end of 2019, 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 27 EEA countries.
Sources: AIFMD database, National competent authorities, ESMA.

ASR-AIF-S.60
Leveraged and unleveraged AIFs

800
600
400
200
0
Fund of HF
Fund of PEQ
Other FoF

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 2019, EUR bn. Leveraged funds identified using the AIF reporting code as specified in Annex 2 of ESMA guidelines on AIFMD reporting obligations. FoF= Funds of funds, HF=Hedge funds, PEQ/Private equity funds. Data for 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.61
Borrowing embedded in financial instruments

12%
8%
4%
0%
Fund of HF
Fund of PE
Other FoF

Note: Borrowing of cash and securities or embedded in derivatives by funds of funds, end of 2019, 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 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.62
Unencumbered cash

5%
3%
2%
0%
Fund of HF
Fund of PE
Other FoF

Note: Unencumbered cash held by funds of funds, end of 2019, in % of NAV. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. FoF=Funds of Funds.
Data for 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.63
Financial leverage

4%
3%
2%
1%
0%
Unsecured borrowing
Secured via PB
Reverse repo
Secured via other
Short position borrowing sec.

Note: Cash and securities borrowed by funds of funds, end of 2019, in % of NAV. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. FoF=Funds of Funds, PEQF=Private Equity Fund.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.64
Financial leverage composition

100%
75%
50%
25%
0%
Fund of HF
Fund of PEQF
Other FoF

Note: Share of cash and securities borrowed by funds of funds, end of 2019, in % of NAV. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. FoF=Funds of Funds.
Sources: AIFMD database, National Competent Authorities, ESMA.
Note: Exposures of funds of funds managed and/or marketed by authorised EU AIFMs, funds quarterly reported, EUR in. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/o and w/ passport. FoF=Fund of Funds, HF=Hedge fund, PE=Private equity fund. Data for 27 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

Note: Share of exposures of funds of funds’ investment strategies, end of 2019, 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 27 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

Note: Share of cash and cash equivalents held by funds of funds in 4Q19. AIFs managed and/or marketed by authorised EU AIFMs. Data for 27 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

Note: Share of equities held by funds of funds in 4Q19. AIFs managed and/or marketed by authorised EU AIFMs. Data for 27 EEA countries.
### ASR-AIF-S.71
**Sovereign bonds**

Note: Sovereign bonds exposure exposure of funds of 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 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

### ASR-AIF-S.73
**Collective investment undertakings**

Note: Collective investment undertakings exposure exposure of funds of funds, AIFs reported quarterly, in % of NAV. AIFs managed and/or marketed by authorised EU AIFMs. CIUs=Collective Investment Undertakings. Data for 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

### ASR-AIF-S.75
**Structured products**

Note: Structured and securitised products exposure exposure of funds of funds, AIFs reported quarterly, in % of NAV. AIFs managed and/or marketed by authorised EU AIFMs. Data for 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.
Corporate bond quality

Note: Corporate bonds exposure of funds of funds, AIFs reported quarterly, in % of NAV. AIFs managed and/or marketed by authorised EU AIFMs. Data for 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

Corporate bonds in 4Q19

Note: Share of corporate bonds held by funds of funds in 4Q19. AIFs managed and/or marketed by authorised EU AIFMs. Data for 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.
Real Estate Funds

AIF characteristics

ASR-AIF-S.79
AIFMD passport

Note: NAV of real estate AIFs by manager's access to AIFMD passport, end of 2019, 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 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.81
Market concentration

Note: Market concentration of the largest 10-to-1,000 real estate funds managed and/or marketed by authorised EU AIFMs, end of 2019, in % of NAV. Data for 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.83
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 2019, 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 27 EEA countries.

ASR-AIF-S.80
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 2019, in % of NAV. Non-EU AIFs marketed w/o passport RE=Real estate. Data for 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.82
Investment strategies by NAV

Note: Investment strategies of real estate funds, end of 2019, 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 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.84
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 2019, in % of NAV. RE=Real estate. Data for 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.
**Liquidity and counterparty risk profile**

**ASR-AIF-S.85 Ownership of RE funds**

<table>
<thead>
<tr>
<th>Commercial</th>
<th>Industrial</th>
<th>Multi-strategy RE</th>
<th>Other RE</th>
<th>Residential</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td>20%</td>
<td>40%</td>
<td>60%</td>
<td>80%</td>
</tr>
</tbody>
</table>

Note: Ownership of units in real estate funds. AIFs managed and/or marketed by authorised EU AIFMs, end of 2019, in % of NAV. RE=Real Estate.

Data for 27 EEA countries.

Sources: AIFMD database, National Competent Authorities, ESMA.

**ASR-AIF-S.86 Top five beneficial owners**

<table>
<thead>
<tr>
<th>Commercial</th>
<th>Industrial</th>
<th>Multi-strategy RE</th>
<th>Other RE</th>
<th>Residential</th>
</tr>
</thead>
<tbody>
<tr>
<td>EU passport</td>
<td>EU w/o passport</td>
<td>Non-EU w/o passport</td>
<td></td>
<td></td>
</tr>
<tr>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Investor concentration of real estate managed and/or marketed by authorised EU AIFMs, end of 2019, in % of NAV. Investor concentration computed as share of AIF equity beneficially owned by the 5 largest investors. RE=Real Estate.

Data for 27 EEA countries.

Sources: AIFMD database, National Competent Authorities, ESMA.

**ASR-AIF-S.87 Commercial RE: liquidity profile**

<table>
<thead>
<tr>
<th>1 day or less</th>
<th>2-8 d</th>
<th>9-30 d</th>
<th>30-60 d</th>
<th>&gt; 300 d</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investor</td>
<td>12%</td>
<td>3%</td>
<td>22%</td>
<td>35%</td>
</tr>
<tr>
<td>Portfolio</td>
<td>18%</td>
<td>4%</td>
<td>25%</td>
<td>30%</td>
</tr>
</tbody>
</table>

Note: Portfolio and investors liquidity profiles of funds of commercial real estate funds managed and/or marketed by authorised EU AIFMs, end of 2019. Portfolio liquidity defined as the percentage of the funds’ assets capable of being liquidated within each specified period, investor liquidity defined as the shortest period for which investors can redeem.

EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. d= Days.

Data for 27 EEA countries.

Sources: AIFMD database, National Competent Authorities, ESMA.

**ASR-AIF-S.88 Industrial RE: liquidity profile**

<table>
<thead>
<tr>
<th>1 day or less</th>
<th>2-8 d</th>
<th>9-30 d</th>
<th>30-60 d</th>
<th>&gt; 300 d</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investor</td>
<td>2%</td>
<td>4%</td>
<td>4%</td>
<td>4%</td>
</tr>
<tr>
<td>Portfolio</td>
<td>2%</td>
<td>2%</td>
<td>4%</td>
<td>22%</td>
</tr>
</tbody>
</table>

Note: Portfolio and investors liquidity profiles of funds of industrial real estate funds managed and/or marketed by authorised EU AIFMs, end of 2019. Portfolio liquidity defined as the percentage of the funds’ assets capable of being liquidated within each specified period, investor liquidity defined as the shortest period for which investors can redeem.

EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. d= Days.

Data for 27 EEA countries.

Sources: AIFMD database, National Competent Authorities, ESMA.

**ASR-AIF-S.89 Residential RE: liquidity profile**

<table>
<thead>
<tr>
<th>1 day or less</th>
<th>2-8 d</th>
<th>9-30 d</th>
<th>30-60 d</th>
<th>&gt; 300 d</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investor</td>
<td>7%</td>
<td>4%</td>
<td>11%</td>
<td>14%</td>
</tr>
<tr>
<td>Portfolio</td>
<td>7%</td>
<td>4%</td>
<td>11%</td>
<td>14%</td>
</tr>
</tbody>
</table>

Note: Portfolio and investors liquidity profiles of funds of residential real estate funds managed and/or marketed by authorised EU AIFMs, end of 2019. Portfolio liquidity defined as the percentage of the funds’ assets capable of being liquidated within each specified period, investor liquidity defined as the shortest period for which investors can redeem.

EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. d= Days.

Data for 27 EEA countries.

Sources: AIFMD database, National Competent Authorities, ESMA.

**ASR-AIF-S.90 Other RE: liquidity profile**

<table>
<thead>
<tr>
<th>1 day or less</th>
<th>2-8 d</th>
<th>9-30 d</th>
<th>30-60 d</th>
<th>&gt; 300 d</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investor</td>
<td>7%</td>
<td>4%</td>
<td>11%</td>
<td>14%</td>
</tr>
<tr>
<td>Portfolio</td>
<td>7%</td>
<td>4%</td>
<td>11%</td>
<td>14%</td>
</tr>
</tbody>
</table>

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 2019. Portfolio liquidity defined as the percentage of the funds’ assets capable of being liquidated within each specified period, investor liquidity defined as the shortest period for which investors can redeem.

EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. d= Days.

Data for 27 EEA countries.

Sources: AIFMD database, National Competent Authorities, ESMA.
**Leverage and exposure**

**ASR-AIF-S.99**

**Adjusted gross leverage**

<table>
<thead>
<tr>
<th>Commercial</th>
<th>Industrial</th>
<th>Multi-strategy RE</th>
<th>Other RE</th>
<th>Residential</th>
</tr>
</thead>
<tbody>
<tr>
<td>160%</td>
<td>120%</td>
<td>80%</td>
<td>40%</td>
<td>0%</td>
</tr>
</tbody>
</table>

Note: Adjusted gross leverage of real estate funds managed and/or marketed by authorised EU AIFMs, end of 2019, in % of NAV. Adjusted gross leverage computed as total exposure less IRDs with respect to NAV. RE=Real estate. Data for 27 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

**ASR-AIF-S.100**

**Leveraged and unleveraged AIFs**

<table>
<thead>
<tr>
<th>Commercial</th>
<th>Industrial</th>
<th>Multi-strategy RE</th>
<th>Other RE</th>
<th>Residential</th>
</tr>
</thead>
<tbody>
<tr>
<td>280</td>
<td>210</td>
<td>140</td>
<td>70</td>
<td>0</td>
</tr>
</tbody>
</table>

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. Leveraged funds identified using the AIF reporting code as specified in Annex 2 of ESMA guidelines on AIFMD reporting obligations. Data for 27 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

**ASR-AIF-S.101**

**Borrowings embedded in derivatives**

<table>
<thead>
<tr>
<th>Commercial</th>
<th>Industrial</th>
<th>Multi-strategy RE</th>
<th>Other RE</th>
<th>Residential</th>
</tr>
</thead>
<tbody>
<tr>
<td>12%</td>
<td>8%</td>
<td>4%</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>

Note: Borrowing of cash and securities or embedded in derivatives by real estate funds, end of 2019, 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 27 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

**ASR-AIF-S.102**

**Unencumbered cash**

<table>
<thead>
<tr>
<th>Commercial</th>
<th>Industrial</th>
<th>Multi-strategy RE</th>
<th>Other RE</th>
<th>Residential</th>
</tr>
</thead>
<tbody>
<tr>
<td>8%</td>
<td>6%</td>
<td>4%</td>
<td>2%</td>
<td>0%</td>
</tr>
</tbody>
</table>

Note: Unencumbered cash held by real estate funds, end of 2019, in % of NAV. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. RE=Real estate. Data for 27 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.
**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 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

**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 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.
Hedge Funds

AIF characteristics

ASR-AIF-S.119
AIFMD passport

Note: NAV of hedge funds by manager's access to AIFMD passport, and of 2019, in %. Authorised EU AIFMs with access AIFMD passport or marketing non-EU AIFs w/o passport, sub-threshold managers are registered only in jurisdictions w/o passporting rights. Data for 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.121
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 2019, in % of NAV. Data for 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.123
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 2019, 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 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.120
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 2019, in % of NAV. Data for 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.122
Investment strategies by NAV

Note: Investment strategies of hedge funds, end of 2019, in % of NAV. HF=Hedge fund. Data for 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.124
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 2019, in % of NAV. HF=Hedge fund. Data for 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.
Liquidity and counterparty risk profile

ASR-AIF-S.125
Ownership of AIFs

Credit
CTA
Equity
Event Driven
Macro
Multi-strategy HF
Other HF
Relative Value

0% 20% 40% 60% 80% 100%

Banks
General government
Household
Insurance
Non-profit
Oth. fin. institutions
Pension funds
Unknown

Note: Ownership of units in hedge funds managed and/or marketed by authorised EU AIFMs, end of 2019. EU AIFs are those marketed in the EU in the currency of the investor. Data for 27 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.126
Top five beneficial owners

Credit
CTA
Equity
Event driven
Macro
Multi-strategy HF
Other HF
Relative value

Note: Investor concentration of hedge funds managed and/or marketed by authorised EU AIFMs, end of 2019, in % of NAV. Investor concentration computed as share of AIF equity beneficially owned by the 5 largest investors. HF=Hedge Fund. Data for 27 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.127
Credit HF: liquidity profile

0% 20% 40% 60% 80% 100%

0% 1 day or less 2-7 d 8-30 d 31-90 d 91-180 d 181-365 d > 365 d

Investor
Portfolio

Note: Portfolio and investor liquidity profiles of funds of credit hedge funds managed and/or marketed by authorised EU AIFMs, end of 2019. Portfolio liquidity defined as the percentage of the funds' assets capable of being liquidated within each specified period, investor liquidity defined as the shortest period for which investors can redeem EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. d= Days. Data for 27 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.128
CTA: liquidity profile

0% 20% 40% 60% 80% 100%

0% 1 day or less 2-7 d 8-30 d 31-90 d 91-180 d 181-365 d > 365 d

Investor
Portfolio

Note: Portfolio and investor liquidity profiles of CTA managed and/or marketed by authorised EU AIFMs, end of 2019. Portfolio liquidity defined as the percentage of the funds' assets capable of being liquidated within each specified period, investor liquidity defined as the shortest period for which investors can redeem EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. d= Days. Data for 27 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.129
Equity HF: liquidity profile

0% 20% 40% 60% 80% 100%

0% 1 day or less 2-7 d 8-30 d 31-90 d 91-180 d 181-365 d > 365 d

Investor
Portfolio

Note: Portfolio and investor liquidity profiles of funds of equity hedge funds managed and/or marketed by authorised EU AIFMs, end of 2019. Portfolio liquidity defined as the percentage of the funds' assets capable of being liquidated within each specified period, investor liquidity defined as the shortest period for which investors can redeem EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. d= Days. Data for 27 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.130
Event driven: liquidity profile

0% 20% 40% 60% 80% 100%

0% 1 day or less 2-7 d 8-30 d 31-90 d 91-180 d 181-365 d > 365 d

Investor
Portfolio

Note: Portfolio and investor liquidity profiles of funds of event driven hedge funds managed and/or marketed by authorised EU AIFMs, end of 2019. Portfolio liquidity defined as the percentage of the funds' assets capable of being liquidated within each specified period, investor liquidity defined as the shortest period for which investors can redeem EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. d= Days. Data for 27 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.
Note: Portfolio and investor liquidity profiles of funds of hedge funds managed and/or marketed by authorised EU AIFMs, end of 2019. Portfolio liquidity defined as the percentage of the funds’ assets capable of being liquidated within each specified period; investor liquidity defined as the shortest period for which investors can redeem EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. d= Days. Sources: AIFMD database, National Competent Authorities, ESMA.

Note: Portfolio and investor liquidity profiles of relative value hedge funds managed and/or marketed by authorised EU AIFMs, end of 2019. Portfolio liquidity defined as the percentage of the funds’ assets capable of being liquidated within each specified period; investor liquidity defined as the shortest period for which investors can redeem EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. d= Days. Sources: AIFMD database, National Competent Authorities, ESMA.

Note: Investor redemption frequencies allowed by open-end hedge funds managed and/or marketed by authorised EU AIFMs, end of 2019; in % of NAV. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. HF=Hedge fund. Data for 27 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.
Leverage and exposure

**ASR-AIF-S.141**
Adjusted gross leverage

5600%
4200%
2800%
1400%
0%

Credit
Equity
Macro
Other HF

Note: Adjusted gross leverage of funds managed and/or marketed by authorised EU AIFMs, end of 2019, in % of NAV. Adjusted gross leverage computed as total exposure less IRD’s with respect to NAV. FoF: Funds of funds, PE: Private equity fund, HF: Hedge fund. Data for 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

**ASR-AIF-S.142**
Leveraged and unleveraged AIFs

120
80
40
0

Credit
CTA
Equity
Event driven
Macro
Multi-strategy
Other HF
Relative value

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 2019, EUR bn. Leveraged funds identified using the AIF reporting code as specified in Annex 2 of ESMA guidelines on AIFMD reporting obligations. Data for 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

**ASR-AIF-S.143**
Borrowing embedded in financial instruments

100%
75%
50%
25%
0%

Credit
CTA
Equity
Event driven
Macro
Multi-strategy
Other HF
Relative value

Note: Borrowing of cash and securities or embedded in derivatives by hedge funds, end of 2019, 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 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

**ASR-AIF-S.144**
Unencumbered cash

200%
150%
100%
50%
0%

Credit
CTA
Equity
Event driven
Macro
Multi-strategy
Other HF
Relative value

Note: Unencumbered cash held by hedge funds, end of 2019, in % of NAV. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport.
HF=Hedge fund. Data for 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

**ASR-AIF-S.145**
Financial leverage

135%
90%
45%
0%

Unsecured borrowing
Secured via PB
Reverse repo
Secured via other
Securities borrowed for shorting

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, NofN: Non-Northern type. Data for 25 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

**ASR-AIF-S.146**
Financial leverage composition

100%
75%
50%
25%
0%

Credit
CTA
Equity
Event driven
Macro
Multi-strategy
Other HF
Relative value

Note: Share of cash and securities borrowed by hedge funds, end of 2019, 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.
ESMA Annual Statistical Report on EU Alternative Investment Funds 2021

ASR-AIF-S.147 Total exposures

ASR-AIF-S.148 Decomposition of exposures

ASR-AIF-S.149 Cash and cash equivalents

ASR-AIF-S.150 Cash and cash equivalents in 4Q19

ASR-AIF-S.151 Equities

ASR-AIF-S.152 Equities in 4Q19

Note: Exposures of hedge funds managed and/or marketed by authorised EU AIFMs, funds quarterly reported, EUR in: EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. HF=Hedge fund. Data for 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

Note: Share of exposures by hedge fund investment strategies, end of 2019, in % of total. AIFs managed and/or marketed by authorised EU AIFMs. Data for 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

Note: Share of cash and cash equivalents held by hedge funds in 4Q19. AIFs managed and/or marketed by authorised EU AIFMs. Data for 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

Note: Share of equities held by hedge funds in 4Q19. AIFs managed and/or marketed by authorised EU AIFMs. Data for 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.
ASR-AIF-S.153
Sovereign bonds
30%

ASR-AIF-S.154
Sovereign bonds in 4Q19

ASR-AIF-S.155
Collective investment undertakings
20%

ASR-AIF-S.156
Collective investment undertakings in 4Q19

ASR-AIF-S.157
Structured products
10%

ASR-AIF-S.158
Structured products in 4Q19

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 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

Note: Structured and securitised products exposure of hedge funds, AIFs reported quarterly, in % of NAV. AIFs managed and/or marketed by authorised. Data for 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.
Corporate bonds quality

Note: Corporate bond exposure of hedge funds, AIFs reported quarterly, in % of NAV. AIFs managed and/or marketed by authorised EU AIFMs. Data for 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.
Private Equity Funds

**AIF characteristics**

**ASR-AIF-S.161**
AIFMD passport

Note: NAV of private equity funds by manager’s access to AIFMD passport, end of 2019, in %. Authorised EU AIFMs with access to AIFMD passport, sub-threshold managers registered only in national jurisdictions w/o passport. Data for 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

**ASR-AIF-S.163**
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 2019, in % of NAV. Data for 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

**ASR-AIF-S.165**
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 2019, 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 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

**ASR-AIF-S.162**
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 2019, in % of NAV. Non-EU AIFs marketed w/o passport. PE=Private equity fund. Data for 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

**ASR-AIF-S.164**
Investment strategies by NAV

Note: Investment strategies of private equity funds, end of 2019, 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 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

**ASR-AIF-S.166**
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 2019, in % of NAV. PE = Private equity fund. Data for 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.
Liquidity and counterparty risk profile

**ASR-AIF-S.167 Ownership of PE funds**

- **Growth Capital**
- **Mezzanine Capital**
- **Multi-strategy PE**
- **Other PE**
- **Venture Capital**

- **Banks**
- **General government**
- **Household**
- **Insurances**
- **Non-profit**
- **Other CIUs**
- **Unknown**

Note: Ownership of units in private equity funds managed and/or marketed by authorised EU AIFMs. Data for 27 EEA countries.

Sources: AIFMD database, National Competent Authorities, ESMA.

**ASR-AIF-S.168 Top five beneficial owners**

- **Growth capital**
- **Mezzanine capital**
- **Multi-strategy PEQF**
- **Other PEQF**
- **Venture capital**

Note: Investor concentration of private equity funds managed and/or marketed by authorised EU AIFMs. Data for the 5 largest investors.

Sources: AIFMD database, National Competent Authorities, ESMA.

**ASR-AIF-S.169 Growth capital: liquidity profile**

- **Investor**
- **Portfolio**

Note: Portfolio and investor liquidity profiles of funds of growth capital funds managed and/or marketed by authorised EU AIFMs. Data for 27 EEA countries.

Sources: AIFMD database, National Competent Authorities, ESMA.

**ASR-AIF-S.170 Mezzanine capital: liquidity profile**

- **Investor**
- **Portfolio**

Note: Portfolio and investor liquidity profiles of mezzanine capital funds managed and/or marketed by authorised EU AIFMs. Data for 27 EEA countries.

Sources: AIFMD database, National Competent Authorities, ESMA.

**ASR-AIF-S.171 Other PE funds: liquidity profile**

- **Investor**
- **Portfolio**

Note: Portfolio and investor liquidity profiles of private equity funds pursuing strategies classified as Other managed and/or marketed by authorised EU AIFMs. Data for 27 EEA countries.

Sources: AIFMD database, National Competent Authorities, ESMA.

**ASR-AIF-S.172 Venture capital: liquidity profile**

- **Investor**
- **Portfolio**

Note: Portfolio and investor liquidity profiles of venture capital funds managed and/or marketed by authorised EU AIFMs. Data for 27 EEA countries.

Sources: AIFMD database, National Competent Authorities, ESMA.
ASR-AIF-S.173
Multi-strategy PE funds: liquidity profile

Note: Portfolio and investor liquidity profiles of multi-strategy private equity funds: funds managed and/or marketed by authorised EU AIFMs, end of 2019. Portfolio liquidity defined as the percentage of the funds' assets capable of being liquidated within each specified period, investor liquidity defined as the shortest period for which investors can redeem EU and non-EU AIFs by authorised EU AIFMs marketed in EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. d= Days. Data for 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.174
Redemption frequency

Note: Investor redemption frequencies allowed by open-end private equity funds managed and/or marketed by authorised EU AIFMs, end of 2019, 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 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.175
Redemption rights to investors

Note: Redemption rights provided in the ordinary course to investors in private equity funds managed and/or marketed by authorised EU AIFMs, end of 2019, in % of NAV. PE=Private equity fund. Data for 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.176
Liquidity financing

Note: Liquidity financing of private equity funds managed and/or marketed by authorised EU AIFMs, end of 2019. 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 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.177
Securities trading

Note: Estimated market value of securities traded on OTC and regulated exchange markets by private equity funds managed and/or marketed by authorised EU AIFMs, in %. PE=Private equity fund. Data for 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.178
Derivatives trading

Note: Estimated volume of derivatives traded on OTC and regulated exchange markets by private equity funds managed and/or marketed by authorised EU AIFMs, in %. PE=Private equity fund. Data for 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.
**ASR-AIF-S.179**

**Repo trades clearing**

- Other PE
- Venture capital

**ASR-AIF-S.180**

**Derivatives transactions clearing**

- Growth capital
- Mezzanine capital
- Multistrategy
- Other PE
- Venture capital

**ASR-AIF-S.181**

**Adjusted gross leverage**

- Growth capital
- Mezzanine capital
- Multistrategy
- Other PE
- Venture capital

**ASR-AIF-S.182**

**Adjusted gross leverage**

- Growth capital
- Mezzanine capital
- Multistrategy
- Other PE
- Venture capital

**ASR-AIF-S.183**

**Borrowing embedded in financial instruments**

- Growth Capital
- Mezzanine Capital
- Other PE

**ASR-AIF-S.184**

**Unencumbered cash**

- Growth capital
- Mezzanine capital
- Multistrategy
- Other PE
- Venture capital

**Leverage and exposure**

Note: Adjusted gross leverage of private equity funds managed and/or marketed by authorised EU AIFMs, end of 2019, in % of NAV. Adjusted gross leverage computed as total exposure less IRDs with respect to NAV. PE=Private equity fund. Data for 27 EEA countries.

Note: Leverage and unencumbered private equity funds managed and/or marketed by authorised EU AIFMs and sub-threshold managers registered only in national jurisdictions, end of 2019, EUR bn. Leveraged funds identified using the AIF reporting code as specified in Annex 2 of ESMA guidelines on AIFMD reporting obligations. Data for 27 EEA countries.

Note: Borrowing of cash and securities or embedded in derivatives by private equity funds, end of 2019, 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 27 EEA countries.

Note: Unencumbered cash held by private equity funds, end of 2019, 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 27 EEA countries.

Sources: AIFMD database, National Competent Authorities, ESMA.
AR-SIF-S.185
Financial leverage
8%

Unsecured borrowing
Secured via PB
Secured via other
Short position borrowing sec.
Growth capital
Mezzanine capital
Multi-strategy PEQF
Other PEQF
Venture Capital

Note: Cash and securities borrowed by private equity funds, and of 2019, 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.

AR-SIF-S.187
Total exposures

Note: Exposure of private equity funds managed and/or marketed by authorised EU AIFMs, funds quarterly reported, EUR m. and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. PE=Private equity fund. Data for 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

AR-SIF-S.189
Cash and cash equivalents
3%

Certificates of deposit
Commercial papers
Other cash equivalent
Other deposits

Note: Cash and cash equivalents exposure of private equity funds, AIFs reported quarterly. In % of NAV. Government bonds excluded from other cash equivalents. Data for 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

AR-SIF-S.186
Financial leverage composition

Note: Share of cash and securities borrowed by private equity funds, and of 2019, 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.

AR-SIF-S.188
Decomposition of exposures

Note: Share of exposures by private equity funds’ investment strategies, end of 2019, in % of total. AIFs managed and/or marketed by authorised EU AIFMs. PE=Private equity fund. Data for 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

AR-SIF-S.190
Cash and cash equivalents in 4Q19

Note: Share of cash and cash equivalents held by private equity funds in 4Q19. AIFs managed and/or marketed by authorised EU AIFMs. Data for 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.
ASR-AIF-S.191
Equities
100%

ASR-AIF-S.193
Sovereign bonds
0.06%

ASR-AIF-S.195
Collective investment undertakings
10%

Note: Private equity funds' exposure to equities, AIFs reported quarterly. In % of NAV. AIFs managed and/or marketed by authorised EU AIFMs. Data for 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ESMA Annual Statistical Report on EU Alternative Investment Funds 2021

81
ASR-AIF-S.197
Structured products in 4Q19

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 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.199
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 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.198
Structured products in 4Q19

Note: Share of structured and securitised products held by private equity funds in 4Q19. AIFs managed and/or marketed by authorised EU AIFMs. Data for 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.200
Corporate bonds in 4Q19

Note: Share of corporate bonds held by private equity funds in 4Q19. AIFs managed and/or marketed by authorised EU AIFMs, respectively, w/ and w/o passport. Data for 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.
‘Other AIFs’

**AIF characteristics**

**ASR-AIF-S.201**
AIFMD passport

<table>
<thead>
<tr>
<th>EU passport</th>
<th>Non-EU w/o passport</th>
<th>Non-EU not marketed in EU</th>
</tr>
</thead>
<tbody>
<tr>
<td>1%</td>
<td>6%</td>
<td>3%</td>
</tr>
</tbody>
</table>

Note: NAV of AIFs classified as Other by manager’s access to AIFMD passport, end of 2019, 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 27 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

**ASR-AIF-S.203**
Market concentration

Note: Market concentration of the largest 10 to 1,000 AIFs classified as Other managed and/or marketed by authorised EU and sub-threshold managers registered only in national jurisdictions, end of 2019, in % of NAV. Data for 27 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

**ASR-AIF-S.202**
EU and non-EU AIFs

![Bar chart showing EU and non-EU AIFs distribution](chart)

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 2019, in % of NAV. Non-EU AIFs marketed w/o passport. Data for 27 EEA countries.

**ASR-AIF-S.204**
Investment strategy by NAV

![Pie chart showing investment strategies](chart)

Note: Investment strategies of AIFs classified as Other, end of 2019, in % of NAV. AIFs managed and/or marketed by full scope EU AIFMs and sub-threshold managers registered only in national jurisdictions. Data for 27 EEA countries. Sources: National Competent Authorities, ESMA.

**ASR-AIF-S.205**
Investment regions by NAV

![Pie chart showing investment regions](chart)

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 2019, 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 27 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

**ASR-AIF-S.206**
Investor type

![Bar chart showing investor type](chart)

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 2019, in % of NAV. Data for 27 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.
### Liquidity and counterparty risk profile

**ASR-AIF-S.207**  
Ownership of ‘other AIFs’

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Equity</th>
<th>Fixed income</th>
<th>Infrastructure</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>20%</td>
<td>30%</td>
<td>10%</td>
<td>2%</td>
<td>3%</td>
</tr>
</tbody>
</table>

Note: Ownership of units in AIFs classified as Other AIFs managed and/or marketed by authorised EU AIFMs, end of 2019, in % of NAV. CIUs=Collective investment undertakings. Data for 27 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

**ASR-AIF-S.208**  
Top five beneficial owners

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Equity</th>
<th>Fixed income</th>
<th>Infrastructure</th>
<th>Other fund</th>
</tr>
</thead>
<tbody>
<tr>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Note: Investor concentration of AIFs classified as Other managed and/or marketed by authorised EU AIFMs, end of 2019, in % of NAV. Investor concentration computed as share of AIF equity beneficially owned by the 5 largest investors. Data for 27 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

**ASR-AIF-S.209**  
Commodity: liquidity profile

<table>
<thead>
<tr>
<th>1 day or less</th>
<th>2-7 d</th>
<th>8-30 d</th>
<th>31-90 d</th>
<th>91-180 d</th>
<th>181-365 d</th>
<th>&gt; 365 d</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investor</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Portfolio</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Portfolio and investor liquidity profiles of funds of commodity funds managed and/or marketed by authorised EU AIFMs, end of 2019. Portfolio liquidity defined as the percentage of the funds’ assets capable of being liquidated within each specified period, investor liquidity defined as the shortest period for which investors can redeem. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. d= Days. Data for 27 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

**ASR-AIF-S.210**  
Equity: liquidity profile

<table>
<thead>
<tr>
<th>1 day or less</th>
<th>2-7 d</th>
<th>8-30 d</th>
<th>31-90 d</th>
<th>91-180 d</th>
<th>181-365 d</th>
<th>&gt; 365 d</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investor</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Portfolio</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Portfolio and investor liquidity profiles of equity funds managed and/or marketed by authorised EU AIFMs, end of 2019. Portfolio liquidity defined as the percentage of the funds’ assets capable of being liquidated within each specified period, investor liquidity defined as the shortest period for which investors can redeem. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. d= Days. Data for 27 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

**ASR-AIF-S.211**  
Fixed income: liquidity profile

<table>
<thead>
<tr>
<th>1 day or less</th>
<th>2-7 d</th>
<th>8-30 d</th>
<th>31-90 d</th>
<th>91-180 d</th>
<th>181-365 d</th>
<th>&gt; 365 d</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investor</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Portfolio</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Portfolio and investor liquidity profiles of fixed income funds managed and/or marketed by authorised EU AIFMs, end of 2019. Portfolio liquidity defined as the percentage of the funds’ assets capable of being liquidated within each specified period, investor liquidity defined as the shortest period for which investors can redeem. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. d= Days. Data for 27 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.

**ASR-AIF-S.212**  
Infrastructure: liquidity profile

<table>
<thead>
<tr>
<th>1 day or less</th>
<th>2-7 d</th>
<th>8-30 d</th>
<th>31-90 d</th>
<th>91-180 d</th>
<th>181-365 d</th>
<th>&gt; 365 d</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investor</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Portfolio</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Portfolio and investor liquidity profiles of infrastructure funds managed and/or marketed by authorised EU AIFMs, end of 2019. Portfolio liquidity defined as the percentage of the funds’ assets capable of being liquidated within each specified period, investor liquidity defined as the shortest period for which investors can redeem. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. d= Days. Data for 27 EEA countries. Sources: AIFMD database, National Competent Authorities, ESMA.
ESMA Annual Statistical Report on EU Alternative Investment Funds 2021

### ASR-AIF-S.213
**Other: liquidity profile**

- 100% 75% 50% 25% 0%

- Portfolio: 8% 16% 24% 32% 40% 48% 56% 64% 72% 80% 88% 96% 100%

- Investor: 4% 12% 20% 28% 36% 44% 52% 60% 68% 76% 84% 92% 100%

- 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 2019. Portfolio liquidity defined as the percentage of the fund’s assets capable of being liquidated within each specified period, investor liquidity defined as the shortest period for which investors can redeem EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. d= Days. Data for 27 EEA countries.

Sources: AIFMD database, National Competent Authorities, ESMA.

### ASR-AIF-S.215
**Redemption rights to investors**

- 100% 75% 50% 25% 0%

- Commodity: 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0%

- Equity: 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0%

- Fixed income: 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0%

- Infrastructure: 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0%

- Other: 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0%

- Open-end

- Closed-end

- 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 2019, in % of NAV. Data for 27 EEA countries.

Sources: AIFMD database, National Competent Authorities, ESMA.

### ASR-AIF-S.217
**Securities trading**

- Commodity

- Equity

- Fixed income

- Infrastructure

- Other

- 0% 20% 40% 60% 80% 100%

- Regulated market

- OTC

- 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 27 EEA countries.

Sources: AIFMD database, National Competent Authorities, ESMA.

### ASR-AIF-S.214
**Redemption frequencies**

- 100% 75% 50% 25% 0%

- Commodity: 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0%

- Equity: 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0%

- Fixed income: 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0%

- Infrastructure: 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0%

- Other: 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0%

- Daily

- Weekly

- Monthly

- Quarterly

- Quarterly to yearly

- Note: Investor redemption frequencies allowed by open-end AIFs classified as Other managed and/or marketed by authorised EU AIFMs, end of 2019, in % of NAV. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. Data for 27 EEA countries.

Sources: AIFMD database, National Competent Authorities, ESMA.

### ASR-AIF-S.216
**Liquidity financing**

- 100% 75% 50% 25% 0%

- Commodity: 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0%

- Equity: 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0%

- Fixed income: 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0%

- Infrastructure: 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0%

- Other: 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0%

- 1 day or less

- 2-7 days

- 8-30 days

- 31-90 days

- 91-180 days

- > 365 days

- Note: Liquidity financing of AIFs classified as Other managed and/or marketed by authorised EU AIFMs, end of 2019. 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 27 EEA countries.

Sources: AIFMD database, National Competent Authorities, ESMA.

### ASR-AIF-S.218
**Derivatives trading**

- Commodity

- Equity

- Fixed income

- Infrastructure

- Other

- 0% 20% 40% 60% 80% 100%

- Regulated market

- OTC

- 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 27 EEA countries.

Sources: AIFMD database, National Competent Authorities, ESMA.
### Leverage and exposure

**ASR-AIF-S.219**

**Repo trades clearing**

<table>
<thead>
<tr>
<th>Category</th>
<th>CCP</th>
<th>Tri-party</th>
<th>Bilateral</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commodity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fixed income</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other funds</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Estimated market value of repo trades cleared by AIFs classified as Other managed and/or marketed by authorised EU AIFMs, in %. Data for 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

**ASR-AIF-S.220**

**Derivative transactions clearing**

<table>
<thead>
<tr>
<th>Category</th>
<th>CCP</th>
<th>Bilateral</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commodity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fixed income</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Infrastructure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other funds</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

**ASR-AIF-S.221**

**Adjusted gross leverage**

<table>
<thead>
<tr>
<th>Category</th>
<th>Median adjusted gross leverage</th>
<th>AuM/NAV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commodity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fixed income</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Infrastructure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other funds</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Adjusted gross leverage of funds managed and/or marketed by authorised EU AIFMs, end of 2019, in % of NAV. Adjusted gross leverage computed as total exposure less IRDs with respect to NAV. FuFi: Funds of funds, PE=Private equity fund, HF=Hedge fund. Data for 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

**ASR-AIF-S.222**

**Leveraged and unleveraged AIFs**

<table>
<thead>
<tr>
<th>Category</th>
<th>Leverage AIFs</th>
<th>Unleverage AIFs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commodity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fixed income</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Infrastructure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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 2019. Leveraged funds identified using the AIF reporting code as specified in Annex 2 of ESMA guidelines on AIFMD reporting obligations Data for 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

**ASR-AIF-S.223**

**Borrowing embedded in financial instruments**

<table>
<thead>
<tr>
<th>Category</th>
<th>Cash and securities</th>
<th>OTC</th>
<th>Exchange-traded</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commodity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fixed income</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Infrastructure</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Borrowing of cash and securities or embedded in derivatives by AIFs classified as Other, end of 2019, in % of total exposure. AIFs managed and/or marketed by authorised EU AIFMs. OTC and exchange-traded derivatives net of margins. Data for 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

**ASR-AIF-S.224**

**Unencumbered cash**

<table>
<thead>
<tr>
<th>Category</th>
<th>Unencumbered cash</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commodity</td>
<td></td>
</tr>
<tr>
<td>Equity</td>
<td></td>
</tr>
<tr>
<td>Fixed income</td>
<td></td>
</tr>
<tr>
<td>Infrastructure</td>
<td></td>
</tr>
<tr>
<td>Other funds</td>
<td></td>
</tr>
</tbody>
</table>

Note: Unencumbered cash held by AIFs classified as Other, end of 2019, in % of NAV. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. Data for 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.
ASR-AIF-S.225
Financial leverage
15%

ASR-AIF-S.226
Financial leverage composition
100%

ASR-AIF-S.227
Total exposures
10

ASR-AIF-S.228
Decomposition of exposures
100%

ASR-AIF-S.229
Cash and cash equivalents
9%

Note: Cash and securities borrowed by AIFs classified as Other, end of 2019, 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.

Note: Exposures of AIFs classified as Other managed and/or marketed by authorised EU AIFMs, funds quarterly reported, EUR in. EU and non-EU AIFs by authorised EU AIFMs marketed, respectively, w/ and w/o passport. Data for 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

Note: Cash and cash equivalents exposure funds classified as Other, AIFs reported quarterly, in % of NAV. Government bonds excluded from other cash equivalents. Data for 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

Note: Share of cash and cash equivalents held by funds classified as Other in 4Q19. AIFs managed and/or marketed by authorised EU AIFMs. Data for 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.
ASR-AIF-S.231
Equities
35%

28%
21%
14%
7%
0%
1Q19 2Q19 3Q19 4Q19

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 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

ASR-AIF-S.233
Sovereign bonds
30%

24%
18%
12%
6%
0%
1Q19 2Q19 3Q19 4Q19

Note: Sovereign bonds exposure of 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 27 EEA countries.

ASR-AIF-S.235
Collective investment undertakings
20%

15%
10%
5%
0%
1Q19 2Q19 3Q19 4Q19

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 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.
Structured products

Note: Structured and securitised products exposure of funds classified as Other, AIFs managed and/or marketed by authorised EU AIFMs. Data for 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.

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 27 EEA countries.
Sources: AIFMD database, National Competent Authorities, ESMA.
Non-EU AIFs (NPPR)

AIF characteristics

**ASR-AIF-S.241**
EU jurisdictions

2,500

**ASR-AIF-S.242**
Non-EU AIFs’ domicile

4,000

**ASR-AIF-S.243**
AIF distribution by size

100%

**ASR-AIF-S.244**
Investment strategy by NAV

Note: Share of AIFs marketed by non-EU AIFMs w/o passporting rights (art. 42 of AIFMD) by size, end of 2019. In %, AIFs identified via international standard identifiers (LEIs, ISIN, Cusip).
Sources: AIFMD database, National Competent Authorities, ESMA.

**ASR-AIF-S.245**
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 2019, in % of NAV. AIFs identified via international standard identifiers (LEIs, ISIN, Cusip).
Sources: AIFMD database, National Competent Authorities, ESMA.

**ASR-AIF-S.246**
Investor type

Note: Clients of AIFs marketed by non-EU AIFMs w/o passporting rights (art. 42 of AIFMD), end of 2019, in % of NAV. AIFs identified via international standard identifiers (LEIs, ISIN, Cusip). FoF=Fund of Funds.
Sources: AIFMD database, National Competent Authorities, ESMA.
### Liquidity and counterparty risk profile

#### ASR-AIF-S.247
**Ownership of ‘other AIFs’**

<table>
<thead>
<tr>
<th>Type</th>
<th>0%</th>
<th>20%</th>
<th>40%</th>
<th>60%</th>
<th>80%</th>
<th>100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Banks</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Households</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-profit</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oth. CIU</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pension funds</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:** Ownership of units in AIFs marketed by non-EU AIFMs w/o passporting rights (art. 42 of AIFMD), end of 2019, 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.248
**Top five beneficial owners**

- **FoF**
- **Hedge fund**
- **Private equity**
- **Real estate**
- **Other AIF**

#### ASR-AIF-S.249
**Non-EU AIFs: Liquidity profile**

<table>
<thead>
<tr>
<th>Days</th>
<th>1 d or less</th>
<th>2-7 d</th>
<th>8-30 d</th>
<th>31-90 d</th>
<th>91-180 d</th>
<th>181-365 d</th>
<th>&gt; 365 d</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investor</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Portfolio</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:** Portfolio and investors liquidity profiles of AIFs marketed by non-EU AIFMs w/o passporting rights (art. 42 of AIFMD), end of 2019, AIFs identified via international standard identifiers (LEIs, ISIN, Cusip). Portfolio liquidity defined as the percentage of the funds' assets capable of being liquidated within each specified period, investor liquidity defined as the shortest period for which investors can redeem. d= Days. Sources: AIFMD database, National Competent Authorities, ESMA.

#### ASR-AIF-S.250
**Non-EU FoFs: Liquidity profile**

<table>
<thead>
<tr>
<th>Days</th>
<th>1 d or less</th>
<th>2-7 d</th>
<th>8-30 d</th>
<th>31-90 d</th>
<th>91-180 d</th>
<th>181-365 d</th>
<th>&gt; 365 d</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investor</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Portfolio</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**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 2019, AIFs identified via international standard identifiers (LEIs, ISIN, Cusip). Portfolio liquidity defined as the percentage of the funds' assets capable of being liquidated within each specified period, investor liquidity defined as the shortest period for which investors can redeem. d= Days. Sources: AIFMD database, National Competent Authorities, ESMA.

#### ASR-AIF-S.251
**Non-EU HFs: Liquidity profile**

<table>
<thead>
<tr>
<th>Days</th>
<th>1 day or less</th>
<th>2-7 d</th>
<th>8-30 d</th>
<th>31-90 d</th>
<th>91-180 d</th>
<th>181-365 d</th>
<th>&gt; 365 d</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investor</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Portfolio</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:** Portfolio and investors liquidity profiles of hedge funds marketed by non-EU AIFMs w/o passporting rights (art. 42 of AIFMD), end of 2019, AIFs identified via international standard identifiers (LEIs, ISIN, Cusip). Portfolio liquidity defined as the percentage of the funds' assets capable of being liquidated within each specified period, investor liquidity defined as the shortest period for which investors can redeem. d= Days. Sources: AIFMD database, National Competent Authorities, ESMA.

#### ASR-AIF-S.252
**Non-EU PE funds: Liquidity profile**

<table>
<thead>
<tr>
<th>Days</th>
<th>1 d or less</th>
<th>2-7 d</th>
<th>8-30 d</th>
<th>31-90 d</th>
<th>91-180 d</th>
<th>181-365 d</th>
<th>&gt; 365 d</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investor</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Portfolio</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**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 2019, AIFs identified via international standard identifiers (LEIs, ISIN, Cusip). Portfolio liquidity defined as the percentage of the funds' assets capable of being liquidated within each specified period, investor liquidity defined as the shortest period for which investors can redeem. d= Days. Sources: AIFMD database, National Competent Authorities, ESMA.
Leverage and exposure

**ASR-AIF-S.257**
Adjusted gross leverage

<table>
<thead>
<tr>
<th></th>
<th>0%</th>
<th>20%</th>
<th>40%</th>
<th>60%</th>
<th>80%</th>
</tr>
</thead>
<tbody>
<tr>
<td>FoF</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hedge fund</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private equity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Real estate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other AIF</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Adjusted gross leverage of AIFs marketed by non-EU AIFMs w/o passporting rights (art. 42 of AIFMD), end of 2019, in % of NAV. Adjusted gross leverage does not include IRDs. FoF= Fund of Funds, None=No Predominant type.

**ASR-AIF-S.258**
Financial leverage

<table>
<thead>
<tr>
<th></th>
<th>0%</th>
<th>20%</th>
<th>40%</th>
<th>60%</th>
<th>80%</th>
</tr>
</thead>
<tbody>
<tr>
<td>FoF</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hedge fund</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private equity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Real estate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other AIF</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Cash and securities borrowed, end of 2019, in % of NAV, marketed by non-EU AIFMs w/o passporting rights (art. 42 of AIFMD), end of 2019, in EUR bn. AIFs identified via international standard identifiers (LEIs, ISIN, Cusip). FoF=Fund of Funds, None=No predominant type.
Unencumbered cash

Note: Unencumbered cash, end of 2019, 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.
Sources: AIFMD database, National Competent Authorities, ESMA.

Decomposition of exposures

Note: Share of gross exposures by AIF type, end of 2019, in % of total. AIFs managed and/or marketed by authorised EU AIFMs. FoF=Fund of funds, None=No predominant type.
Sources: AIFMD database, National Competent Authorities, ESMA.
Annex
EU AIFMD data reporting

Scope of ESMA AIF reporting

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. Data for products marketed by non-EU AIFMs under the ART 42 AIFMD (NPPR) are described in the specific section ‘Non-EU AIFs’ (see page 37). The EU data include the UK since this jurisdiction was part of the EU in 2019.

The data are based on reports transmitted to ESMA by 27 NCAs. Around 37,600 reports of EU AIFs were transmitted to ESMA. Of those reports, we excluded around 2,550 nil reports (empty reports sent by new AIFs) and 2,460 feeder funds to avoid double counting. The final sample is composed of around 32,590 AIFs.\(^{19}\)

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.\(^{20}\) Looking forward, ongoing cooperation with NCAs should allow ESMA to improve the set of risk indicators in future editions.

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. Moreover, the article “AIFMD data quality improvement – an overview” featured in this report describes the ongoing work of National Competent Authorities and ESMA on AIFMD data quality.

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 based on a mark-to-market valuation.

- **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).

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.

---

\(^{19}\) A description of the defined reference sample of AIFs used in the analysis is available in the Annex.

\(^{20}\) The data inventory on pp. 86-87 summarises the coverage of each indicator used in this report.
ESMA Guidelines\(^{21}\) 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 6 October 2020, NCAs have gathered and made available to ESMA 37,590 reports for the end of 2019 of AIFs managed and/or marketed by authorised EU and sub-threshold AIFMs. Of the initial data intake, around 2,500 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.111).

The final reference sample is constituted by 32,585 AIFs. Overall, 80\% of them are managed by full-scope AIFMs benefiting from the EU passport. The final sample includes 448 AIFs without a predominant type (i.e., reported as ‘None’).

Feeder funds are excluded from analysis to avoid any double counting of assets (ASR-AIF.112).

### 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.

- Identification of feeder and master AIFs

- Identification of each AIFM jurisdiction and managed and/or marketed AIFs domicile

### ASR-AIF.112

<table>
<thead>
<tr>
<th>Feeder AIFs</th>
<th>EU</th>
<th>Non-EU</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIFs filing</td>
<td>1,157</td>
<td>477</td>
<td>1,634</td>
</tr>
<tr>
<td>with EU master</td>
<td>645</td>
<td>192</td>
<td>837</td>
</tr>
<tr>
<td>without EU master</td>
<td>512</td>
<td>285</td>
<td>797</td>
</tr>
<tr>
<td>Total</td>
<td>1,802</td>
<td>669</td>
<td>2,471</td>
</tr>
</tbody>
</table>

**Prevalence of EU master-feeder AIFs**

<table>
<thead>
<tr>
<th>Feeder AIFs</th>
<th>EU</th>
<th>Non-EU</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>NAV (EUR bn)</td>
<td>160.5</td>
<td>173.2</td>
<td>333.7</td>
</tr>
<tr>
<td>with EU master</td>
<td>76.5</td>
<td>35.2</td>
<td>111.7</td>
</tr>
<tr>
<td>without EU master</td>
<td>83.7</td>
<td>138.5</td>
<td>222.2</td>
</tr>
<tr>
<td>Total</td>
<td>237</td>
<td>208.4</td>
<td>445.4</td>
</tr>
</tbody>
</table>

Note: Number and NAV of feeder AIFs by domicile, end of 2019. Source: AIFMD database, National Competent Authorities, ESMA.

---

\(^{21}\) Link to the Guidelines on reporting obligations under Articles 3(3)(d) and 24(1), (2) and (4) of the AIFMD: https://www.esma.europa.eu/sites/default/files/library/2015/11/2014-869.pdf
## Data inventory

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Description and reporting guidelines</th>
<th>Reporting content</th>
<th>Reporting items</th>
<th>Technical guidance</th>
<th>Data availability</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Investment regions</strong></td>
<td>Geographical breakdown of the investments held by the AIF by percentage of the total NAV of the AIF. See: ESMA guidelines, point 83; Q&amp;As Section III, 4 and 73.</td>
<td>3(3)(d) and 24(1)</td>
<td>78-85</td>
<td>Mandatory (all AIFs)</td>
<td>Total 100%</td>
</tr>
<tr>
<td><strong>Top five beneficial owners</strong></td>
<td>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.</td>
<td>3(3)(d) and 24(1)</td>
<td>118</td>
<td>Mandatory (all AIFs)</td>
<td>Total 100%</td>
</tr>
<tr>
<td><strong>Clients</strong></td>
<td>Investor concentration for retail and professional investors. See: ESMA guidelines, point 101; Q&amp;As Section III, 80.</td>
<td>3(3)(d) and 24(1)</td>
<td>119-120</td>
<td>Mandatory (all AIFs)</td>
<td>Total 98%</td>
</tr>
<tr>
<td><strong>Ownership</strong></td>
<td>Ownership of units in the AIF beneficially owned by investor type. See: ESMA guidelines, point 123 and Annex II.</td>
<td>24(2)</td>
<td>208-209</td>
<td>Mandatory (all AIFs)</td>
<td>Total 98%</td>
</tr>
<tr>
<td><strong>Redemption frequencies</strong></td>
<td>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.</td>
<td>24(2)</td>
<td>194</td>
<td>Optional (AIF's must report if information is available)</td>
<td>Total 96%</td>
</tr>
<tr>
<td><strong>Liquidity profile – Portfolio</strong></td>
<td>Portfolio liquidity profile. See: ESMA guidelines, points 118-120; Q&amp;As Section III, 10, 11, 42 and 78.</td>
<td>24(2)</td>
<td>178-184, 186-192</td>
<td>Mandatory (all AIF’s reporting under Article 24(2))</td>
<td>Total 90%</td>
</tr>
<tr>
<td><strong>Liquidity profile – Investor</strong></td>
<td>Investor liquidity profiles. See: ESMA guidelines, points 118-120; Q&amp;As Section III, 10, 11, 42 and 78.</td>
<td>24(2)</td>
<td>178-184, 186-192</td>
<td>Mandatory (all AIF’s reporting under Article 24(2))</td>
<td>Total 86%</td>
</tr>
<tr>
<td><strong>Liquidity financing</strong></td>
<td>Total financing amount by the longest period during which the creditor is contractually committed to providing such financing. See: Q&amp;As Section III, 2, 67</td>
<td>24(2)</td>
<td>211-217</td>
<td>Optional (AIF's must report if information is available)</td>
<td>Total 27%</td>
</tr>
<tr>
<td><strong>Unencumbered cash</strong></td>
<td>Value of unencumbered cash.</td>
<td>24(2)</td>
<td>185</td>
<td>Optional (AIF's must report if information is available)</td>
<td>Total 89%</td>
</tr>
<tr>
<td><strong>Securities trading</strong></td>
<td>Estimated % in terms of market value of securities traded on regulated exchange and OTC markets. See: Q&amp;As Section III, 8 and 27.</td>
<td>24(2)</td>
<td>148-149</td>
<td>Optional (AIF's must report if information is available)</td>
<td>Total EU 52%</td>
</tr>
</tbody>
</table>
### 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.

<table>
<thead>
<tr>
<th></th>
<th>24(2)</th>
<th>150-151</th>
<th>Optional (AIFs must report if information is available)</th>
<th>Total EU</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>FoF</td>
<td>30%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>HF</td>
<td>22%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>PE</td>
<td>15%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>RE</td>
<td>9%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>OTH</td>
<td>42%</td>
</tr>
</tbody>
</table>

### 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.

<table>
<thead>
<tr>
<th></th>
<th>24(2)</th>
<th>152-153</th>
<th>Optional (AIFs must report if information is available)</th>
<th>Total EU</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>FoF</td>
<td>22%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>HF</td>
<td>17%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>PE</td>
<td>10%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>RE</td>
<td>3%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>OTH</td>
<td>50%</td>
</tr>
</tbody>
</table>

### 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.

<table>
<thead>
<tr>
<th></th>
<th>24(2)</th>
<th>154-156</th>
<th>Optional (AIFs must report if information is available)</th>
<th>Total EU</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>FoF</td>
<td>2%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>HF</td>
<td>2%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>PE</td>
<td>&lt;1%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>RE</td>
<td>2%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>OTH</td>
<td>8%</td>
</tr>
</tbody>
</table>

### 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.

<table>
<thead>
<tr>
<th></th>
<th>24(2) and 24(4)</th>
<th>283-286, 289</th>
<th>Optional (AIFs must report if information is available)</th>
<th>Total EU</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>FoF</td>
<td>43%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>HF</td>
<td>46%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>PE</td>
<td>54%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>RE</td>
<td>35%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>OTH</td>
<td>48%</td>
</tr>
</tbody>
</table>

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.
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIF</td>
<td>Alternative Investment Fund</td>
</tr>
<tr>
<td>AIFM</td>
<td>Alternative Investment Fund Manager</td>
</tr>
<tr>
<td>AIFMD</td>
<td>Alternative Investment Fund Manager Directive</td>
</tr>
<tr>
<td>AuM</td>
<td>Assets under Management</td>
</tr>
<tr>
<td>CIU</td>
<td>Collective Investment Undertakings</td>
</tr>
<tr>
<td>CLO</td>
<td>Collateralised Loan Obligation</td>
</tr>
<tr>
<td>CRE</td>
<td>Commercial Real Estate</td>
</tr>
<tr>
<td>CTA</td>
<td>Commodity Trading Advisor</td>
</tr>
<tr>
<td>ECB</td>
<td>European Central Bank</td>
</tr>
<tr>
<td>EEA</td>
<td>European Economic Area</td>
</tr>
<tr>
<td>EFAMA</td>
<td>European Fund and Asset Management Association</td>
</tr>
<tr>
<td>ESCB</td>
<td>European System of Central Banks</td>
</tr>
<tr>
<td>ESMA</td>
<td>European Securities and Markets Authority</td>
</tr>
<tr>
<td>ETF</td>
<td>Exchange-traded fund</td>
</tr>
<tr>
<td>FoF</td>
<td>Fund of Funds</td>
</tr>
<tr>
<td>HF</td>
<td>Hedge Funds</td>
</tr>
<tr>
<td>IOSCO</td>
<td>International Organization of Securities Commissions</td>
</tr>
<tr>
<td>IRD</td>
<td>Interest rate derivative</td>
</tr>
<tr>
<td>ISIN</td>
<td>International Securities Identification Number</td>
</tr>
<tr>
<td>LEI</td>
<td>Legal Entity Identifier</td>
</tr>
<tr>
<td>LMT</td>
<td>Liquidity management tools</td>
</tr>
<tr>
<td>MMF</td>
<td>Money Market Fund</td>
</tr>
<tr>
<td>NAV</td>
<td>Net asset value</td>
</tr>
<tr>
<td>NCA</td>
<td>National Competent Authority</td>
</tr>
<tr>
<td>NPPR</td>
<td>National private placement regime</td>
</tr>
<tr>
<td>PE</td>
<td>Private Equity</td>
</tr>
<tr>
<td>PA</td>
<td>Physical Assets</td>
</tr>
<tr>
<td>pp</td>
<td>percentage point</td>
</tr>
<tr>
<td>QIF</td>
<td>Qualifying investor fund</td>
</tr>
<tr>
<td>RE</td>
<td>Real Estate</td>
</tr>
<tr>
<td>S</td>
<td>Securities</td>
</tr>
<tr>
<td>UCITS</td>
<td>Undertakings for the Collective Investment in Transferable Securities</td>
</tr>
</tbody>
</table>