



Commission de Surveillance
du Secteur Financier

UCITS Risk Reporting Dashboard

31 DECEMBER 2022

UCITS Risk Reporting Dashboard

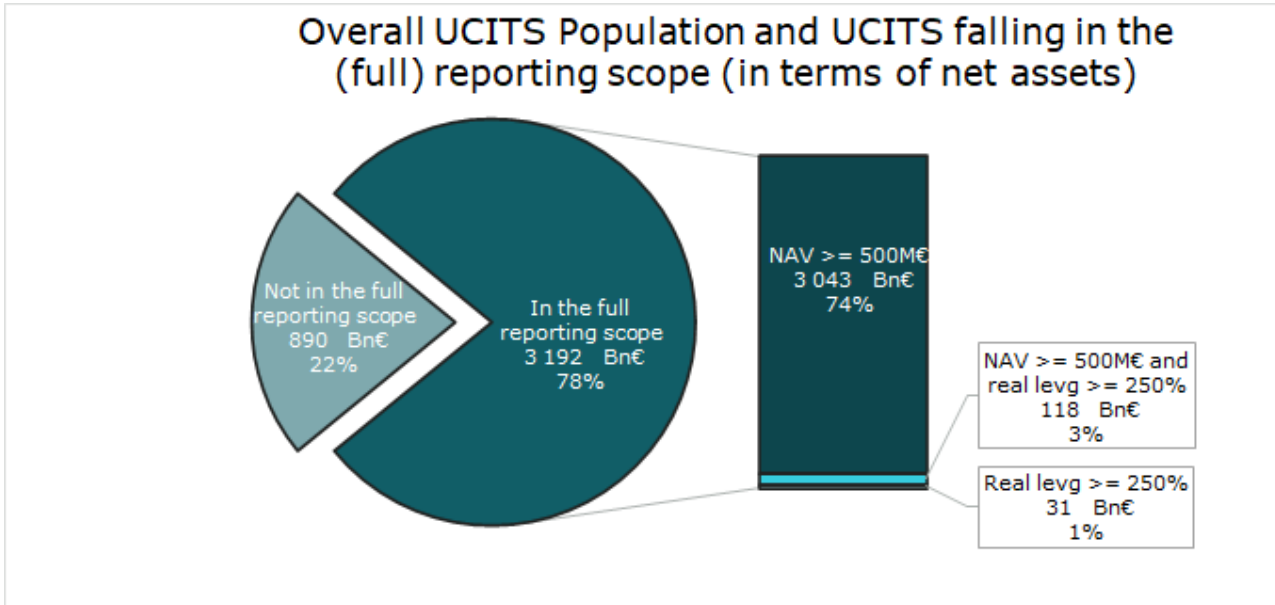
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UCITS Risk Reporting Dashboard

Introduction

1.1 Scope of the UCITS Risk Reporting



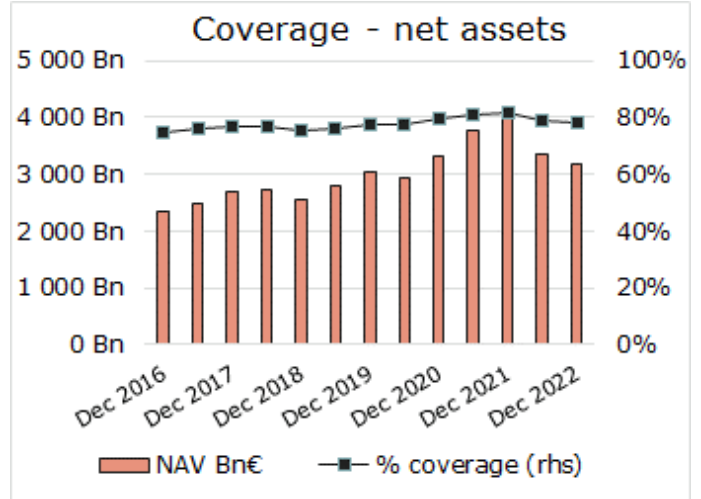
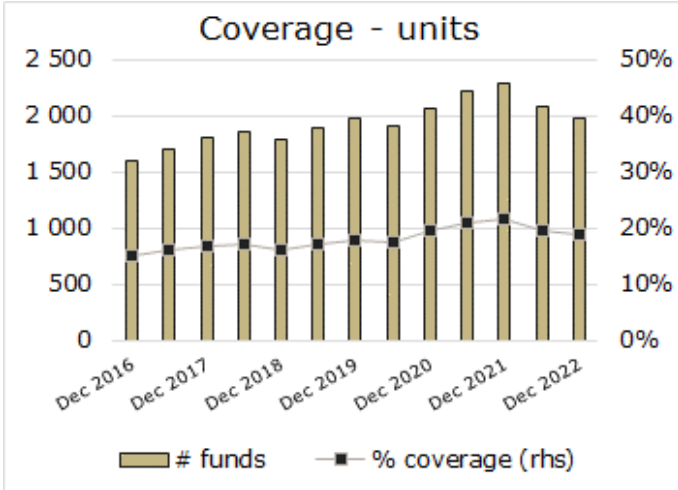
In the context of the UCITS Risk Reporting, all Luxembourg domiciled UCITS¹ authorised by the CSSF are required to provide some general information/basic functional data including the global exposure calculation method and the realised level of leverage, as well as, for UCITS under a VaR approach, the expected level of leverage. In addition, detailed information on risks is requested for UCITS falling in the "full reporting scope", i.e. UCITS fulfilling at least one of the following two criteria:

- net assets above EUR 500 million;
- use of VaR for the calculation of global exposure covered by Article 42(3) of the 2010 Law with an average gross leverage during the semester greater than 250%².

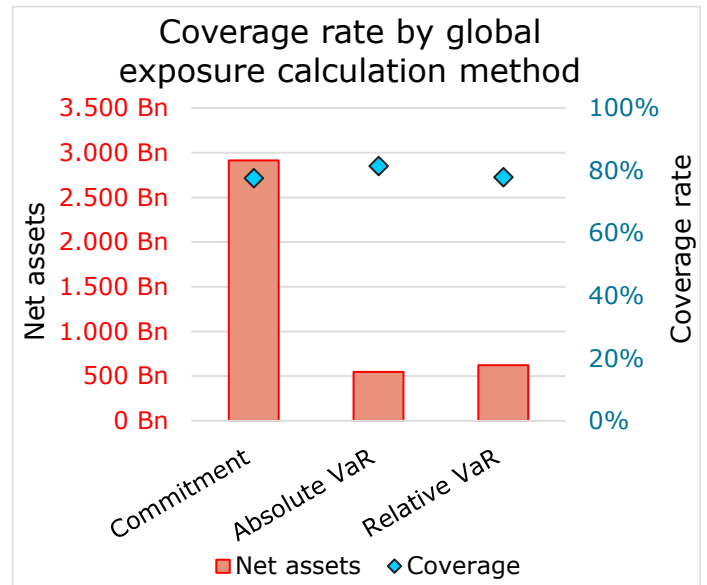
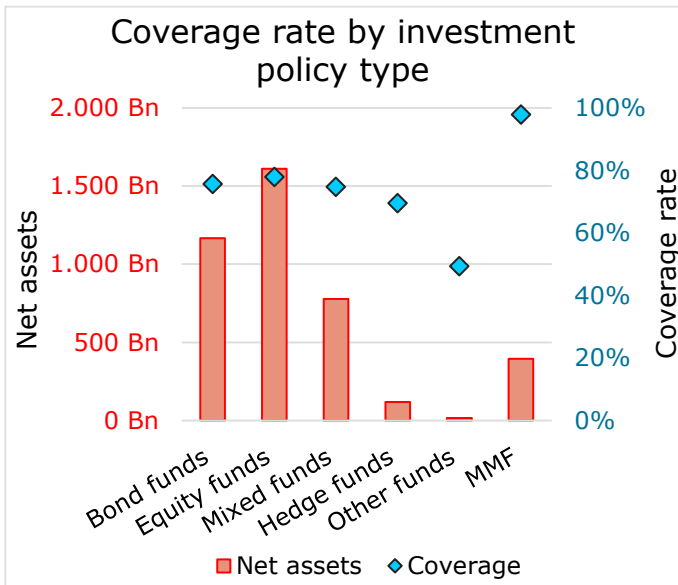
¹ In this report, the terms "UCITS" and "fund" will be used both for an entity in the case of a non-umbrella UCITS and for each sub-fund in the case of an umbrella UCITS.

² In accordance with the rules set out in the applicable regulation, the gross leverage is calculated as the notional sum of the derivatives used.

1.2 Evolution of the full reporting scope and the coverage rate



1.3 Coverage of the full reporting scope by investment policy type and global exposure calculation method



Note: Fund classifications are based on the BCL investment policy types. The category "Hedge funds" includes funds that implement alternative strategies while respecting the UCITS regulatory framework (often referred to as "liquid alternative funds"). The category "Other funds" is much smaller than the others and concentrated on a limited number of funds (e.g. as of 31 December 2022, the 2 largest funds account for ~50% of its net assets), sometimes resulting in significant change in risk indicators over time.

Executive summary

Key indicators

	Bond funds	Equity funds	Mixed funds	Hedge funds	Other funds	MMF	Total
Size							
Number of UCITS	3 071	4 085	2 725	461	126	97	10 565
(Absolute number of units)							
<i>of which in the full reporting scope</i>	662	756	363	129	13	57	1 980
Coverage (% of all UCITS in scope)	22%	19%	13%	28%	10%	59%	19%
Net asset value	1 167	1 610	777	119	15	394	4 082
(EUR bn per units)							
<i>of which in the full reporting scope</i>	883	1 254	580	83	8	385	3 192
Coverage (NAV % of all UCITS in scope)	76%	78%	75%	69%	49%	98%	78%
Average UCITS size	380	394	285	258	122	4 061	386
(EUR mn per units)							
<i>Average UCITS in the full reporting scope size</i>	1 333	1 658	1 598	641	582	6 762	1 612
Proportion of total market	29%	39%	19%	3%	0%	10%	100%
(NAV % of all UCITS)							
<i>UCITS in the full reporting scope share in NAV</i>	22%	31%	14%	2%	0%	9%	78%
Leverage							
Average Realised leverage							
(overall UCITS population)	75%	15%	75%	315%	128%	8%	51%
Variation in p.p. since last year	-3%	2%	4%	32%	25%	6%	2%
Liquidity							
% of the portfolio liquid within 1W							
(normal conditions)	87%	87%	90%	93%	99%	86%	87%
Variation in p.p. since last year	2%	1%	1%	-3%	2%	-3%	1%

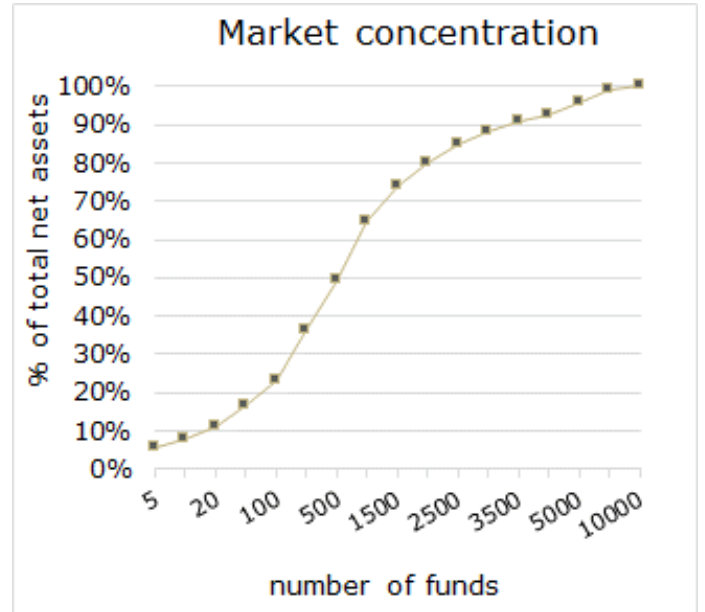
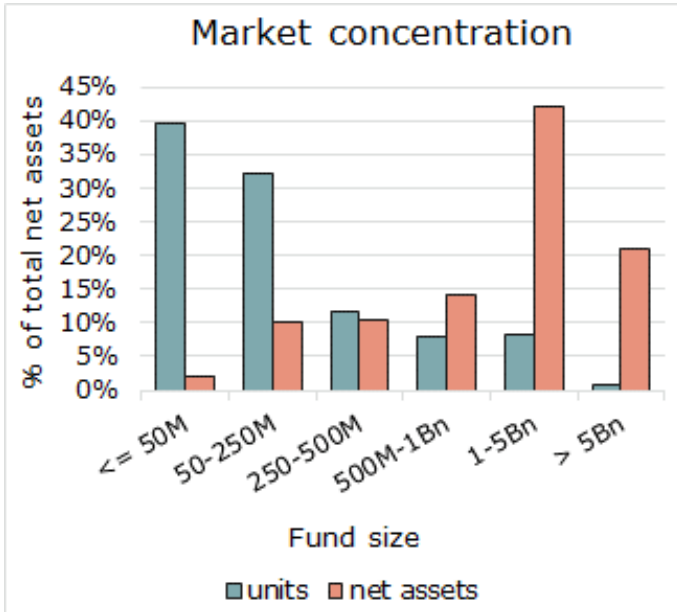
- The **overall UCITS population**, as at 31 December 2022, is made of **10 565 funds** (incl. dormant / unlaunched funds) totalling net assets of **EUR 4 082bn**, mainly Equity and Bond funds (resp. 39% and 29% in terms of net assets).
- The **Full reporting scope** is made of **1 980 funds** totalling net assets of **EUR 3 192bn**. It fairly covers the overall UCITS population. The predominant criterion for falling in the full reporting scope remains size (i.e. NAV above EUR 500M). The coverage rate decreased as a result of a general decrease in net assets, also affecting the composition of the Full reporting scope: the proportion of Equity and Bond funds decreased while it increased for MMFs.
- The **main events** affecting financial markets during the year were (i) the rising inflation, (ii) the increase in short-term interest rates resulting from a tightening of monetary policy by most central banks of advanced economies (that started in December 2021 and accelerated throughout 2022), as well as (iii) the continuation of the Ukraine/Russia crisis that started in the first semester 2022.

- The **key outcomes** for UCITS falling in the full reporting scope are the following:
 - With regards to **market risk, leverage and EPM techniques**
 - The annualised realised volatility increased from 8.1% in the second semester 2021 to 13.4% in the first semester 2022 and decreased to 12.1% in the second semester 2022.
 - The average VaR increased from 5.1% in the second semester 2021 to 5.2% in the first semester 2022 and to 6.1% in the second semester 2022.
 - The usage of leverage remained generally low in comparison to the regulatory limit (for funds under the commitment approach), respectively to the expected/maximum expected level of gross leverage disclosed in the prospectus (for funds under the VaR approach).
 - The volume of EPM techniques is fairly stable at EUR 147bn at year-end, of which EUR 82bn from Securities Lending and EUR 63bn from Reverse Repos. Reverse repo volumes mainly originate from 3 IFMs in relation to money market funds, while securities lending volumes are less concentrated across IFMs and investment policies.
 - The results of the univariate stress tests on interest rates (scenario of +200 bps parallel shift) remained stable for bond funds but deteriorated for mixed funds (from -2.9% to -4.0%), suggesting that the decrease in duration observed in 2021 might have come to an end and that the exposure of mixed funds to bonds might have increased.
 - With regards to **liquidity risk** (based on self-assessments from the IFMs under non-harmonised models and processes)
 - The liquidity risk profiles under normal conditions on a 1-week horizon remained stable.
 - The use of Liquidity Management Tools remained broadly stable, the most used being swing pricing.
 - The availability of gates as well as swing pricing in the constitutive documents remained broadly stable resp. increased over 2022 (92% resp. 71% of the NAV). On the basis of the reporting submissions, there is still a minority of funds that do not have the possibility to apply temporary suspensions of redemptions or gates according to their constitutive documents.
 - The highest net redemption on a given day during the semester remained broadly stable during 2022, generally below 2.5% of the NAV for most UCITS, with the notable exception of MMFs displaying higher levels which can be explained by their use as short-term cash management vehicles by investors.
 - With regards to **credit risk**
 - The credit exposures by internal ratings remained stable and are mainly on high quality assets, with 90% of the credit exposure being on assets with an internal credit rating of 1 to 5 (on a scale going from 1 for high quality to 10 for low quality assets)
 - The credit exposures by credit spreads remained stable as well, with more than 60% of the credit exposure being on assets with a credit spread < 100 bps
 - The results of the univariate stress tests on credit spreads (scenario of a +100% proportional shift) deteriorated significantly in the first semester 2022 (e.g. for bond funds from -7.1% to -10.2% of the NAV, mostly due to the combined effects of the Ukraine/Russia crisis and tensions in the Chinese real estate sector that weighted on High Yield bonds) and went down in the second semester 2022 (to -8.2% for bond funds).

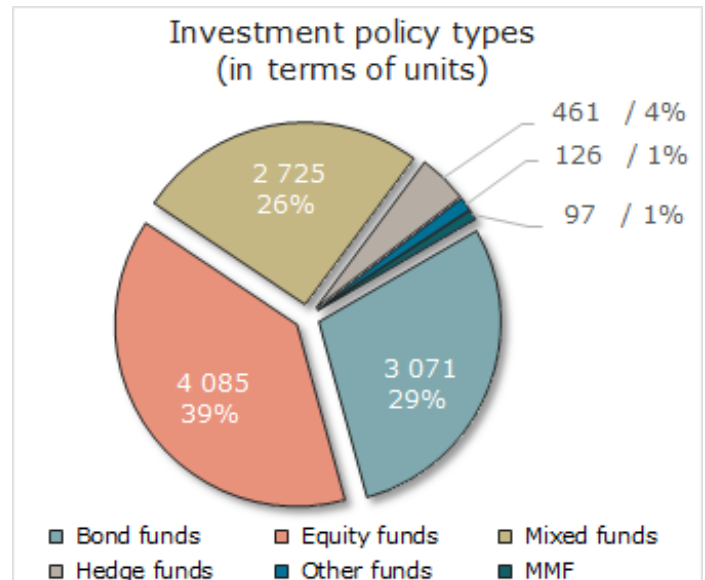
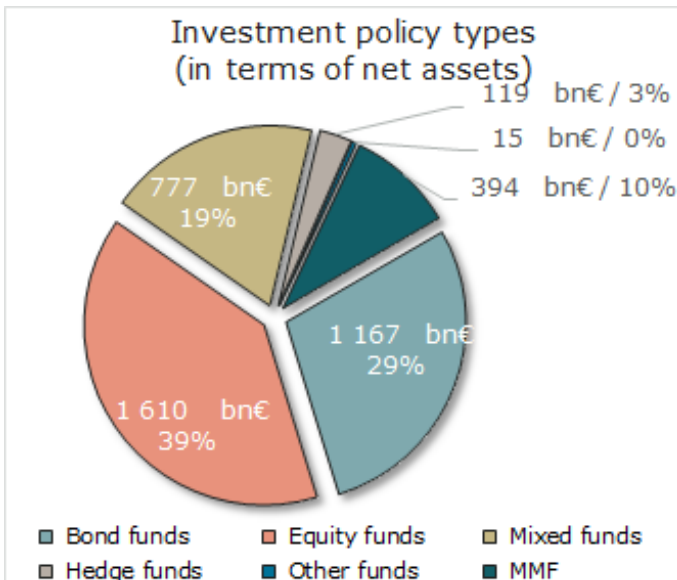
Overall UCITS population

3.1 Main characteristics

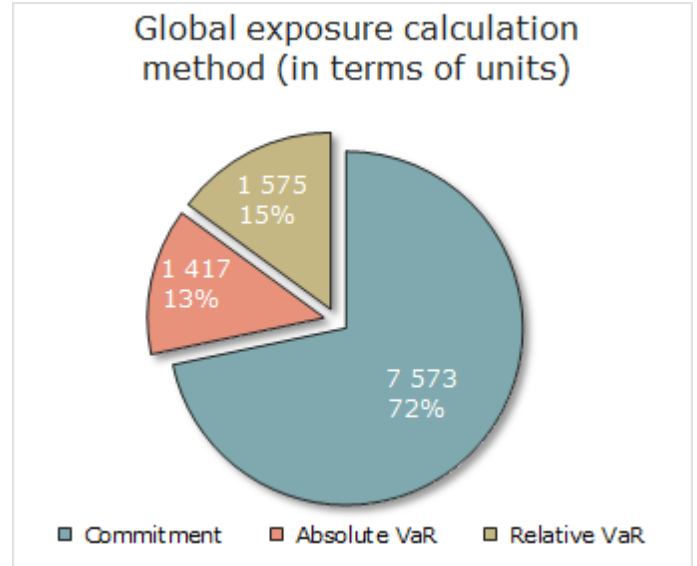
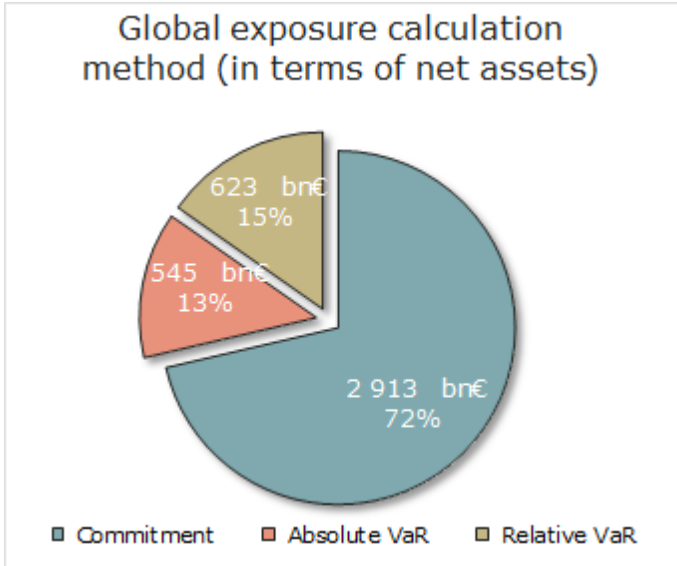
3.1.1 Net assets



3.1.2 Investment policy types

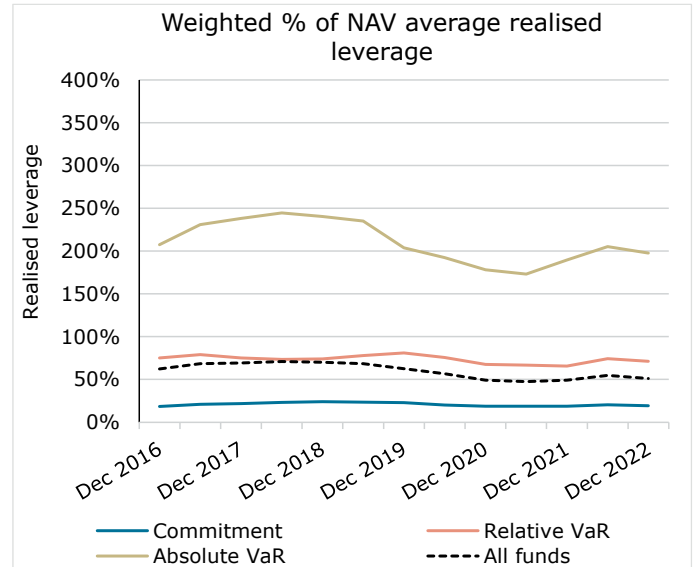
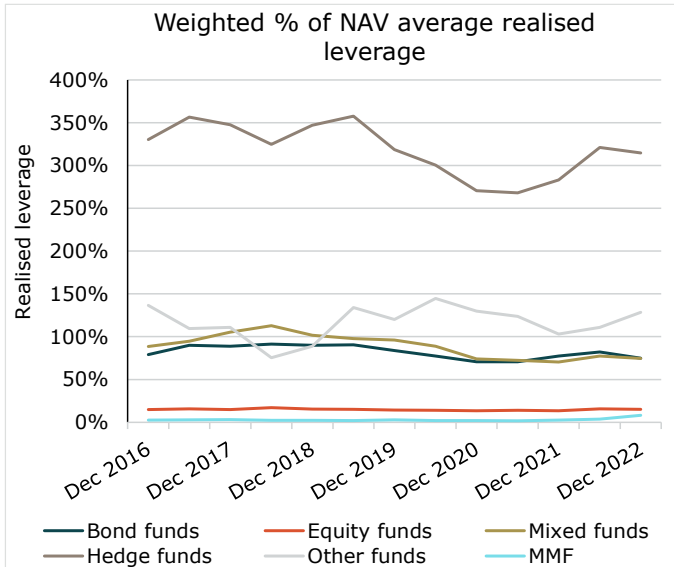


3.1.3 Global Exposure calculation methods



3.2 Realised leverage

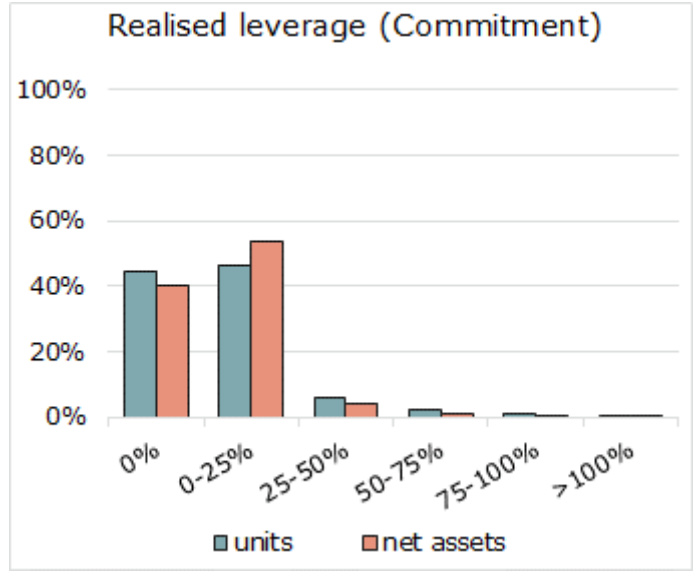
3.2.1 Realised leverage by investment policy type and by global exposure calculation method



Methodology note: For the purpose of the 2 graphs above, the realised leverage is

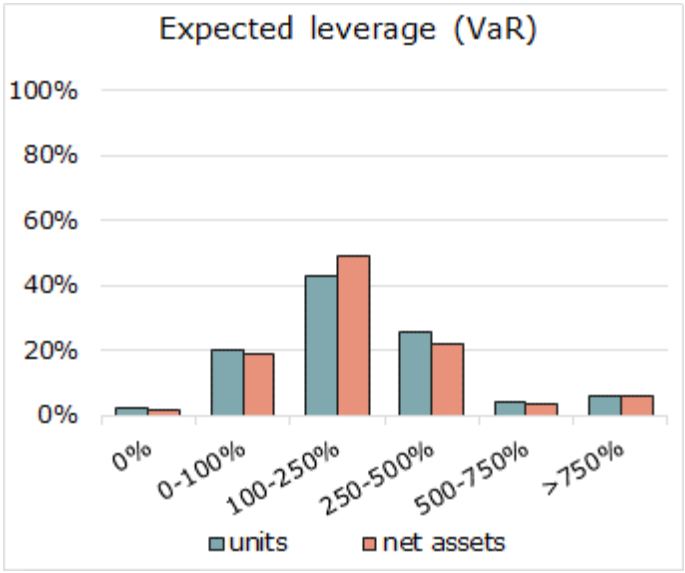
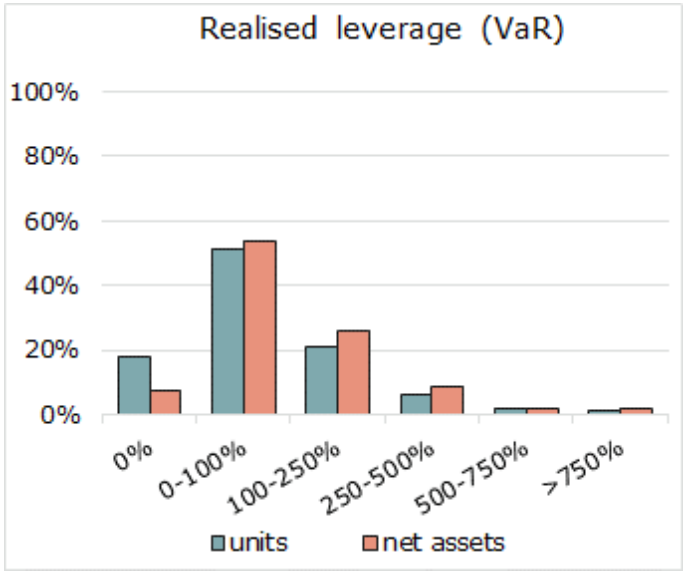
- for funds under a VaR approach, the semester-average value;
- for funds under the commitment approach and NAV above 500M EUR, the semester-end value; and
- for funds under the commitment approach and with NAV below 500M EUR, the weighted % of NAV average of the semester-end leverage of all funds in the same category under the commitment approach and with NAV above 500M EUR.

3.2.2 Realised leverage for funds under the commitment approach



Methodology note: The realised leverage level is based on the commitment approach, as defined by CESR 10/788.

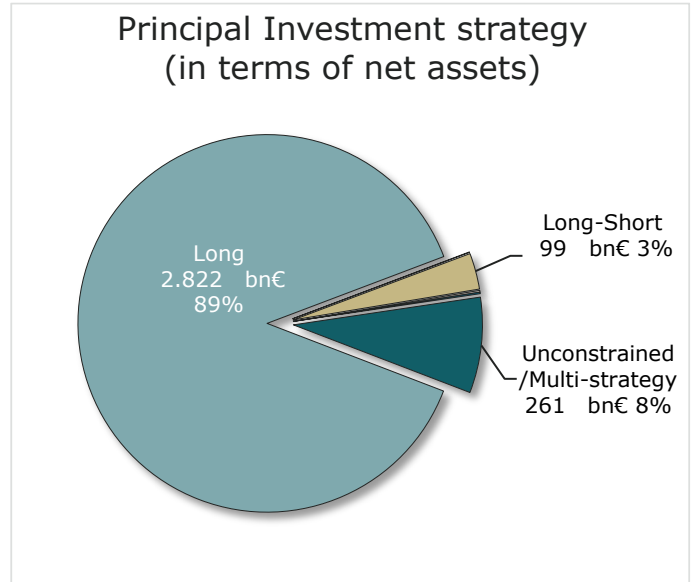
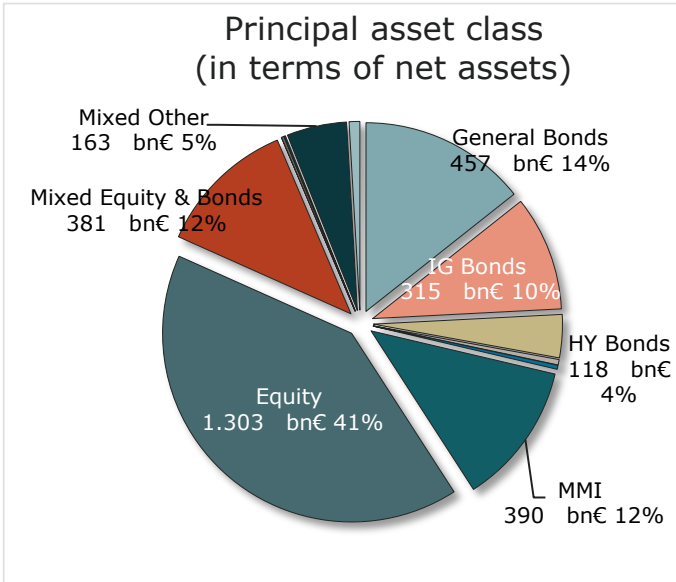
3.2.3 Realised and expected leverage for funds under the VaR approach



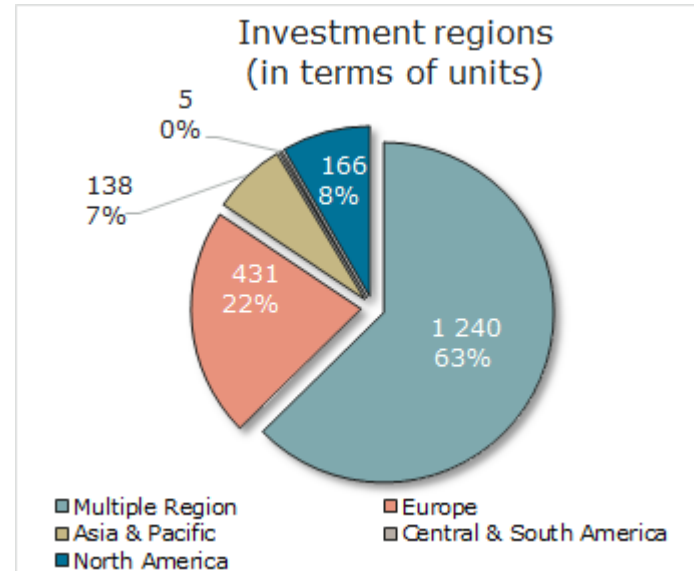
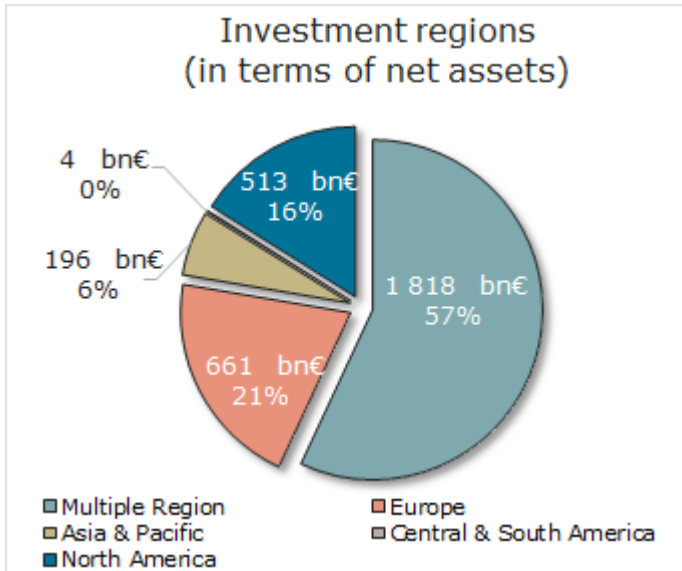
Methodology note: The realised leverage level is based on the sum of the notionals method as defined by CESR 10/788. Where several levels of leverage are disclosed in the prospectus (for example an expected and a maximum or a range with minimum and maximum), the expected leverage is the highest number.

UCITS in the full reporting scope

4.1 Main characteristics

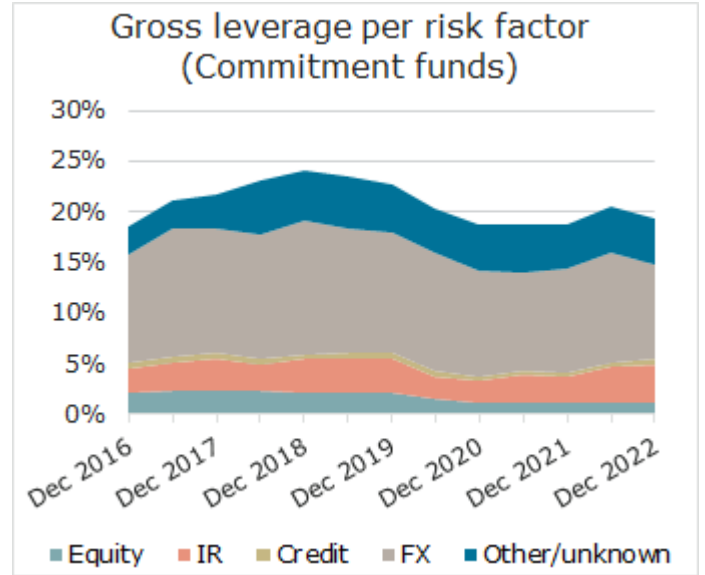
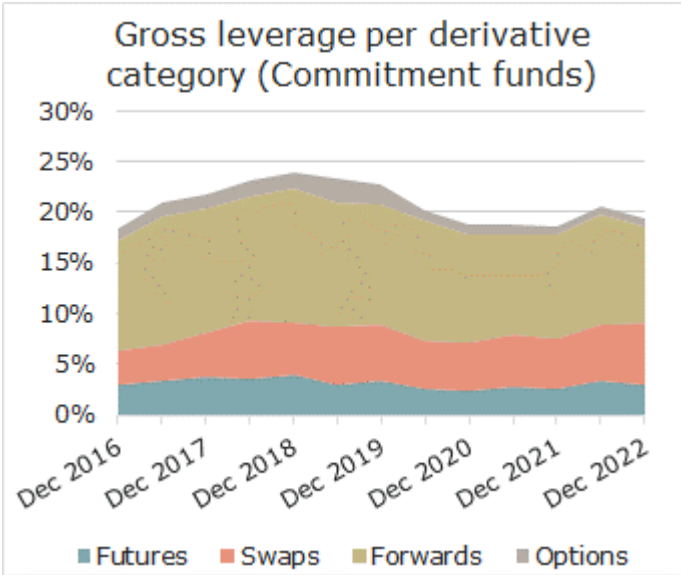


Note: For the sake of readability, categories representing less than 1% of net assets are not pictured above.

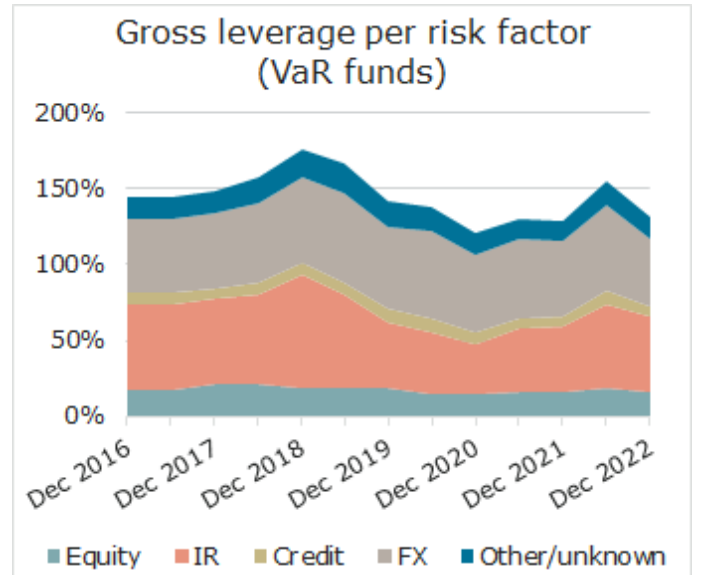
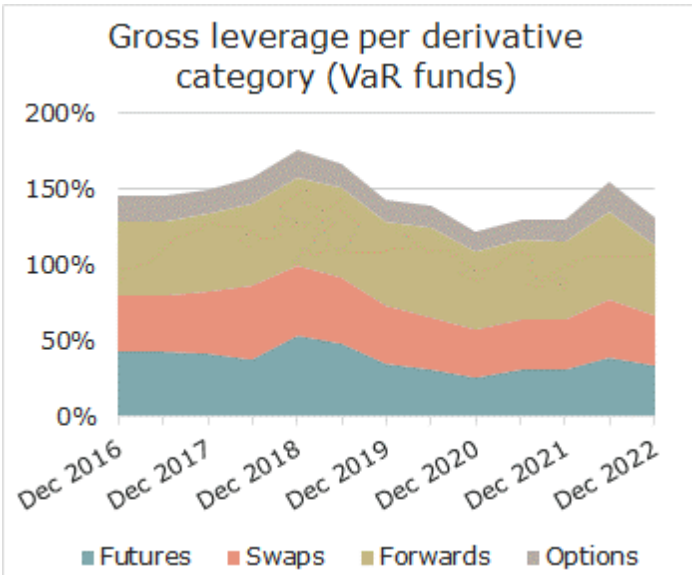


4.2 Global exposure and leverage

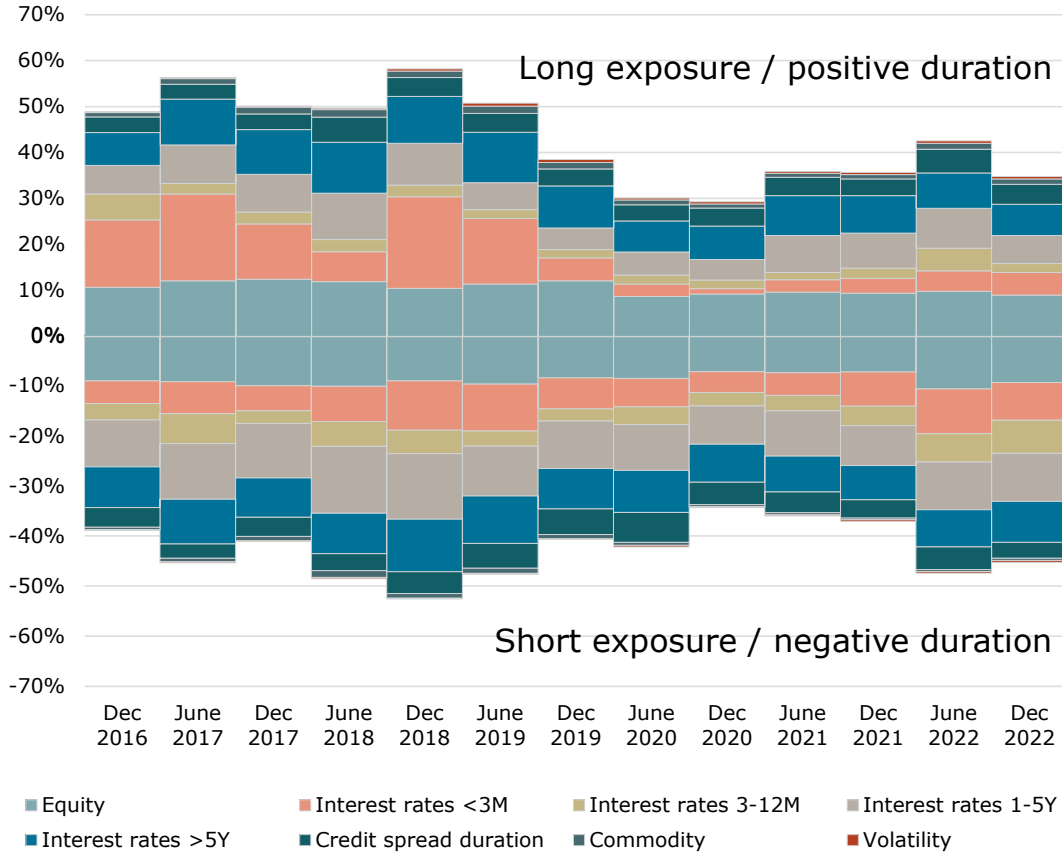
4.2.1 Funds under the Commitment approach



4.2.2 Funds under the VaR approach

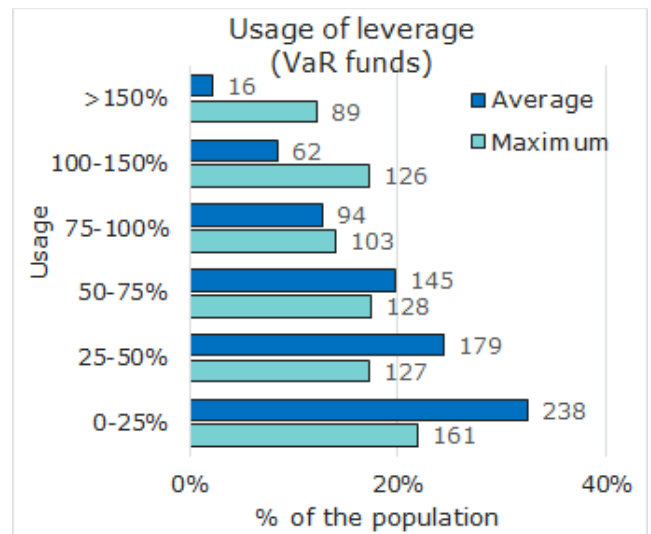
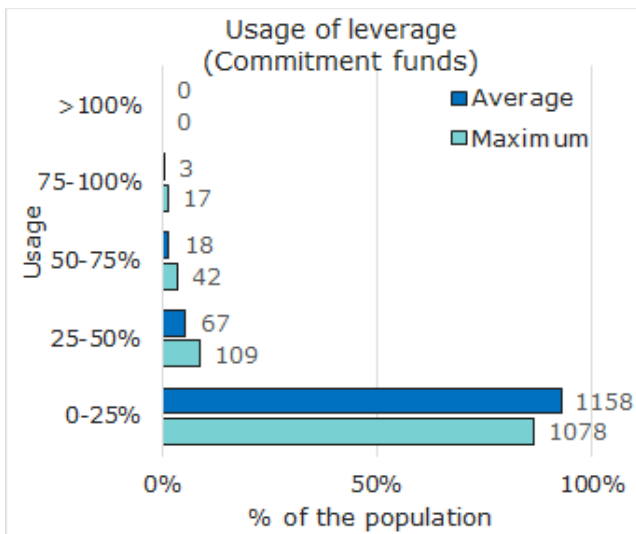


Gross leverage per risk factors (VaR funds) ex-FX and "Other"



Note: As per the guidelines, "positive" interest rate and credit spread duration correspond to long exposure on bonds. It represents exposures such as fixed rate receiver of an IRS or protection seller of a CDS.

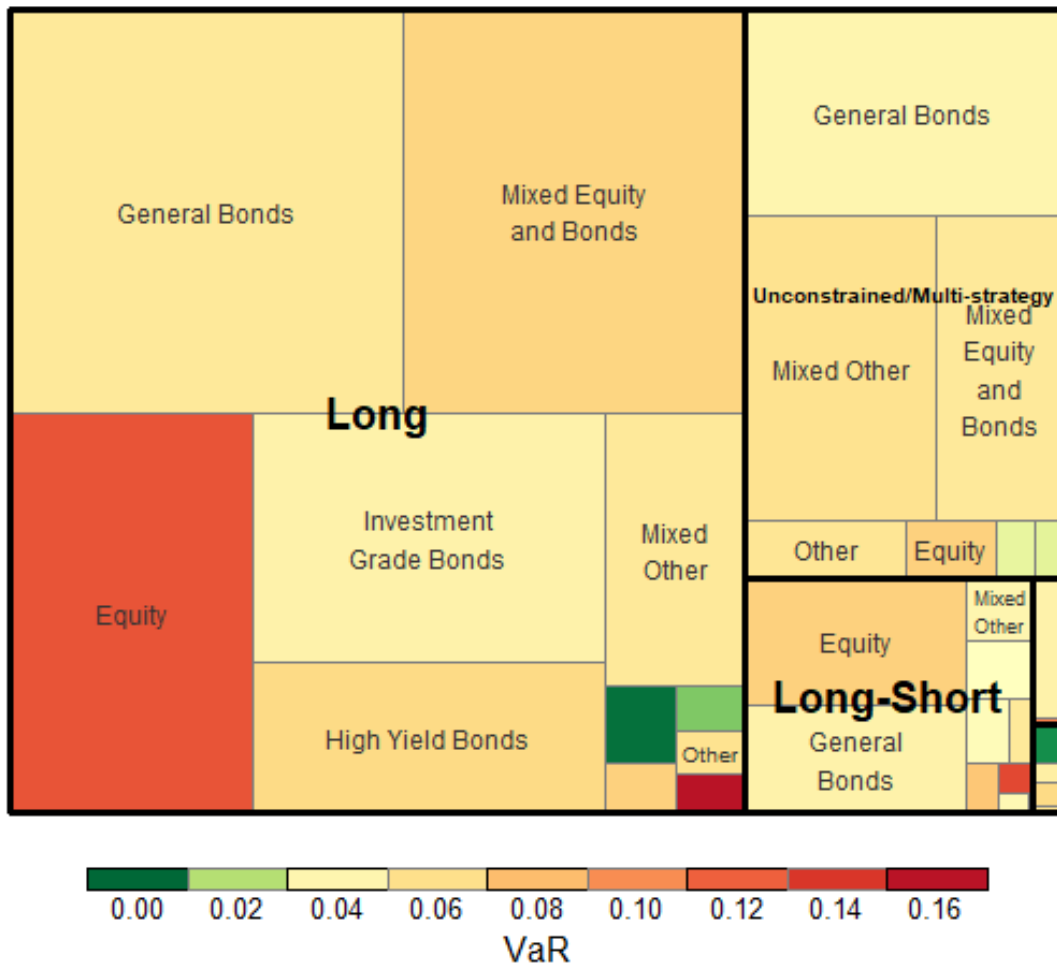
4.2.3 Usage of leverage



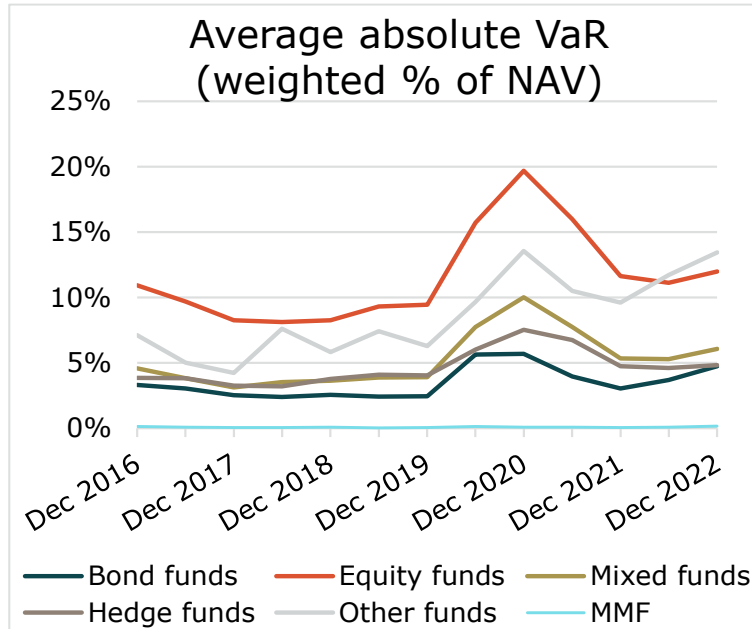
Note: For the purpose of this report, the usage of leverage is defined as the ratio of the realised to the regulatory limit for funds under the commitment approach, respectively the ratio of the realised to the expected level of gross leverage disclosed in the prospectus for funds under the VaR approach.

4.2.4 Value-at-Risk (VaR)

Net assets and weighted % of NAV average VaR by principal asset class and principal investment strategy

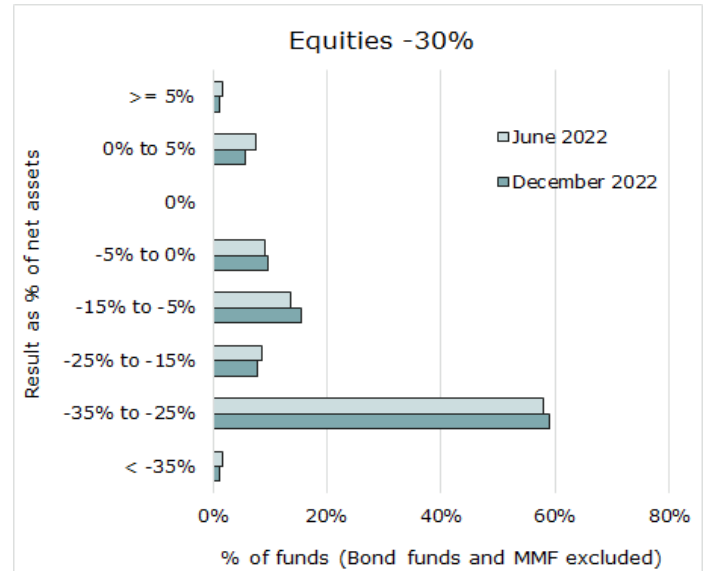
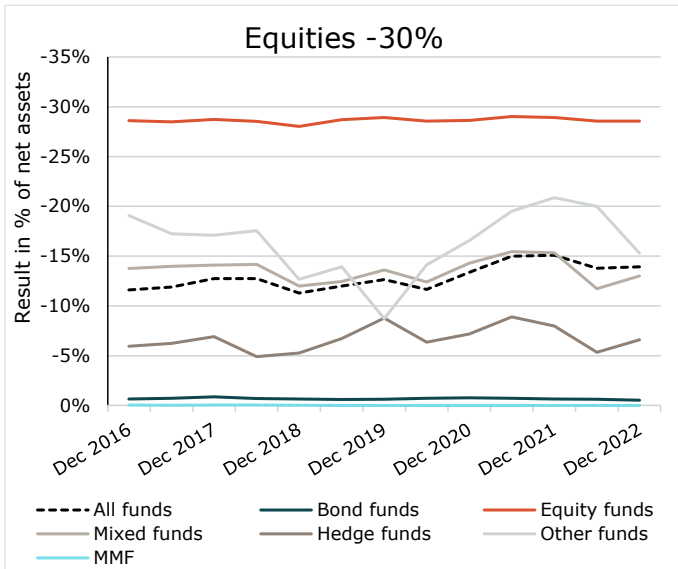


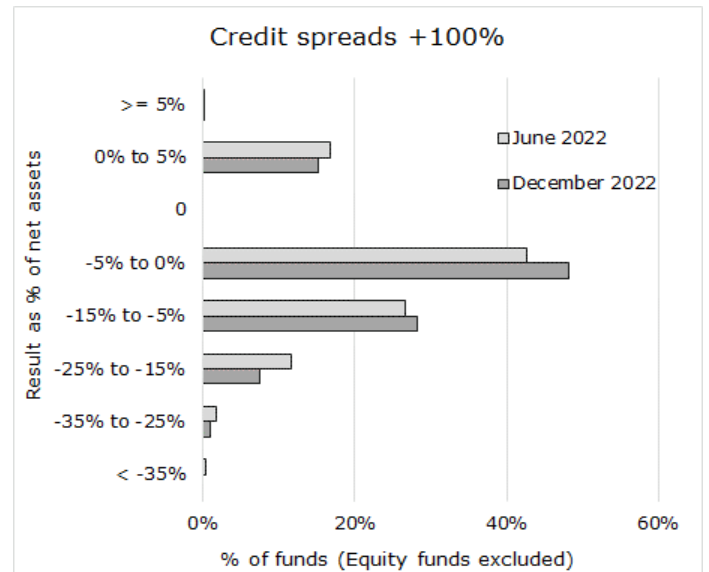
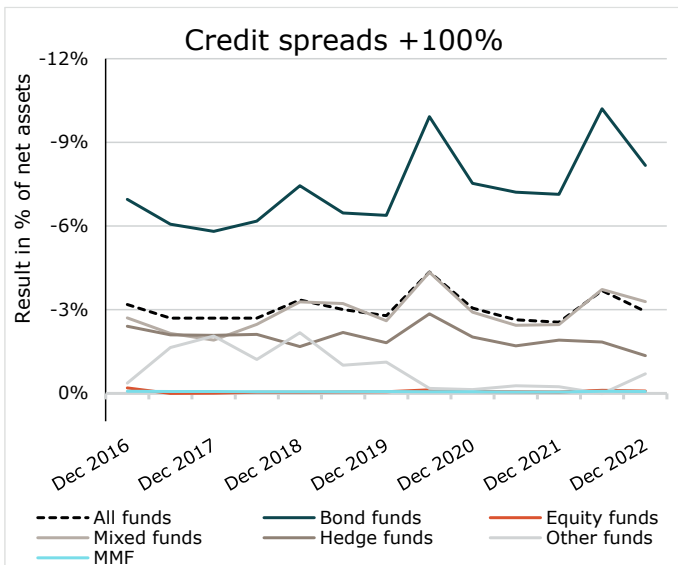
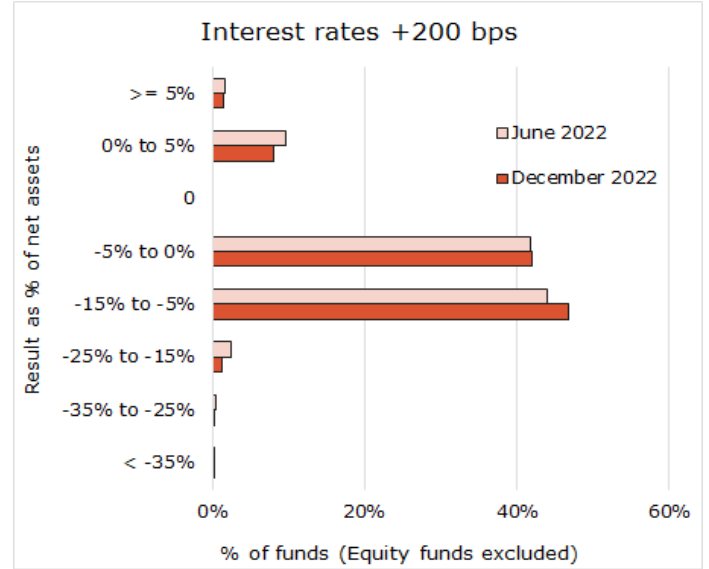
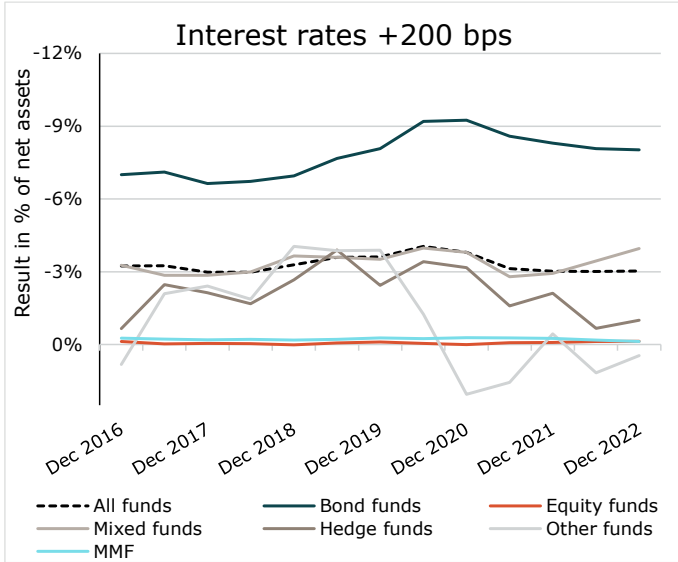
Note: The “heatmap” graph represents each fund category by a rectangle whose size is proportional to its net assets and whose colour reflects its average absolute VaR (confidence interval of 99% and holding period of 1 month). For the avoidance of doubt, the graph is based on the absolute VaR levels of both UCITS under an absolute and a relative VaR approach.



4.3 Stress testing and other risk indicators

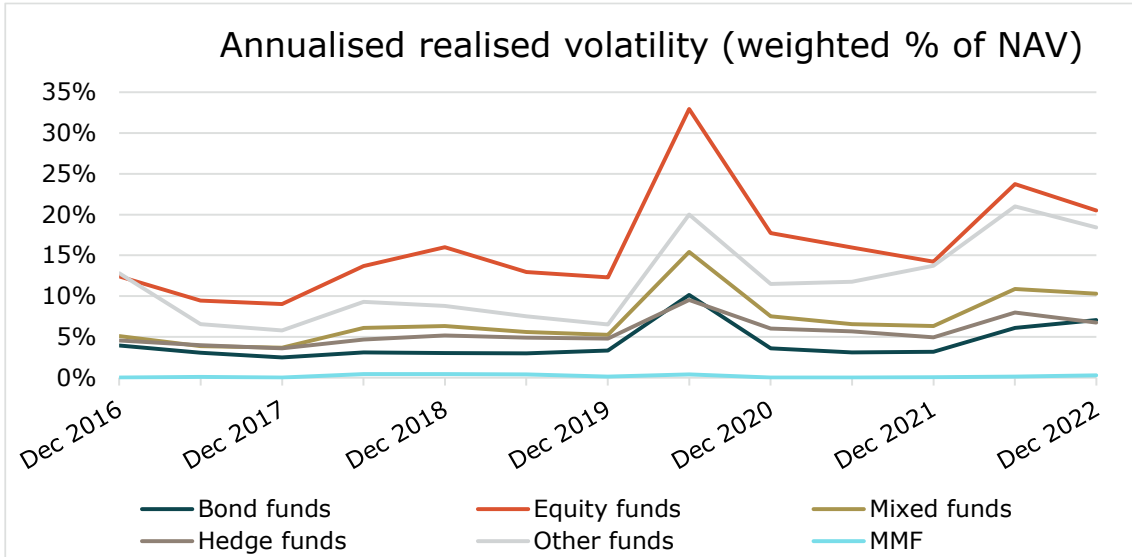
4.3.1 Univariate stress test results





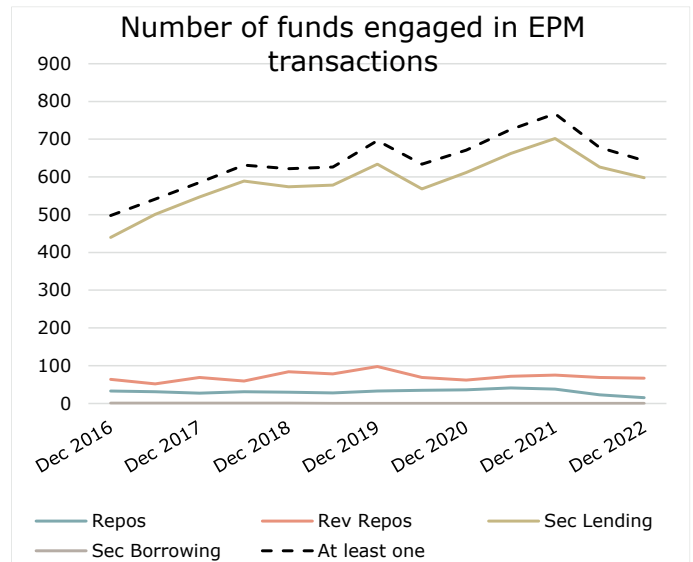
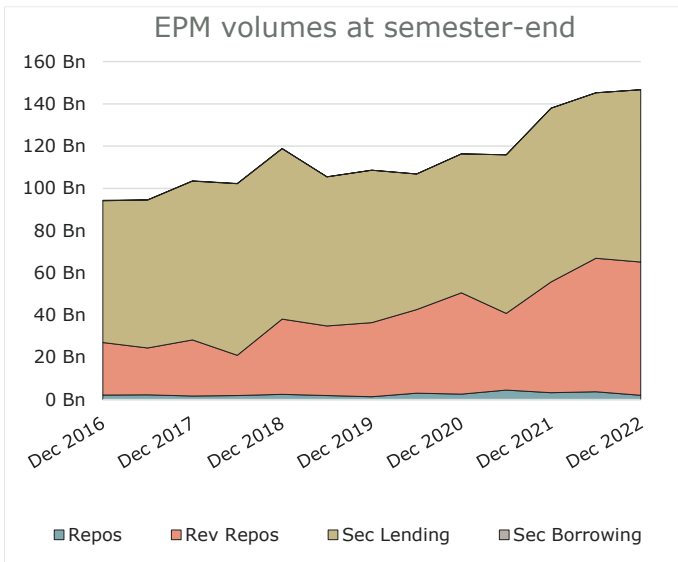
Note: As set out in the guidelines, the univariate stress test results should not take into account dependencies/correlations between risk factors. For the sake of readability, Bond funds and MMF (resp. Equity funds) are excluded from the graphs on the right illustrating the univariate stress test on equities (resp. on interest rates and on credit spreads).

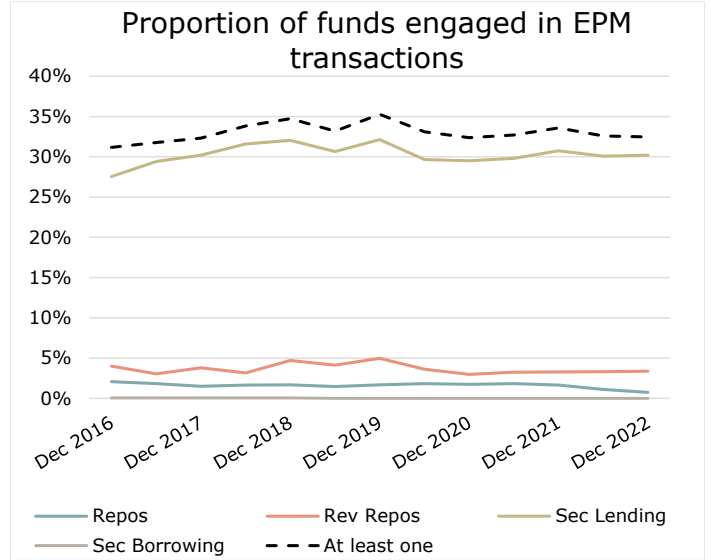
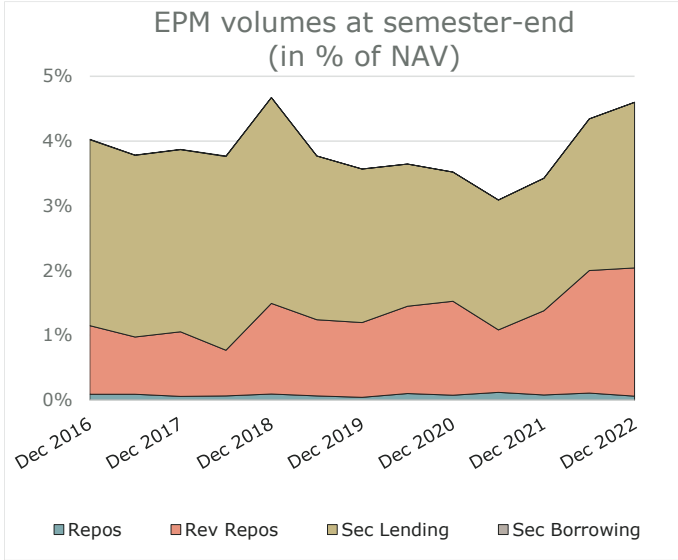
4.3.2 Annualised realised volatility



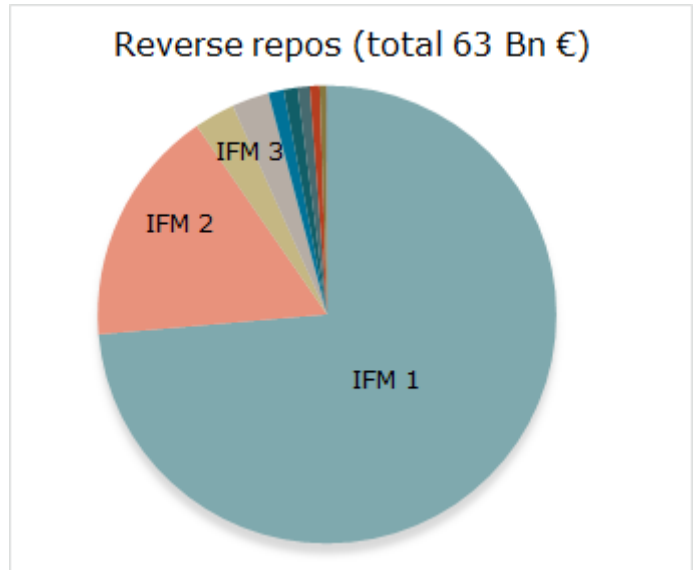
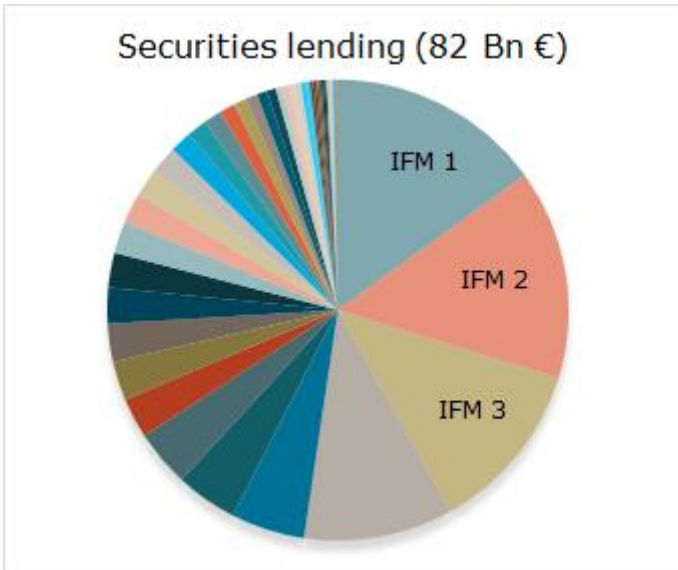
4.4 Efficient portfolio management (EPM) techniques

4.4.1 Evolution of volumes and number of active funds by EPM type



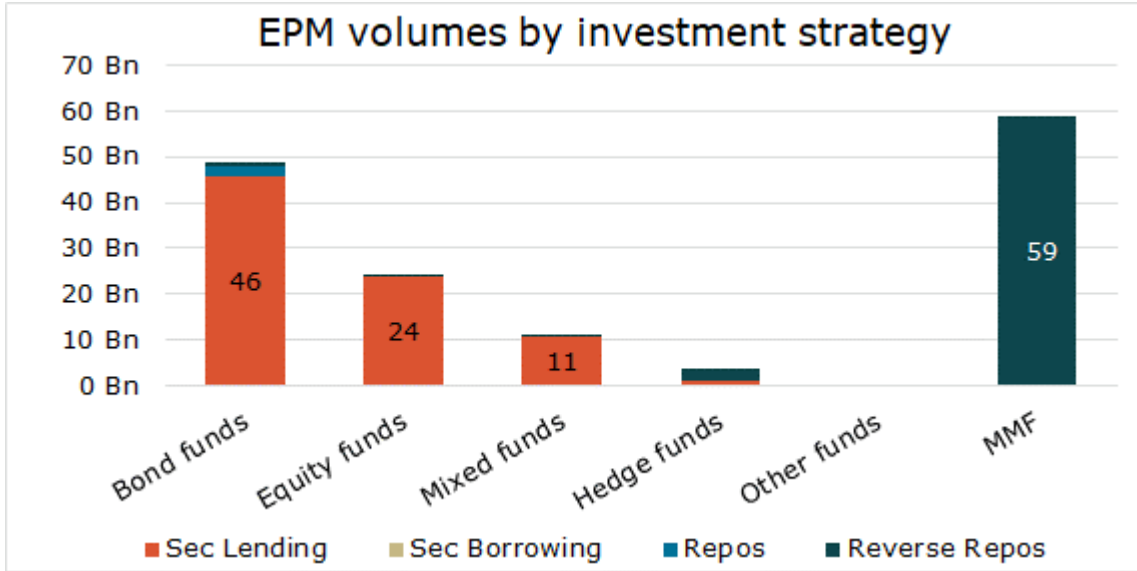


4.4.2 Main active Investment Fund Managers (IFMs) by EPM type

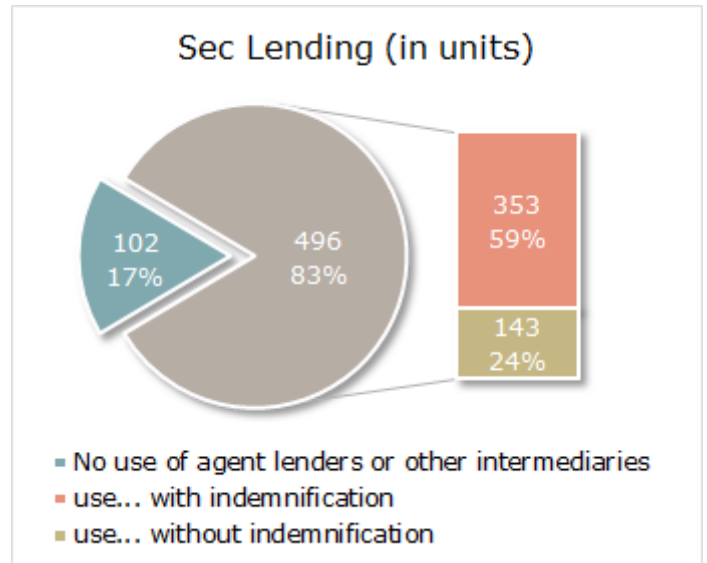
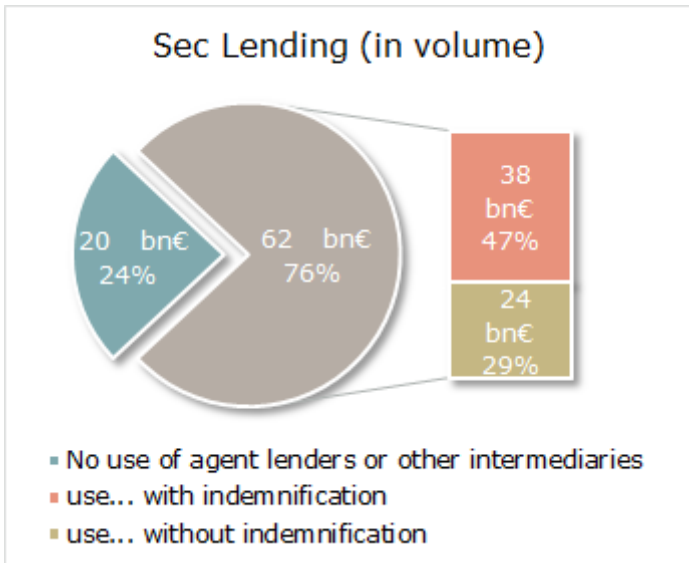


Note: Repos are not pictured above, as their volumes are much lower (total EUR 2bn). Similarly to Reverse repos, repos are dominated by a few actors (90% of volumes from funds managed by 2 IFMs).

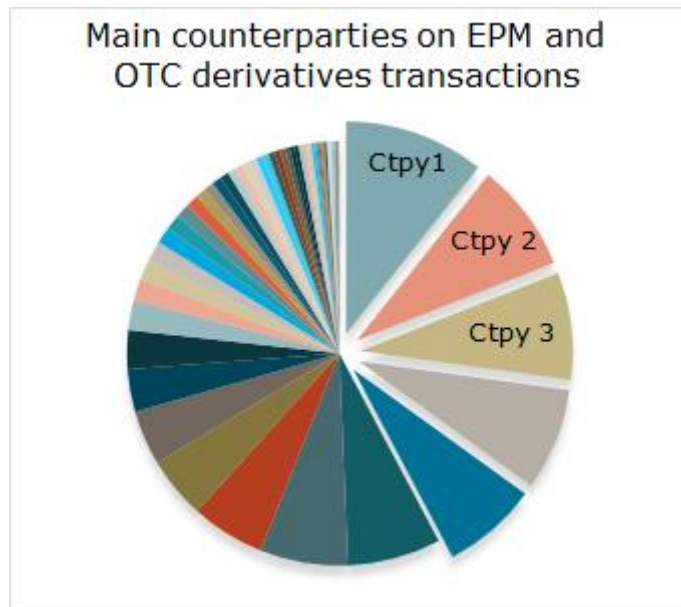
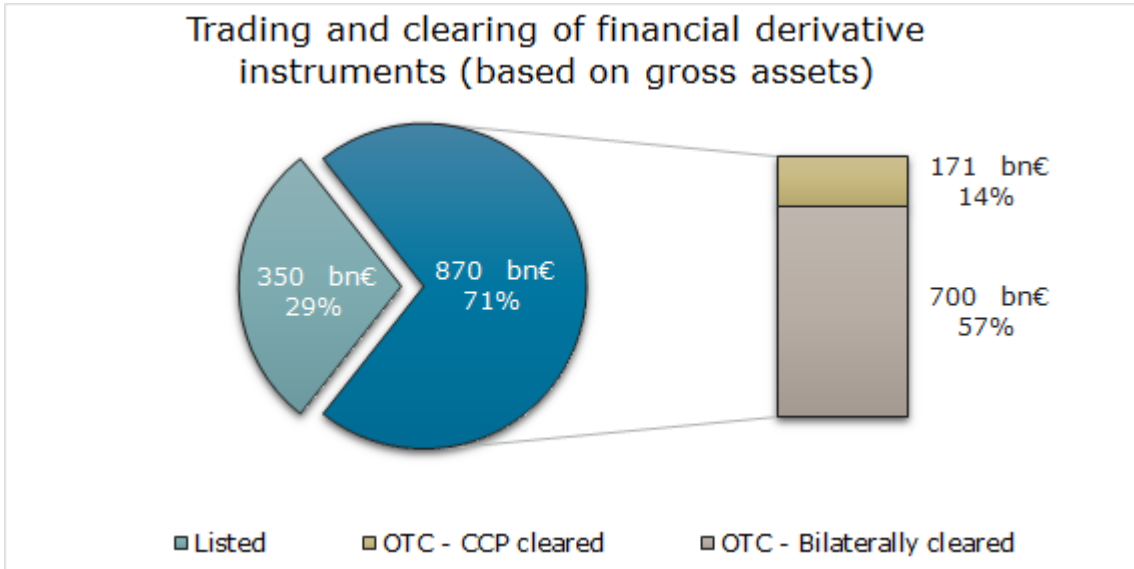
4.4.3 EPM volumes by investment strategy



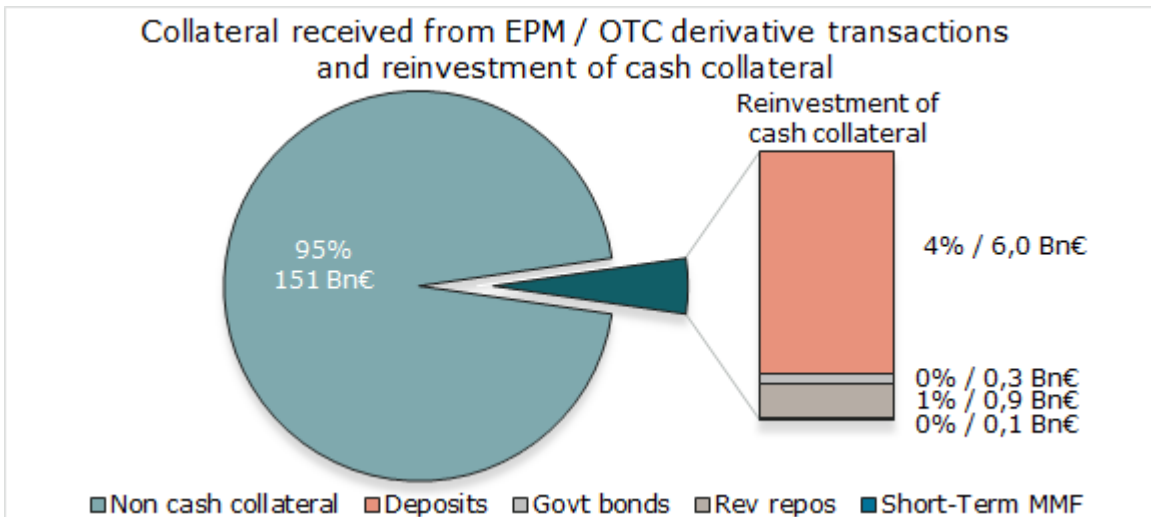
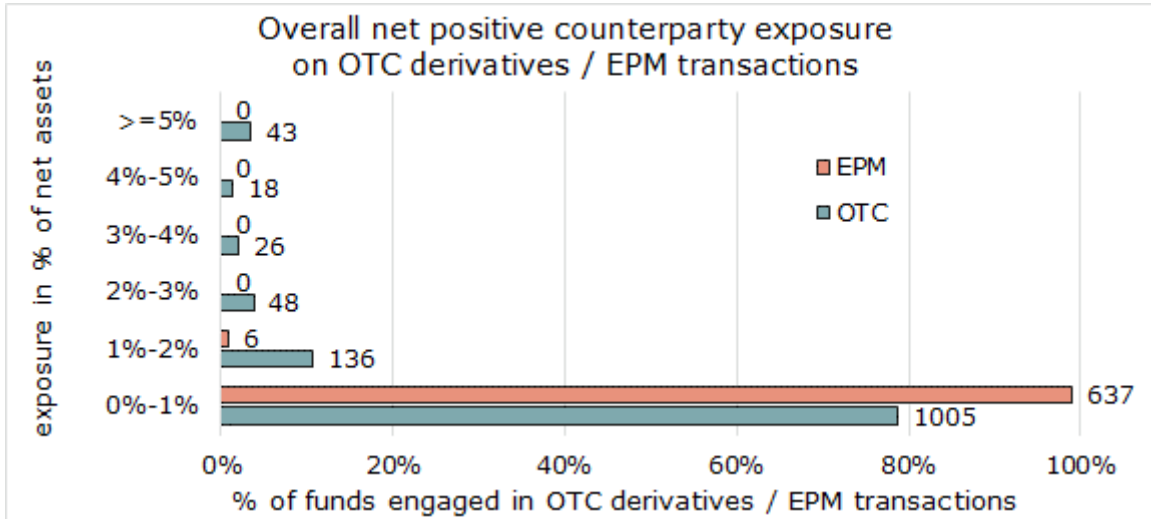
4.4.4 Securities Lending: Use of Agent lenders & indemnification against borrower default



4.5 Counterparty risk and collateral in relation to EPM techniques / OTC and traded derivatives

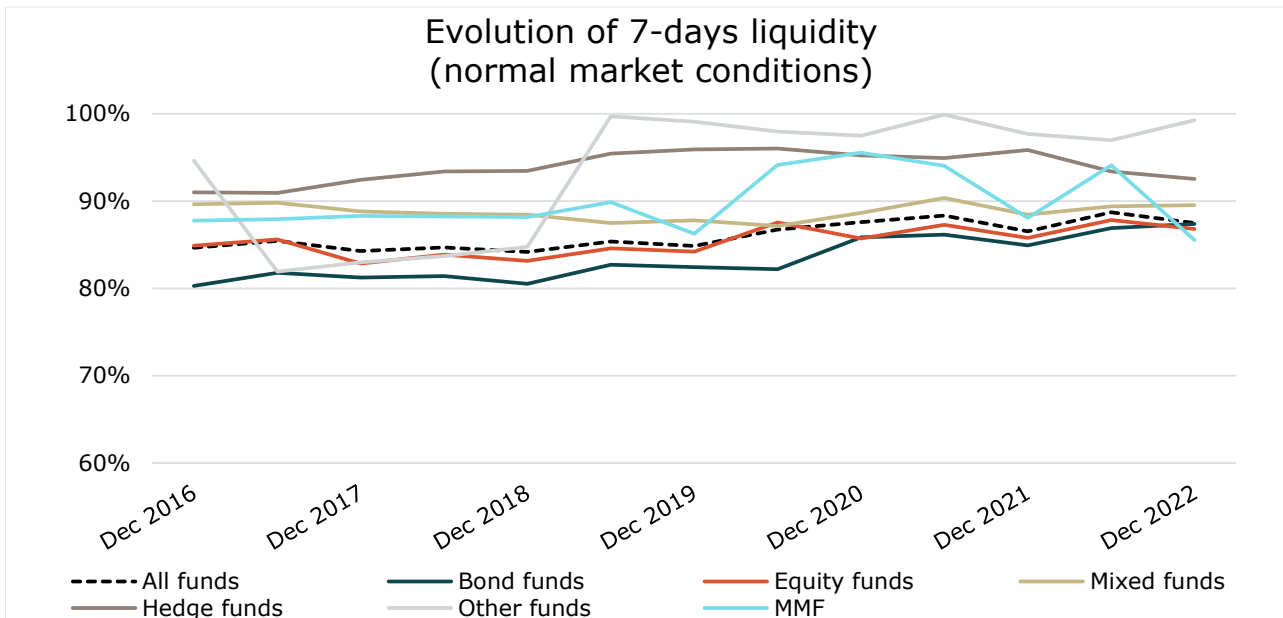
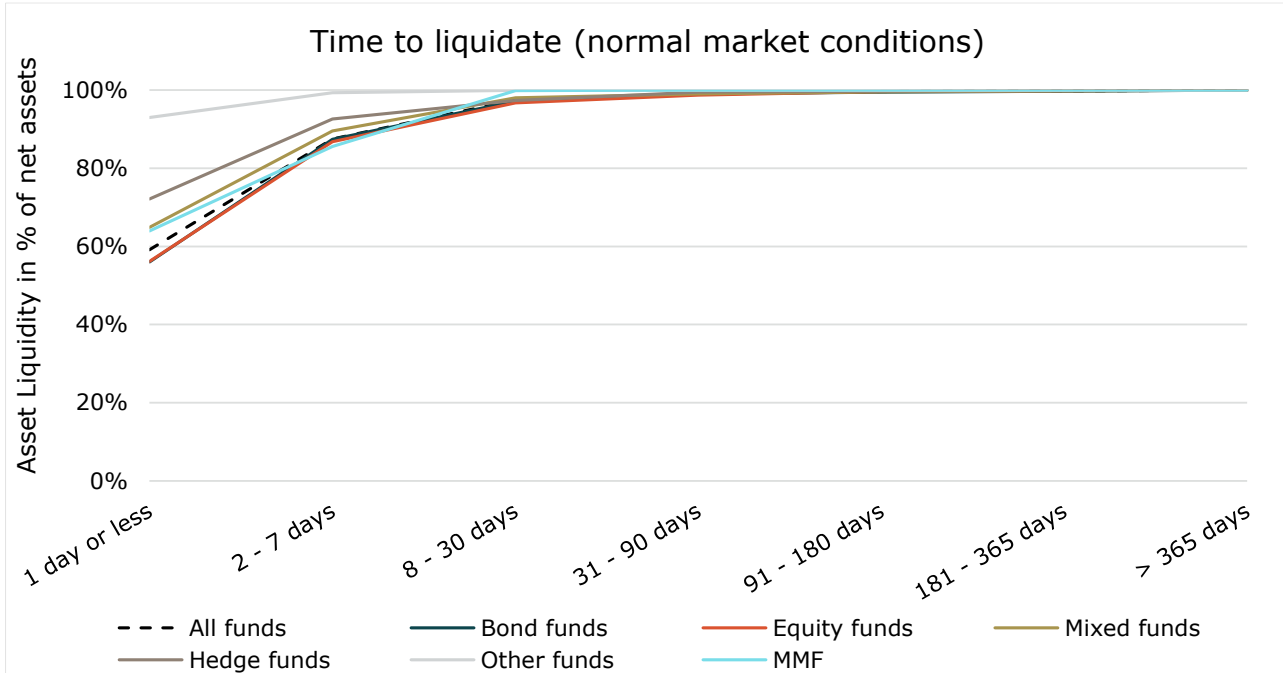


Methodology note: The graph represents the largest counterparties of UCITS in terms of (positive and negative) net counterparty exposure of UCITS in the full reporting scope. More specifically, the main counterparties are determined based on the sum of the absolute values of the net exposures of all UCITS in the full reporting scope to their three counterparties with the largest positive net exposure and their three counterparties with the largest negative net exposure at semester-end. It is determined at group rather than at legal entity level.



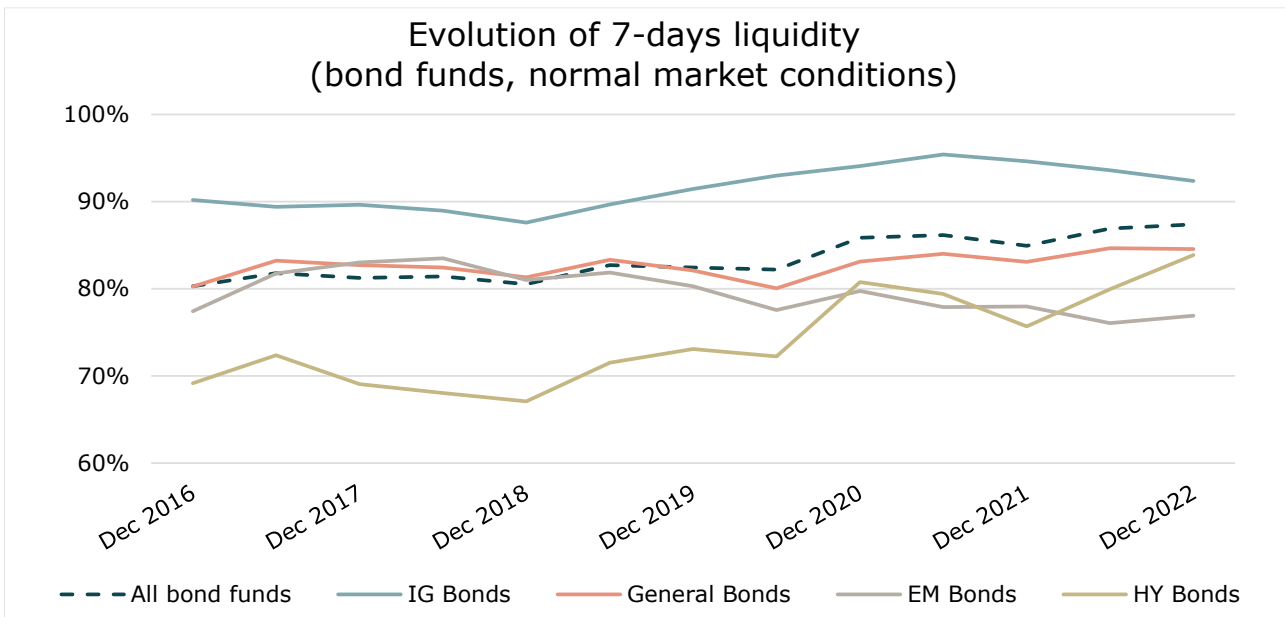
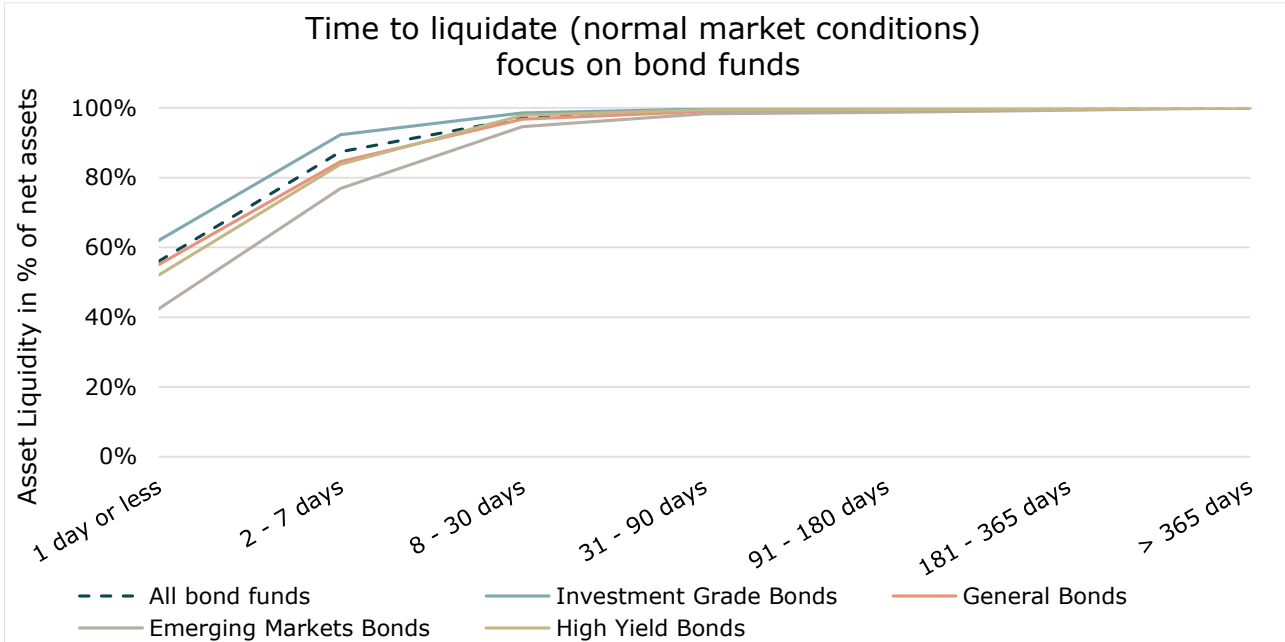
4.6 Liquidity

4.6.1 Portfolio liquidity at semester-end in normal market conditions

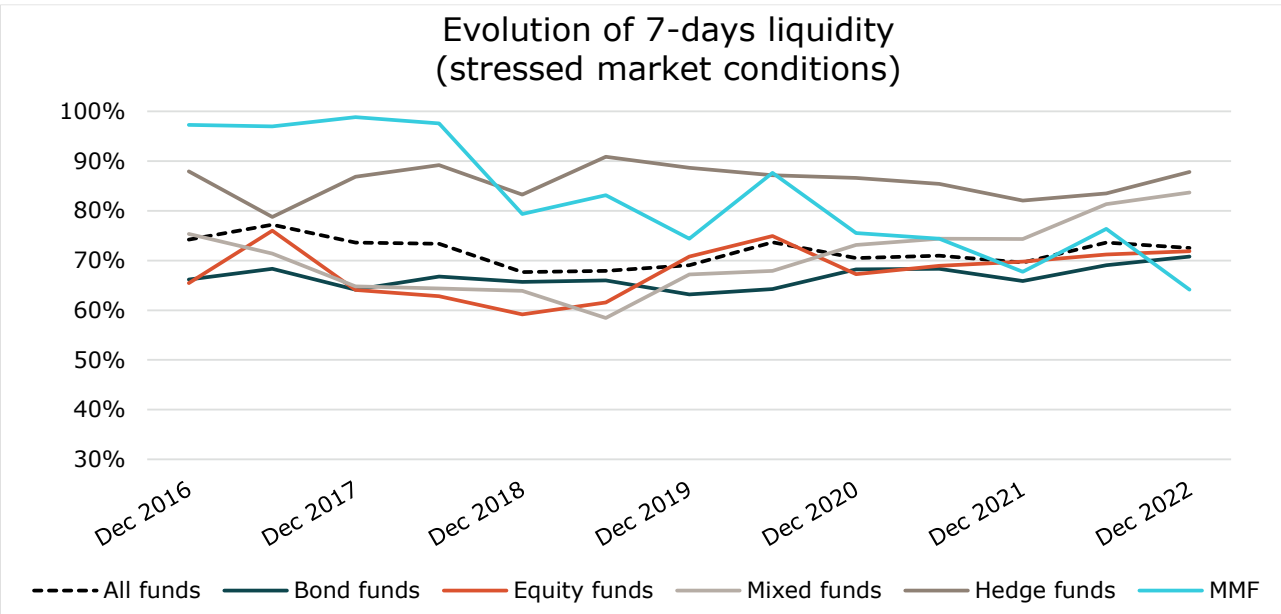
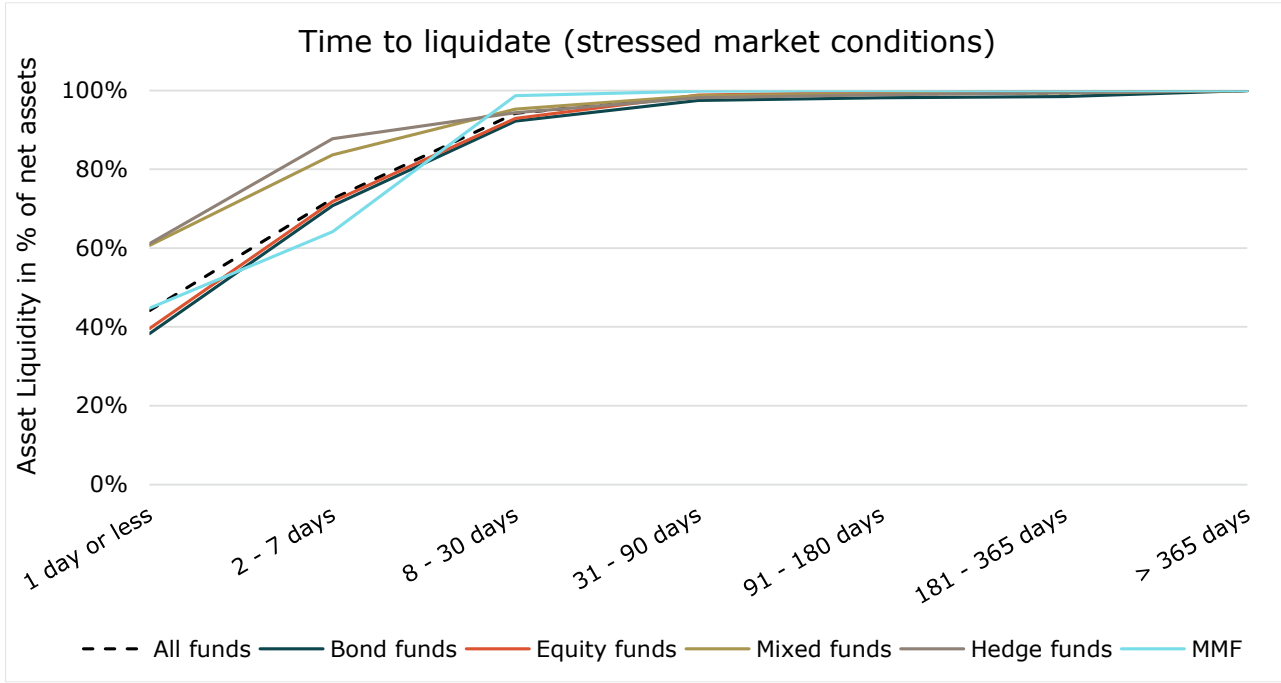


Note: The figures are based on the self-assessment of the Investment Fund Managers on the time to liquidate of their funds under normal market conditions and may appear relatively over-optimistic.

4.6.2 Portfolio liquidity at semester-end in normal market conditions (bond funds)



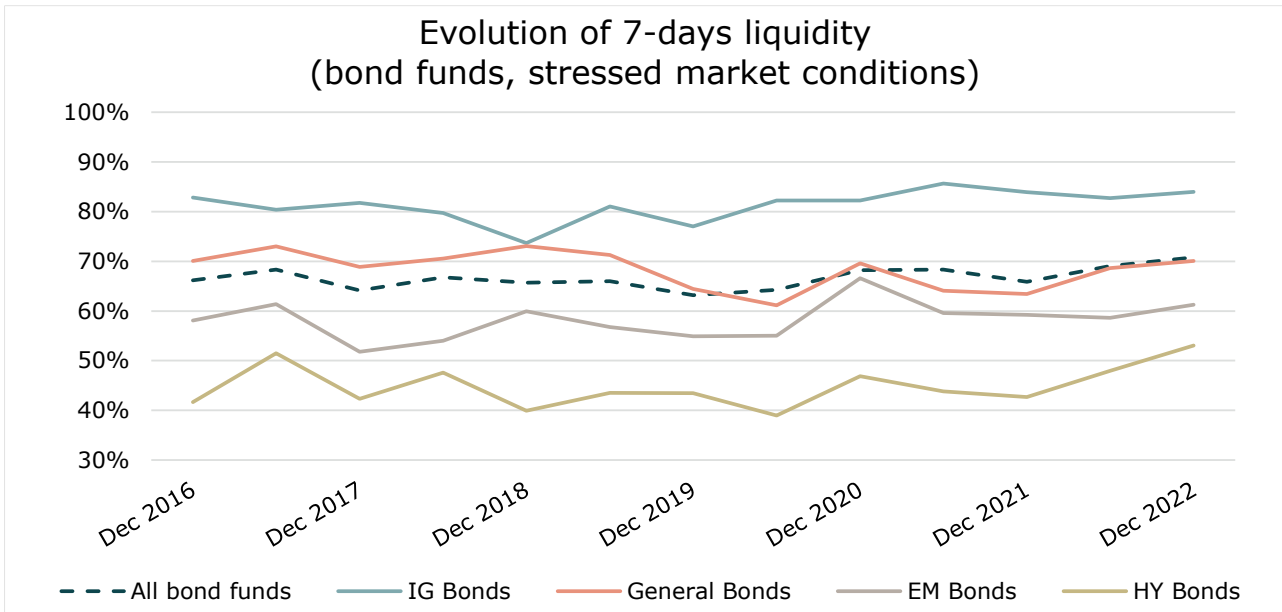
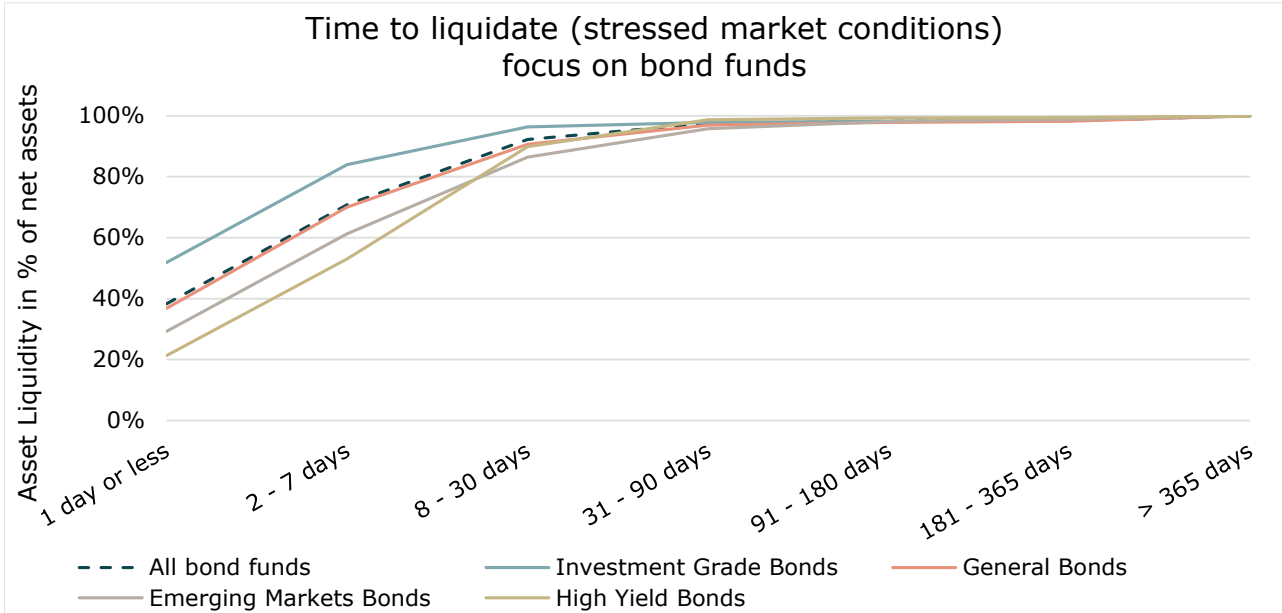
4.6.3 Portfolio liquidity at semester-end in stressed market conditions



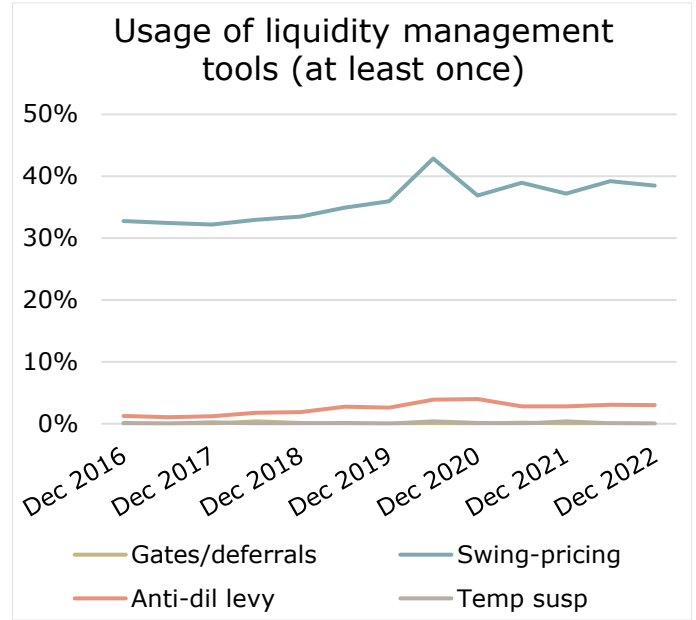
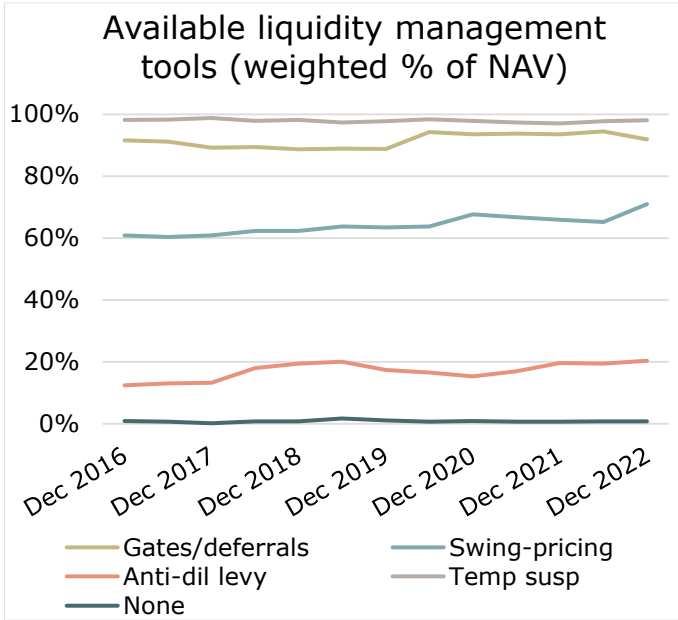
Note: As per the guidelines, this sub-section is optional and was filled in by a minority of funds (about 36% of the full reporting scope, more specifically in terms of number of funds per category: 241 Bond, 287 Equity, 118 Mixed, 43 Hedge, 3 Other and 26 MMF funds). The category Other is not disclosed, given the small number of funds (considered non-representative). It is critical to stress that the results are based on different methodologies and/or assumptions.



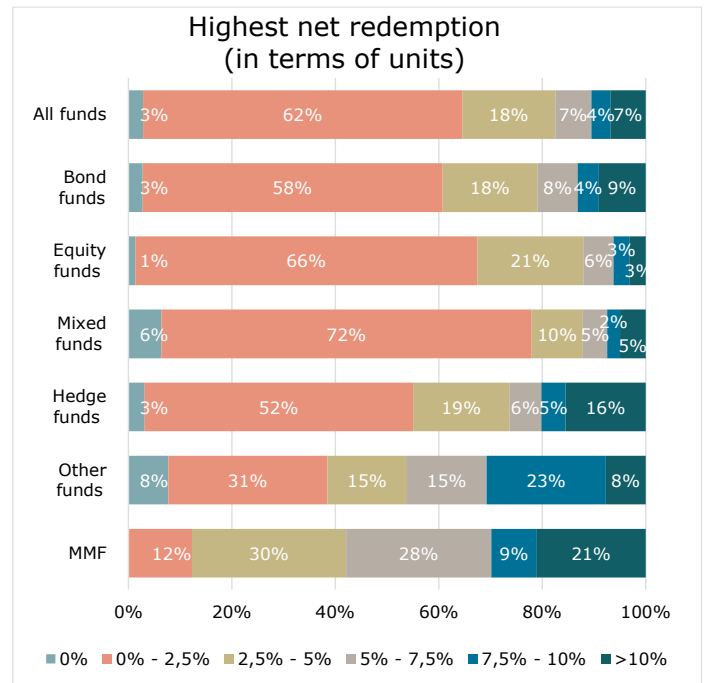
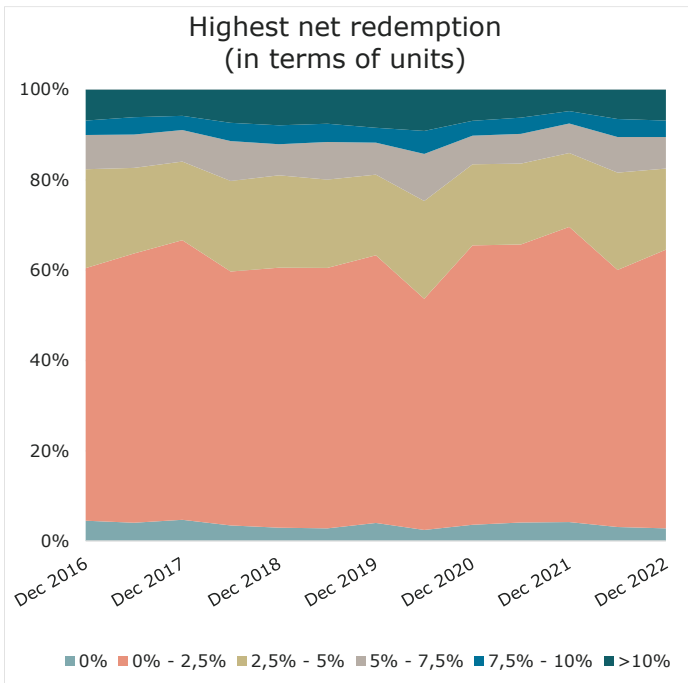
4.6.4 Portfolio liquidity at semester-end in stressed market conditions (bond funds)



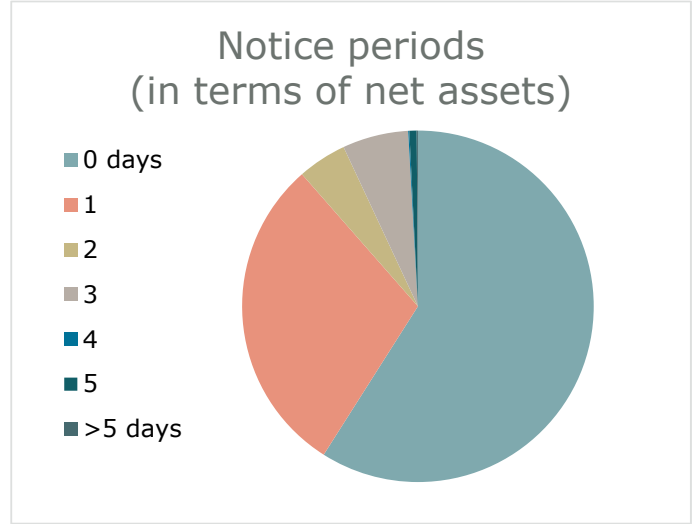
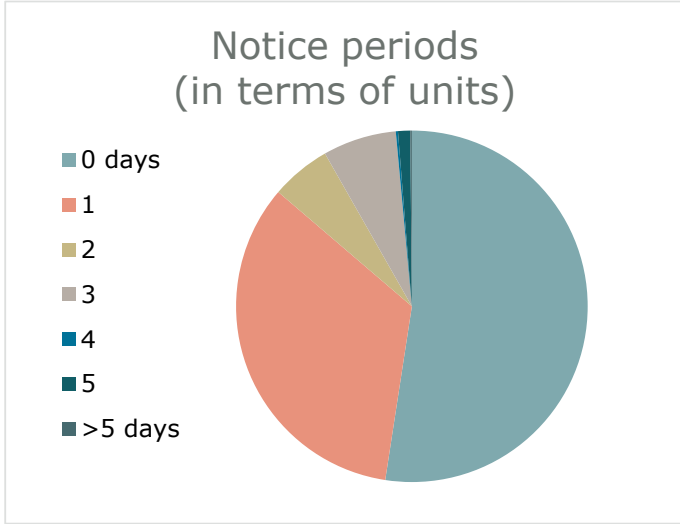
4.6.5 Liquidity Management Tools



4.6.6 Highest net redemption

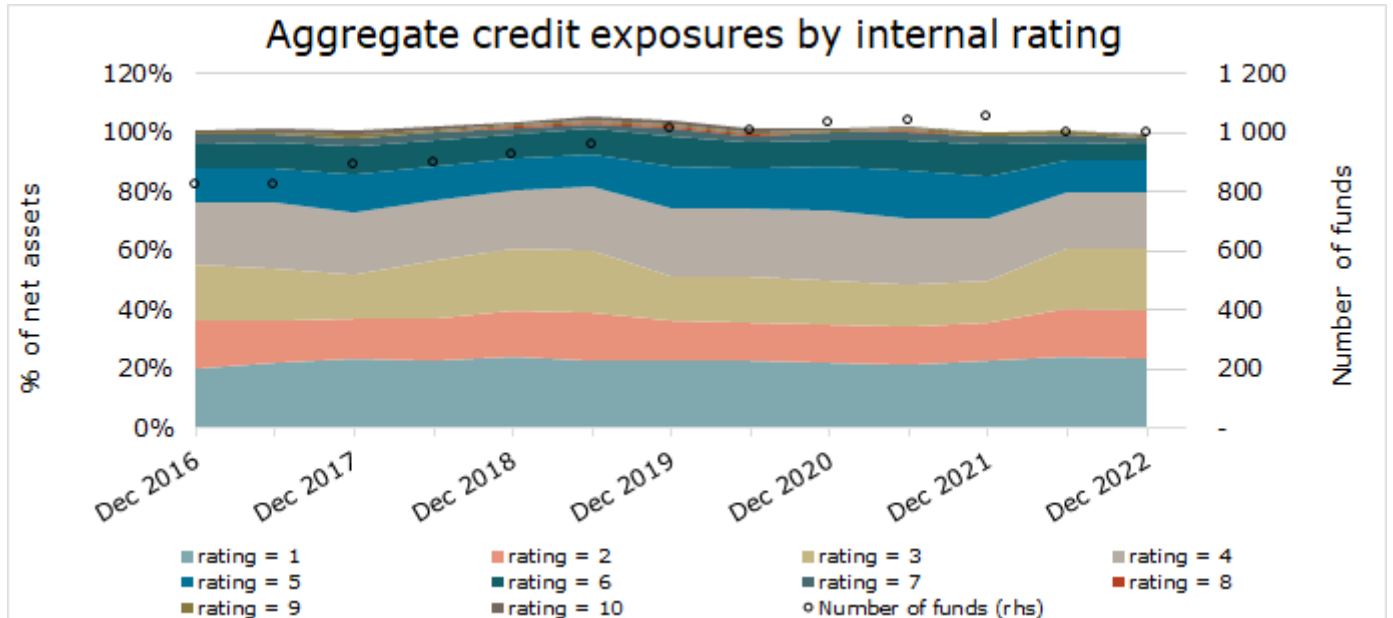


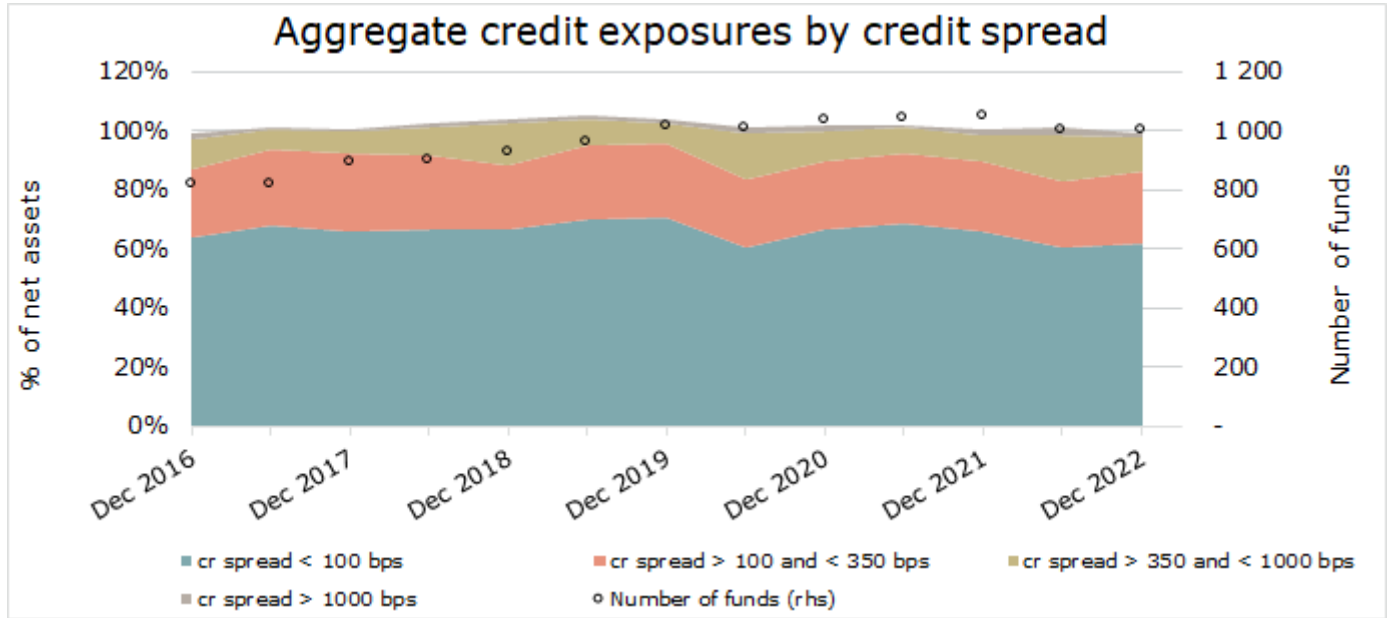
4.6.7 Notice periods for redemptions



4.7 Credit

4.7.1 Aggregate credit exposure by internal ratings and by credit spreads





Note: As set out in the guidelines, this sub-section is only applicable, with a few exceptions (e.g. funds of funds), to UCITS within the full reporting scope which have a total debt portfolio exposure (direct or indirect) at semester-end greater than or equal to 50% of the UCITS total net assets. Exposures to debt securities should be broken down by credit rating from 1 to 10 with reference to an internal assessment of the credit quality of the said instruments, whereby rating 1 is deemed to be the upper credit rating (i.e. the highest quality) and 10 relates to defaulted securities.

5. List of abbreviations

2010 Law	Law of 17 December 2010 relating to undertakings for collective investment, as amended
BCL	Banque Centrale du Luxembourg
CCP	Central Counterparty
CESR 10/788	CESR's Guidelines on Risk Measurement and the Calculation of Global Exposure and Counterparty Risk for UCITS
EM Bonds	Emerging Market Bonds
EPM	Efficient Portfolio Management
HY Bonds	High Yield Bonds
IFM	Investment Fund Manager
IG Bonds	Investment Grade Bonds
MMF	Money Market Fund
NAV	Net Asset Value
OTC	Over-the-counter
UCITS	Undertakings for Collective Investment in Transferable Securities, subject to part I of the 2010 Law
VaR	Value at Risk



Commission de Surveillance du Secteur Financier

283, route d'Arlon

L-2991 Luxembourg (+352) 26 25 1-1

direction@cssf.lu

www.cssf.lu