MFSA MALTA FINANCIAL SERVICES AUTHORITY

Statistical Report

Trends and Risks in the Maltese AIFMs

Analysis of AIFMD Data as at December 2018

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List of Abbreviations

AIF	Alternative Investment Fund
AIFM	Alternative Investment Fund Manager
AIFMD	Alternative Investment Fund Managers Directive
AUM	Assets Under Management
BANK	Banks
ESMA	European Securities and Markets Authority
FOFS	Fund of Funds Strategy
GENG	General Governments
HFND	Hedge Fund Strategy
HHI	Herfindahl-Hirschman Index
HHLD	Households
INSC	Insurance Corporations
MFSA	Malta Financial Services Authority
NAIF	Notified Alternative Investment Fund
NAV	Net Asset Value
NFCO	Non-Financial Corporations
NONE	Not Disclosed / Not Applicable
OCIU	Other Collective Investment Undertakings
OFIN	Other Financial Institutions
OTHR	Other Fund Strategy
PEQF	Private Equity Fund Strategy
PFND	Pension Funds
REST	Real Estate Fund Strategy
UNKN	Unknown Investor Type
VaR	Value at Risk

Executive Summary

This report comes as output of the first effort in analysing the data that Alternative Investment Fund Managers (AIFMs) are required to submit in accordance with Directive 2011/61/EU. The objective of this study is to identify trends and risks for the Alternative Investment Funds (AIFs) reporting to the Maltese Authority, as well as uncovering data inconsistencies in the AIFM returns, an issue which continues to be persistent across all reporting countries.

The Maltese AIFM market consists of 121 AIFMs and a total of 366 AIFs. At end 2018, the total net asset value (NAV) of these AIFs amounted to €21.74 billion, with Hedge Funds reporting 52.26% of the total NAV. Almost half of the AIFs are denominated in Euro, accounting for 45.50% of the total NAV. Professional investors held almost 99% of the funds, with 32.63% of the total NAV being held by pension funds. Moreover, during the past three years, the top five beneficial owners of each AIF owned consistently almost 70% of the market. Geographically, North America is the region to which AIFs are mostly exposed in terms of NAV, with a share of 48.21% as at end 2018. AIFs invested 45.52% of their NAV in other collective investment undertakings. This was followed by cash and equity at 18.89% and 18.49% respectively. In 2018, unencumbered cash increased by 14.75% when compared to the previous year. Hedge Funds and 'Other' Funds reported the highest unencumbered cash to NAV. Of the AIFs reporting their redemption profile at end 2018, 54.24% claimed a monthly redemption frequency, while 86.05% had a lock-up period ranging between 0 and 200 days. In 2018, the AIFs' portfolio liquidity showed a tendency to be higher than the investor liquidity, particularly within the short to medium term. Additionally, 76.34% of the AIFs' portfolio was liquid within one year.

Six risk profiles were monitored, namely leverage, counterparty, liquidity, market, concentration and operational risks. AIFs do not appear to be highly leveraged, with an aggregated AUM to NAV ratio of 141.76% and a median leverage close to 100%. The financial leverage continued to be used by only a small number of funds. In December 2018, only 5.19% of the funds reported borrowings directly and/or embedded in financial instruments. Generally, AIFs did not show counterparty risk through collateral, as most AIFs did not provide any form of collateral to any counterparty in the last quarter of 2018. However, AIFs which posted collateral were generally large and they were providing significant amounts. Maltese AIFMs continued to be highly exposed to their top five counterparties, while there are few funds which were almost entirely invested in credit instruments. Moreover, whilst the portfolio liquidity profile deteriorated during the last year, the size of the funds which reported the higher liquidity mismatch decreased in relative terms. Redemptions were relatively contained. Market risk decreased as well, and the funds which reported high Value at Risk tended to be smaller in terms of NAV. However, AIFs appeared to be more concentrated in terms of asset type, geographic and shareholders diversification. Finally, despite the operational risk in AIFs managed by Maltese entities seems generally low, Maltese AIFMs trade derivatives nearly always on a bilateral basis. Generally, the study indicates that the risk in the AIFs reporting in Malta diminished during 2018.

1 Introduction

Following the 2008 financial crisis, Directive 2011/61/EU of the European Parliament and of the Council of 8 June 2011 on AIFMs came into force to regulate the activities of AIFMs in the EU, particularly to enhance transparency, protect investments, strengthen the market's confidence as well as monitor and limit risks imposed on the financial system.

An AIFM is an entity that provides, as a minimum, portfolio management and risk management services to one or more AIFs as its core business. An AIF is defined as a collective investment scheme, including sub-funds thereof, which raises capital from a number of investors, with a view to investing it in accordance with a defined investment policy for the benefit of those investors. Each AIF must have a single AIFM.

The AIFMD framework provides also for a lighter regime (*de minimis*) for small AIFMs. To be considered as *de minimis*, a manager needs to prove that it does not manage, directly or indirectly, AIFs whose assets under management collectively exceed €100 million or €500 million. The latter threshold applies only if the AIFs managed are unleveraged with no redemption rights exercisable within five years from the date of initial investment in each AIF. In 2016, Malta introduced the Notified AIF regime. A Notified AIF (NAIF) is an AIF managed by a full-scope AIFM, which can be marketed only to professional and qualified investors. Differently from an AIF, a NAIF is not licensed by the MFSA, but is subject to a notification process. The AIFM assumes full responsibility for the due diligence and ongoing supervision of the NAIF and needs to update the MFSA in case of any changes.

The AIFMD reporting is split into two main parts. Firstly, the AIFM is requested to submit information about the principal markets, principal instruments traded and total value of assets under management (AUM) at a management company level. Secondly, the AIFM is obliged to report information on each individual AIF it manages, including NAV, AUM, asset type and leverage. The reporting frequency depends on the type of AIFM, the size in terms of AUM and the usage of leverage as follows:

AIFM Type	Criterion	Reporting Frequency
De Minimis AIFM or Full-Scope AIFM which has opted in	AUM < €0.1 billion	Annually
	AUM < €0.5 billion unleveraged with five-year lock-up period	Annually
Full-Scope AIFM	€0.1 billion < AUM < €1 billion	Half-Yearly
	€0.5 billion (unleveraged with 5 year lock-up period) < AUM < €1 billion	Half-Yearly
	AUM > €1 billion	Quarterly
AIFs	AIFs greater than €0.5 billion	Quarterly
	Unleveraged AIF investing in non-listed companies and issuers in order to acquire control	Annually

Table 1: AIFMs' Reporting Frequency

2 Methodology

This section describes the methodology used in the study, including the description and coverage of data, and an explanation of the risk assessment approach used in the last part of the report.

2.1 Data Description

The data used in the report is extracted from the statistical returns submitted by AIFMs in line with the AIFMD and it covers the period 2016 to 2018 (cut-off date 30 September 2019). Since AIFMs have different reporting frequencies, the data submitted by each AIFM in December of each year was considered for most of the analysis. Through this approach it was possible to capture data for the whole AIFM industry. However, the indicators for the risk section required a broader range of data in order to provide a meaningful analysis. To this end, quarterly data was also considered for these indicators. Moreover, data pertaining to non-EU AIFMs marketing EU AIFs in Malta was excluded, since the main focus of this study is on Maltese AIFMs.

2.2 Risk Assessment

The risk assessment of the AIFMs is based on a risk score system, which looks at different indicators covering different risk areas. The risk level of these indicators is assessed through two dimensions:

1. The absolute level of the indicator at the top 10^{th} percentile and the median value;
2. The cumulative NAV of the funds that reported values in each indicator above the top 10th percentile and above the median, in percentage of the total NAV (the sum of the NAVs of all the funds under analysis).

In this way, the risk assessment reflects two aspects: whether the AIFs reported higher or lower values of an indicator during the period, and whether the size of the outliers increased or decreased. Therefore, for each indicator, four figures are computed at each point in time: the median value of the indicator across the AIFs, the top 90th percentile value of the indicator, the cumulative NAV (in percentage of the total NAV) of the funds which reported a value above the median, and the cumulative NAV (in percentage of the total NAV) of the funds which reported a value above the top 90th percentile. These four figures are scored based on the quartile in which their respective values are positioned according to their historical levels. As a result, this score can vary from a minimum of 1 to a maximum of 4. A score of 1 would indicate minimum risk, while a score of 4 would indicate maximum risk. The scores of the indicators are then averaged to obtain a final score for each of the six risk profiles monitored, namely Leverage Risk, Counterparty Risk, Liquidity Risk, Market Risk, Concentration Risk and Operational Risk.

3 Trend Analysis

This section first analyses the size of the Maltese AIFM industry, the investment strategies adopted by AIFs, types of investors and market concentration. Subsequently, the portfolio holdings of the AIFMs will be analysed, with particular focus given to their geographical exposure, exposure to financial institutions, redemption and liquidity profiles, and leverage.

3.1 Market Structure

As at end 2018, there were 121 AIFMs licensed in Malta, managing a total of 366 AIFs. The number of licensed AIFMs decreased by 10.37%, from 135 in December 2016 to 121 in December 2018. The number of AIFs has been experiencing an upward trend since 2016, increasing by 27.53% by end 2018.

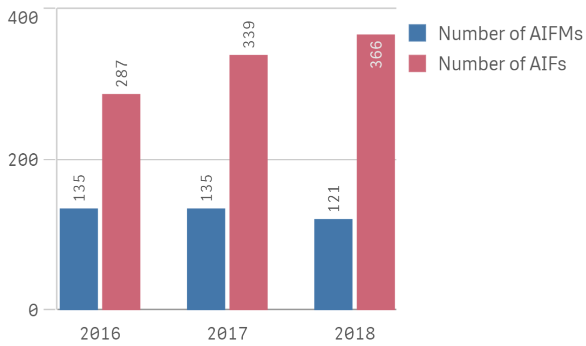


Figure 1: Number of AIFMs and AIFs

The 366 AIFs managed as at end 2018 recorded a total NAV of €21.74 billion, with an average NAV of €59.40 million. The total NAV increased by 3.34% when compared to December 2017. This increase seems far below the European trend. ESMA reported a growth of the EU AIFs' NAV equal to 11% during the same period. However, whilst ESMA's coverage ratio at end 2017 was around 80%, it increased to almost 100% in 2018. Therefore, the double-digit growth could have been inflated by the incomplete figures reported in 2017.

Around half of the AIFs are denominated in EUR (50.27%), followed by USD at 23.77%. In terms of NAV, USD denominated AIFs had a share of 50.83%, followed by AIFs whose base currency is EUR, at 45.50%.

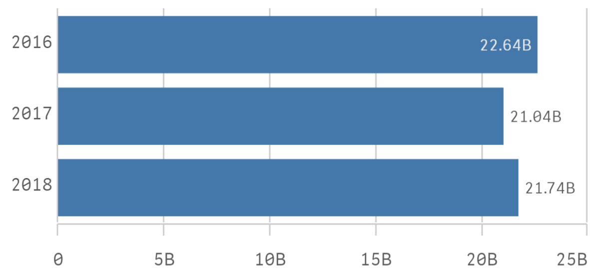


Figure 2: Series of Total NAV (in €)

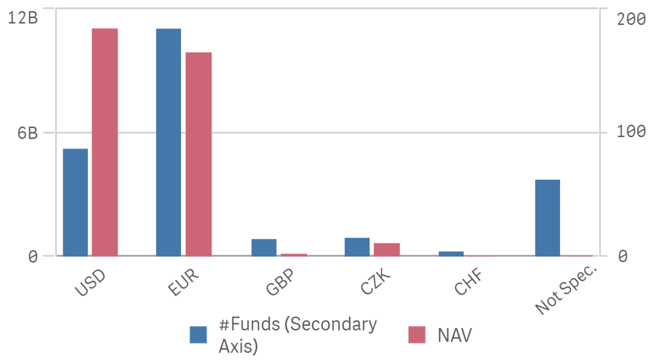


Figure 3: Number of AIFs & NAV for different Base Currencies (2018)

Of the 366 AIFs managed by AIFMs licensed in Malta in 2018, 286 (or 78.14%) were domiciled in Malta. These 286 funds reported a total net asset value of €7.29 billion, corresponding to 33.51% of the NAV of AIFs managed by Maltese AIFMs, with another 9.96% coming from AIFs domiciled in other EU countries, and the remaining 56.53%

being reported by AIFs domiciled in Non-EU countries.

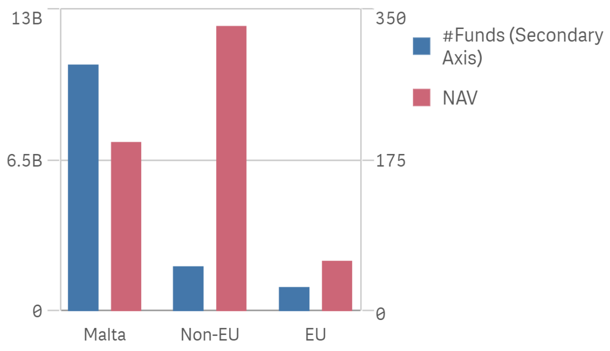


Figure 4: Number of AIFs and NAV by Country/Region of Domiciliation (2018)

AIFs adopting 'Other' investment strategies[1] were the most common type of funds in 2018, with a share of 36.89% of total AIFs, followed by Hedge Funds at 24.32%. Figure 5 illustrates the composition of AIFs by investment strategy over the period 2016 - 2018. This was in line with the remaining European AIF sector, with slightly more than half of the EU AIFs indicating 'Other' as their main strategy.

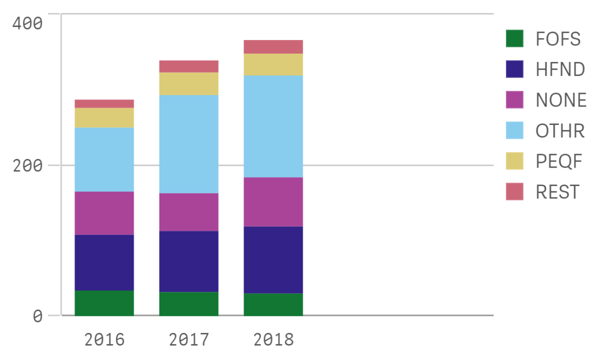


Figure 5: Split of AIFs by Investment Strategy

In terms of NAV, Hedge Funds contributed to 52.26% of the total NAV in 2018 while 'Other' and Private Equity AIFs reported 20.97% and 14.58% of NAV respectively. Conversely, ESMA reported that Hedge Funds represented only 6% of the NAV managed by EU AIFs. In fact, ESMA found that most of the NAV was allocated to 'Other' AIFs (61%).

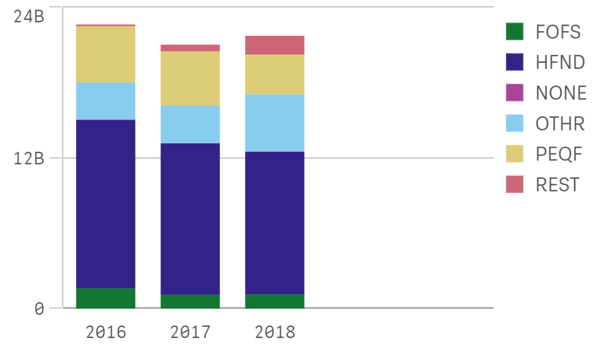


Figure 6: NAV split by Strategy

From the above, it is clear that the two dominant AIF strategies are Hedge Funds and 'Other' Funds. Analysing further these two strategies, it is possible to note that in both cases the commanding sub-strategy, in terms of NAV, is 'Other'. The following figure provides a more detailed breakdown of the two types of AIFs.

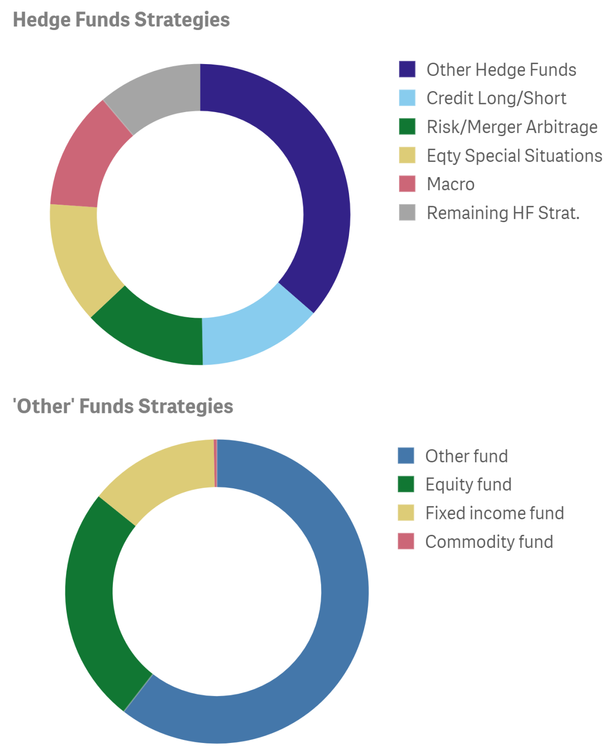


Figure 7: NAV split for Hedge Funds and 'Other Funds' (2018)

The majority (321 or 87.70%) of the AIFs have

[1] This is a residual category which covers a range of strategies, such as commodity, equity, fixed income and infrastructure funds.

a NAV which is less than €100 million. There were seven AIFs which closed 2018 with a NAV exceeding €750 million, and when aggregated these accounted for 30.70% of the total NAV. The table below provides a breakdown of AIFs by their investment strategy and NAV bracket as at end 2018.

	<€100M	€100M-€250M	€250M-€500M	€500M-€750M	>€750M
HFND	66	7	8	5	3
OTHR	127	3	3	1	1
FOFS	27	1	2	0	0
PEQF	22	3	2	0	2
REST	14	3	0	0	1
NONE	3	0	0	0	0
Not Specified	62	0	0	0	0

Table 2: Breakdown of AIFs by Strategy and NAV Bracket (2018)

3.1.1 Types of Investors

Across the years under review, the AIFM market has been dominated by professional investors, with the percentage investment in AIFs by such investors always exceeding 99% in the last three years.

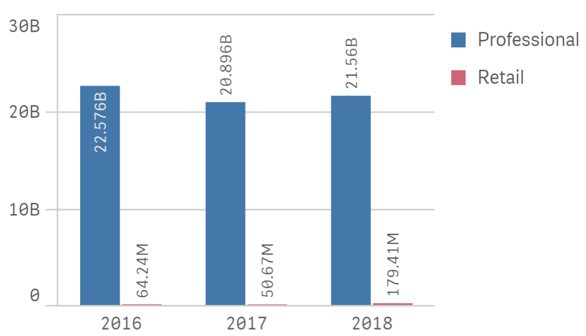


Figure 8: Professional vs Retail Investors

Figure 9: Professional vs Retail Investors split by Strategy (2018)

The retail investors target only two strategies: Real Estate Funds (9.65% of the total strategy NAV) and Fund of Funds (3.14% of the total strategy NAV).

Fund managers are also requested to provide for each managed AIF a more detailed classification of its unit holders. Figure 10 shows that pension funds are the principal investors in AIFs, holding 32.63% of the total NAV. At the other end of the spectrum, only 0.74% of NAV is attributed to the general government.

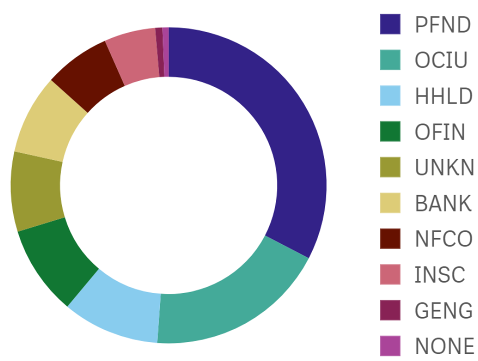


Figure 10: NAV split by different Investor Groups (2018)

As at December 2018, the exposure of AIFs to banks as investors was €1.13 billion, marking a 37.45% increase when compared to December of the previous year. Banks' investments were mainly in AIFs adopting 'Other' strategies, with a 43.80% share, while the remaining being invested in Hedge Funds (35.06%), Private Equity Funds (13.28%) and Fund of Funds (7.86%).

The AIFs' investors can be further analysed by considering the top five beneficial owners. In 2018, the share of AIFs held by the top five investors amounted to 73.18%. Private Equity Funds tend to be the ones mostly owned by the top five investors, with the only exception occurring in 2017, where funds with no strategy were completely owned by the five largest shareholders.

Strategy	2016	2017	2018
PEQF	90.90%	88.98%	91.51%
REST	85.74%	85.12%	80.08%
HFND	65.47%	66.90%	71.36%
OTHR	54.90%	50.51%	68.09%
FOFS	70.70%	51.68%	52.17%
NONE	60.27%	100.00%	45.66%
Total	**69.60%**	**68.79%**	**73.18%**

Table 3: Share of AIFs owned by Top Five Investors

The high concentration in the AIFs' ownership is a common feature shared with the AIFs in the rest of Europe. ESMA reported that the top five shareholders of each EU AIF were holding 75% of the total NAV.

3.2 Portfolio Holdings Analysis

In 2018, more than half of the funds had their largest segment of NAV exposed to EEA countries (55.26%), followed by North America (19.41%) and Europe (13.49%).

The largest funds are mainly exposed to North America, with a share of 48.21% of the total NAV (€10.42 billion) in December 2018. Exposure to the European Economic Area (EEA) followed at 36.63% of the total NAV (€7.28 billion).

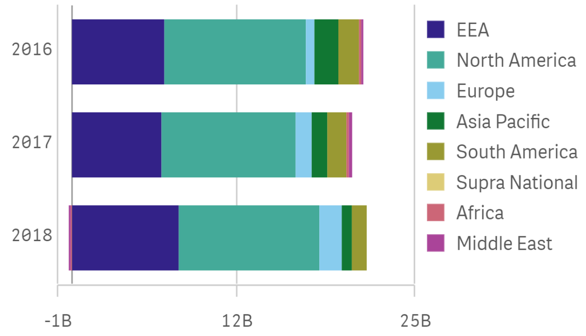


Figure 11: NAV split by Geographical Region

From Figure 11 one can observe that in 2018 there was negative exposure to Africa and Middle East. This could imply that there are funds, mainly hedge funds, which are shorting their positions in these regions. The aggregate NAV exposure to EEA and North America exceeds 70% in all the different AIF strategies. One may note that 'Other' Funds had a NAV exposure of over 20% to European countries (ex. EEA).

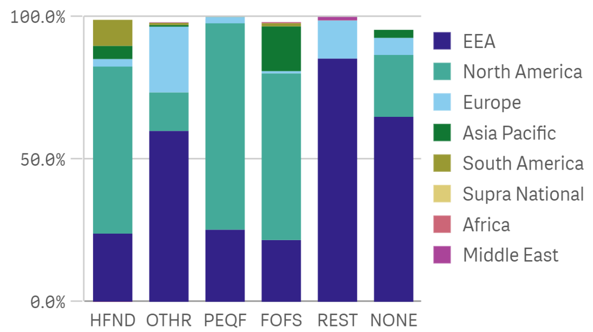


Figure 12: Geographical Breakdown of NAV by Strategy (2018)

3.2.1 Sub-Asset Type Exposures

During the last two years, AIFs were mainly invested in collective investment undertakings, with 45.52% of the reported total net exposure being invested in this asset class as at end 2018.

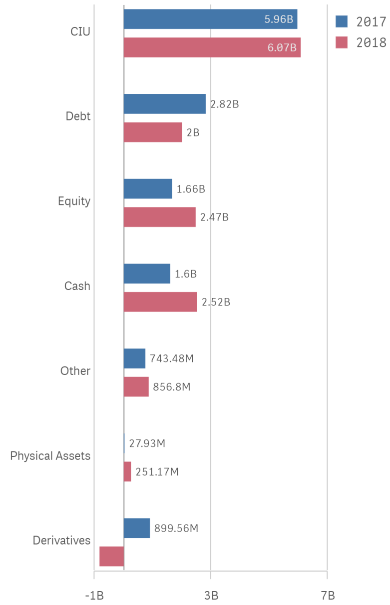


Figure 13: Sub-Asset Type Exposure

The sub-asset type with the second highest exposure was cash, followed by equity and debt at 18.89%, 18.49% and 15.02% respectively. The net exposure of AIFs to derivatives was negative in 2018, which could indicate that AIF managers tend to use derivatives in order to hedge the risks they are exposed to or otherwise to take speculative.

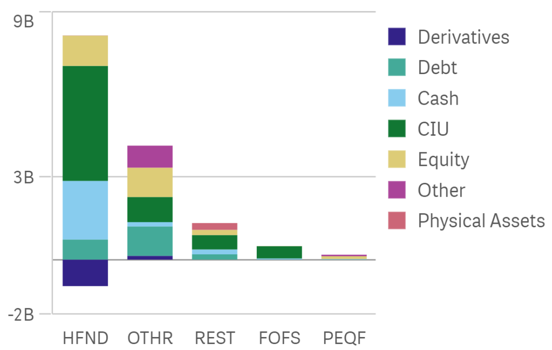


Figure 14: Sub-Asset Type Exposure by Strategy (2018)

At a strategy level, Hedge Funds were the ones reporting the highest net exposure in 2018 at €7.19 billion, with collective investment undertakings being the main sub-asset type for this strategy (€4.19 billion). A negative net exposure to derivatives was registered in Hedge Funds (-€965.95 million) and Fund of Funds (-€1.91 million).

3.2.2 Unencumbered Cash

Unencumbered cash totalled €1.82 billion in 2018, an increase of 14.75% from 2017 but a drop of 9.40% from 2016. This amount represented 8.39% of the total NAV as at end 2018, registering an increase of 0.83% when compared to the previous year.

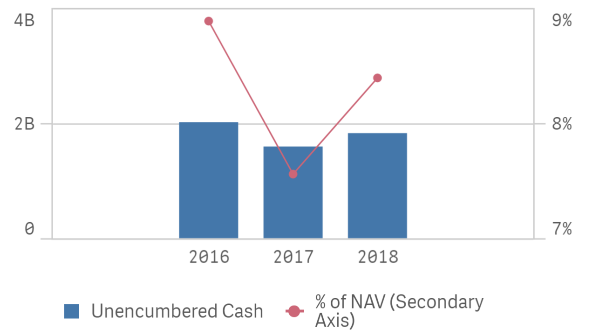


Figure 15: Unencumbered Cash

The next figure displays box plots of unencumbered cash expressed as a percentage of NAV by fund strategy as at end 2018. A notable amount of Hedge Funds and 'Other' Funds have a very high unencumbered cash ratio when compared to the median of the corresponding strategy. On the other hand, Private Equity Funds, Real Estate Funds and funds which did not specify a strategy have a low share of unencumbered cash.

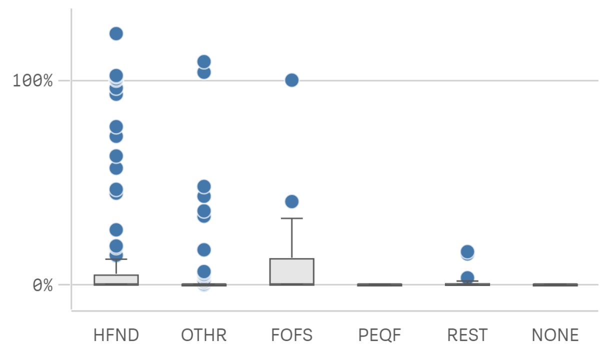


Figure 16: Box plots of Unencumbered Cash as a % of NAV by Strategy (2018)

3.2.3 Exposure to Financial Institutions

The exposure of AIFs to financial institutions has been decreasing over the period 2016 - 2018, with the amount standing at €880.71 million at end 2018, a decline of 23.52% from 2016.

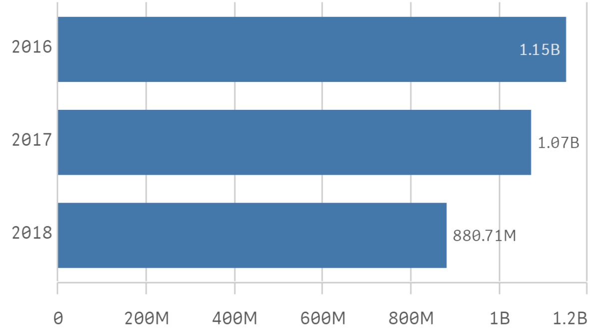


Figure 17: Exposure to Financial Institutions

In terms of bond and equity exposure, Hedge Funds had the highest exposure to financial institutions, reporting exposure to equity investments of €369.00 million and bond investments of €200.91 million in 2018. 'Other' Funds and Real Estate Funds also reported a considerable exposure to financial institutions, in both cases amounting to almost €155 million in 2018.

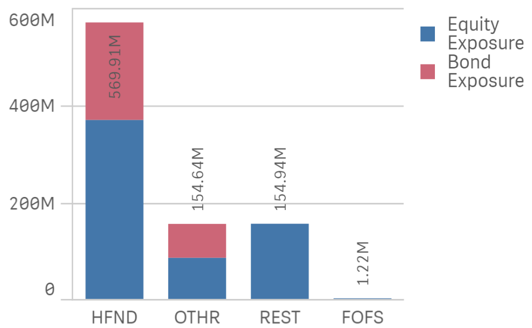


Figure 18: Exposure to Financial Institutions by Strategy (2018)

3.2.4 Market Exposure and Leverage

The AIFMD allows the AIFMs to choose between different risk measures. At end 2018, 10.11% of the funds opted for reporting Value at Risk (VaR) as a measure of their market risk. Analysing the dispersion of VaR by NAV, most funds that had a low NAV recorded a VaR value between 0 and 3, which indicates that, in 99% of the cases, most of the AIFs can expect to have losses lower than 3% in the following 20 business days.

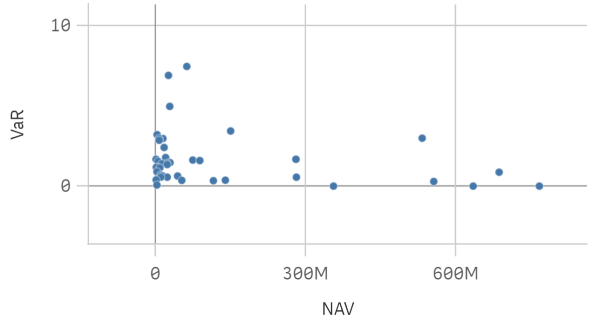


Figure 19: Dispersion of VaR by NAV (2018)

AIFMs are required to report their exposures for the purposes of computing leverage under two different methods, namely the Gross Method and the Commitment Method. Since certain data quality issues have been identified in the way in which the Gross and Commitment exposures were being reported, the AUM to NAV ratio was used in this report as an alternative method to analyse leverage. Leverage declined by 50.84% over the period 2017 - 2018, from 192.60% in 2017 down to 141.76% in 2018[2].

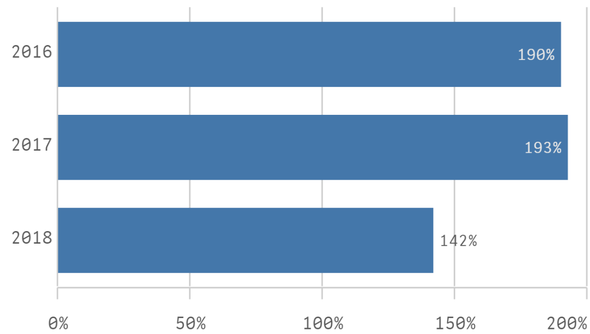


Figure 20: Ratio of AUM to NAV

In 2018, the highest AUM to NAV ratio was

[2]For the purposes of Leverage and Financial Leverage computation, one AIFM was excluded since it was reporting extreme values which would have deeply affected the quality of the charts, and which would not have represented the overall trend in the Maltese AIFMs.

reported by Real Estate Funds. The median ratio for this type of funds was 129.21%, followed by Hedge Funds at 109.13%. The remaining fund strategies had a median ratio close to 101%. The main difference between the strategies lies in the upper quartiles, as shown in the figure below. In comparison, ESMA computed an AUM to NAV ratio for EU AIFs equal to 440%, indicating that AIFs managed by Maltese AIFMs are much less leveraged than their European peers. Moreover, the Maltese AIFMs showed an opposite trend than the European AIFMs, with the AUM to NAV ratio decreasing by 51% from the 193% registered at end 2017. Conversely, EU AIFs increased their leverage from 350% to 440% during the same period.

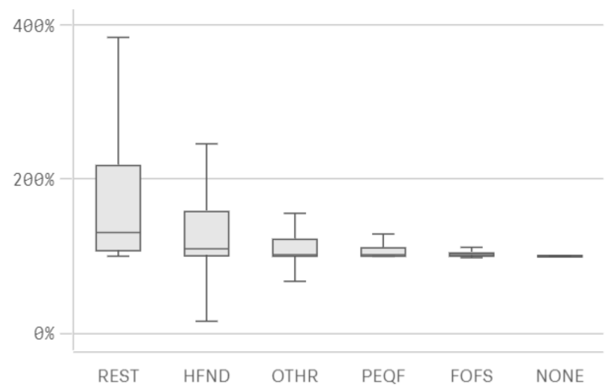


Figure 21: AUM to NAV Strategy Box Plots (2018)

The financial leverage of the AIFs, defined as the leverage amount received from each of the five largest sources of borrowed cash or securities, was €7.11 million in 2018, a negligible share of the total NAV. This represents a sharp decline compared to 2016, when the aggregate financial leverage stood at €98.46 million. The decrease was due to a number of AIFMs that either surrendered their licence or redomiciled elsewhere during recent years and others who did not report borrowed cash or securities.

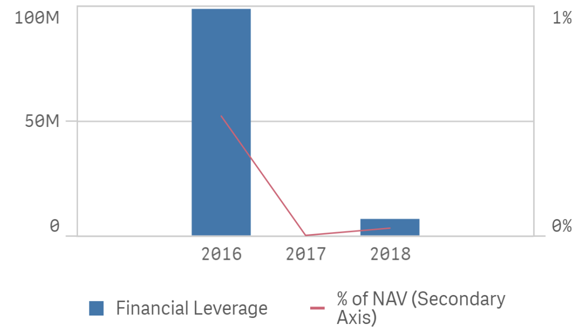


Figure 22: Financial Leverage

Although the reported leverage amount received from each of the five largest sources of borrowing was relatively small, a different picture emerges once the focus is directed on the borrowing figures reported under Article 24(2), namely unsecured borrowing amount, collateralised/secured cash borrowing via prime brokerage, reverse repo and other borrowing, as well as borrowing embedded in financial instruments (exchange-traded derivatives, OTC derivatives and short positions).

At end 2018, the AIFs' amount of secured and unsecured cash borrowings stood at €852.61 million, recording a decrease when compared to end 2017 (-24.46%). The amount of unsecured borrowing reported by the AIFMs in 2018 (accounting for 30.60% of the total borrowing amount) was mainly due to a fund changing its source of cash borrowings from 'collateralised/secured cash borrowing - Via Other' to 'unsecured cash borrowing'.

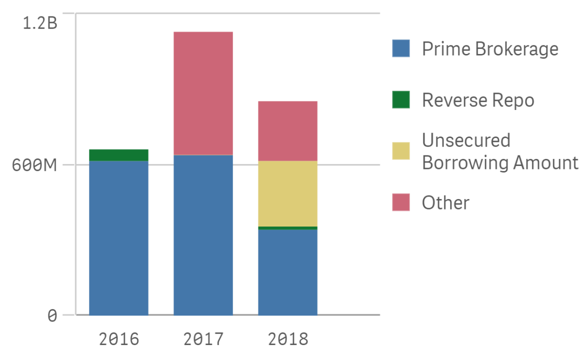


Figure 23: Borrowings of Cash or Securities

With regard to borrowing embedded in financial instruments, a significant drop can be noted when comparing end 2016 to the subsequent end of years. This decrease was the result of an AIFM which surrendered its licence and which had a substantial amount of borrowing embedded in financial instruments by OTC derivatives (mainly interest rate derivatives).

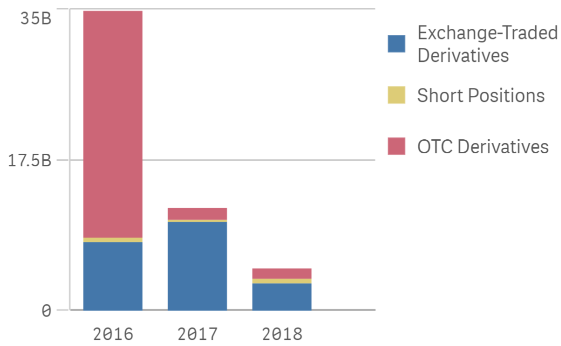


Figure 24: Borrowing Embedded in Financial Instruments

Although the amounts of secured and unsecured cash borrowing and borrowing embedded in financial instruments seem relatively high, it is important to highlight that only a small percentage of the AIFs contributed to these figures. Moreover, the significant difference between the total amounts in Figure 22 and Figures 23-24 stems from the fact that the largest five sources of borrowed cash or securities have to be reported only by AIFMs obliged to submit under Article 24(4), meaning that only full-scope AIFMs which are classified as leveraged disclose these figures.

3.2.5 Redemption Profile

Of the funds reporting their redemption profile as at end 2018, 32 claimed a monthly redemption frequency, while nine funds reported a weekly redemption frequency.

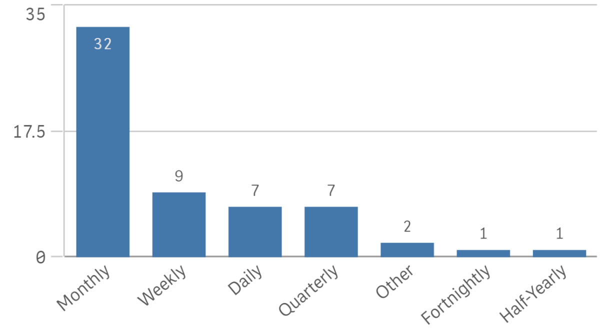


Figure 25: Investor Redemption Frequency Counts (2018)

Generally Hedge Funds adopted a monthly redemption profile. With respect to the other strategies, the predominant reported redemption frequencies were quarterly for Fund of Funds (73.38%), monthly for Private Equity Funds (100%), 'other' for Real Estate Funds (85.83%) and weekly for 'Other' Funds (61.44%).

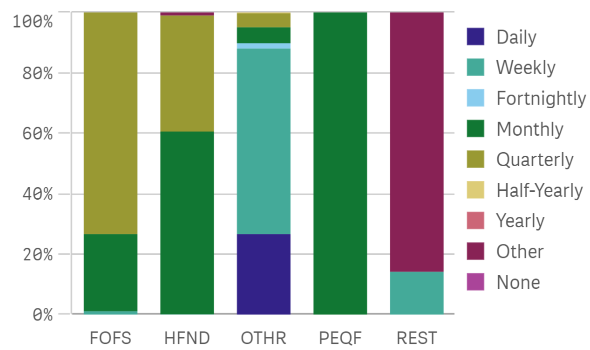


Figure 26: Redemption Frequency % of NAV by Strategy (2018)

With regard to investor lock-up periods, at end 2018, 86.05% of the funds reporting this field had a lock-up period ranging between 0 and 200 days, while for 6.98% the window of time during which investors are not allowed to redeem or sell shares varied between 200 and 400 days. There were only 4.65% of the reporting funds whose lock-up period was between 1800 and 2000 days.

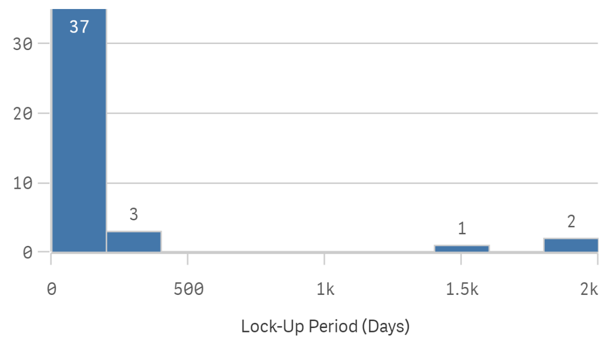


Figure 27: Distribution of Investor Lock-Up Period (2018)

When analysing the redemption notice figures, it appears that AIF Managers opted either for a very short redemption notice, with 13.21% of the funds reporting a period of up to one day, or for a very long one, with 32.08% of the AIFs requiring 90 days of notice.

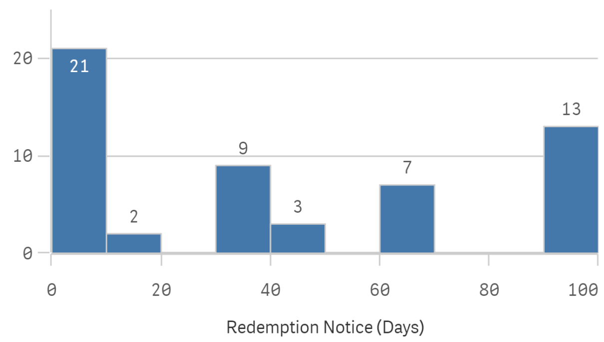


Figure 28: Distribution of Investor Redemption Notice Period (2018)

3.2.6 Liquidity Profile

Analysing the liquidity profile of the AIF sector, 12.58% of the AIFs' portfolio can be liquidated within one day, contrasting to the 1.09% of the invested funds that can be liquidated within the same period. Both liquidity indicators accumulate to 76.34% within 365 days, with portfolio liquidity being always higher than investor liquidity. This is generally a positive factor indicating the AIFs' ability to meet investors' redemptions.

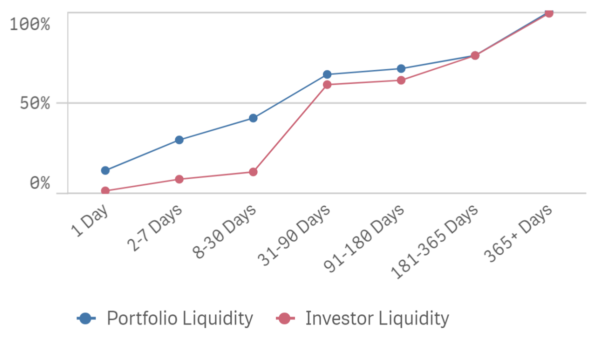


Figure 29: Portfolio and Investor Liquidity for the whole AIF Sector (2018)

Only few funds are involved in a contractual agreement to have extra financing available in case needed. In these cases, the other party is usually committed to provide financing only for short periods; on average, in fact, only 23.08% of the financing is still available after 30 days.

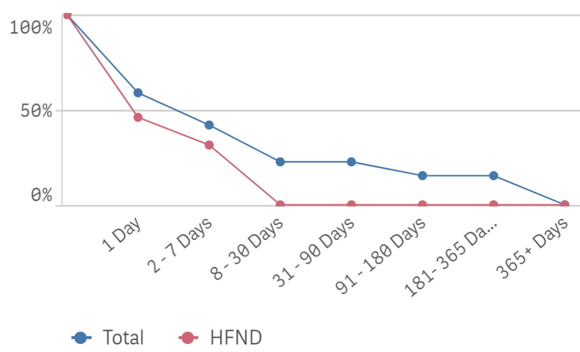


Figure 30: Financing Liquidity Profile (2018)

Hedge Funds tend to have a very liquid portfolio with 87.18% of the portfolio which can be liquidated within 90 days against the industry average of 65.61%. There seems to be a liquidity mismatch after a 180 day period, since 90.61% of the portfolio can be liquidated against 96.49% of NAV which could possibly be claimed by investors. Hedge Funds are also the category in which the majority of funds with financing agreements fall (62.34%). Nonetheless, these agreements are mainly short-term contracts, with 100% of the financing amount being available to the AIFs for less than one month.

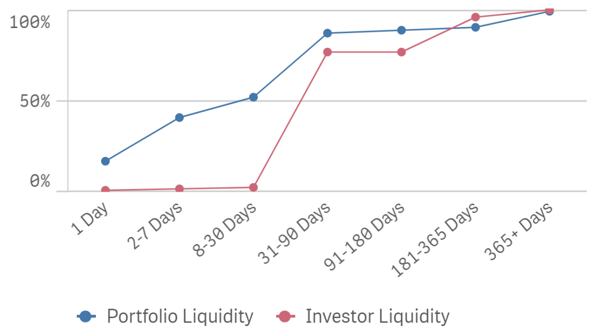


Figure 31: Hedge Funds' Liquidity Profile (2018)

A very different picture is observed when focusing only on 'Other' Funds. It appears that these type of funds are invested in less liquid, possibly long-term assets, with only 31.43% of the portfolio being liquidable within one year. Moreover, excluding the first day, the investor liquidity of these AIFs always exceeds the portfolio liquidity. This indicates that these funds may experience the risk of not meeting the investor redemption if required, unless they have other liquidity safeguards such as the ability to redeem in specie, apply gates and defer redemption.

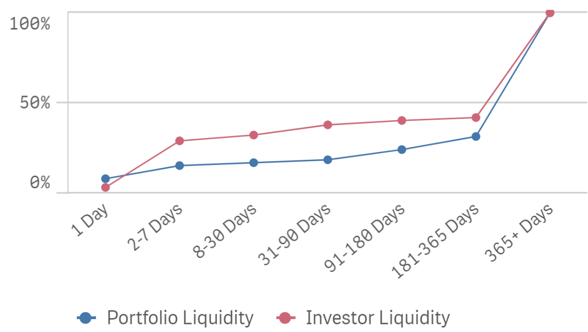


Figure 32: Other Funds' Liquidity Profile (2018)

4 Risk Analysis

A risk analysis is carried out in this section, based on the historical values of different risk indicators reported by the AIFMs. The purpose of this analysis is to identify which risk profiles have deteriorated during the period under study, in order to understand from which risk areas vulnerabilities could emerge. Each indicator will be assigned a risk score which can take a value between 1 (low risk) and 4 (high risk). More details are provided in Section 2.

4.1 Leverage Risk

Whilst leverage is a technique which could magnify the profit of a fund in a positive scenario, it could also greatly amplify the losses in negative circumstances. Moreover, high leverage could result in the fund managers being forced to liquidate their assets rapidly in order to service margin calls, increasing the risk of fire sales. AIFs engage mainly in synthetic leverage, that increase exposure through the use of derivatives. The AIFMD identifies two different measures of synthetic leverage which need to be reported by the AIFMs: the Gross Method Leverage and the Commitment Approach Leverage. However, due to the data issues highlighted in the previous section regarding the Commitment and Gross Methods, three other measures of leverage have been adopted in this analysis, namely:

1. AUM to NAV Ratio;
2. Borrowing of cash and securities; and
3. Borrowing embedded in financial instruments.

4.1.1 AUM to NAV Ratio

Since all the AIFs are required to report their AUM and NAV, the AUM to NAV ratio can be computed for the whole AIF population, whereas Gross and Commitment figures are not available for AIFs not obliged to report under Article 24(2) of the Directive 2011/61/EU.

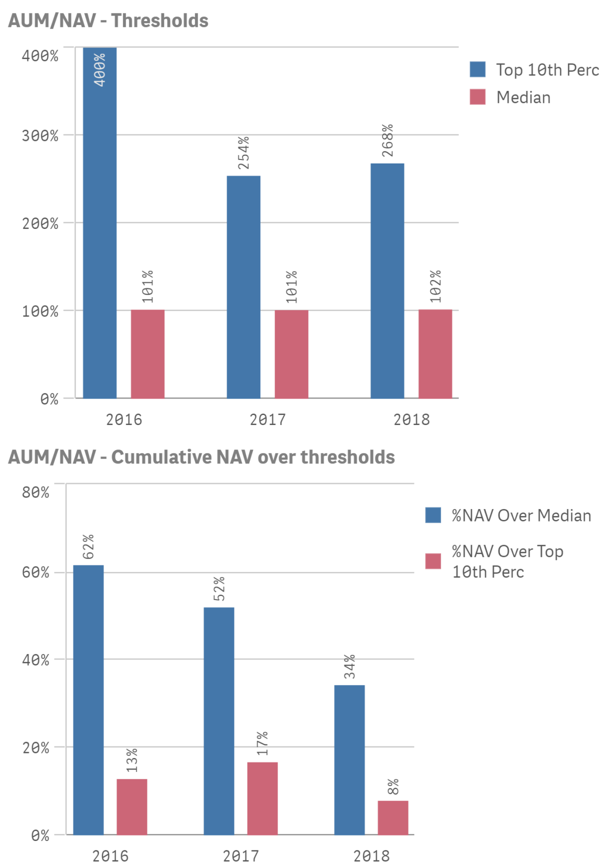


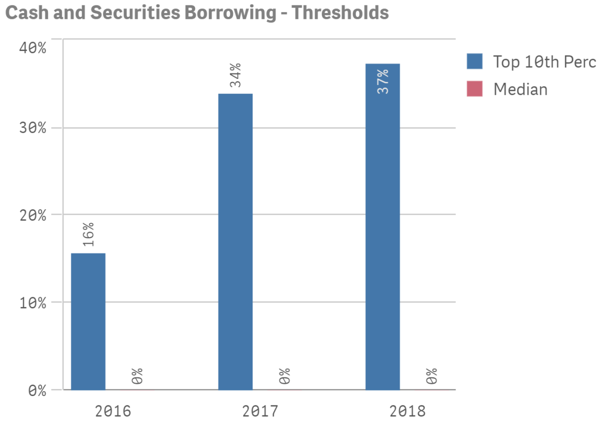
Figure 33: Leverage Risk - AUM to NAV Ratio

Moreover, this leverage indicator is more reliable in terms of data quality, as it does not require any computationally intensive calculations.

Generally, Maltese AIFMs are not excessively leveraged since the median AUM to NAV ratio reported was equal to 101.69% (+0.71% compared to December 2017). A small fraction of the funds have a significant leverage, with the top 10th percentile being equal to 268.11% in 2018, an increase of 14.14% from the previous year. ESMA identifies as substantially leveraged those funds which have an exposure higher than 300% of the NAV. This means that more than 90% of the AIFs managed in Malta are considered as not substantially leveraged. During the last year, it appears also that the size of the most leveraged funds diminished. The NAV of the funds which exceeded the median leverage declined from the 51.92% to 34.21% of the total NAV. Moreover, the NAV of the funds which exceeded the top 10th percentile decreased from 16.64% to 7.85% of the total NAV. Due to this sensible decrease in the size of the outliers, the risk score for the leverage decreased from 2.08 in December 2017 to 1.75 in December 2018 (the risk scores are computed using the methodology described in Section 2.2).

4.1.2 Borrowing of Cash and Securities

AIFMs need to report both the unsecured and the collateralized amount borrowed. A borrowing capability enables an AIFM to increase the exposure of the AIFs it manages, therefore exposing the AIFs to additional risk in case of a distressed scenario, unless the borrowing is on a purely temporary basis. This indicator is calculated as the amount borrowed expressed as a percentage of NAV. As mentioned in the previous section, Maltese AIFMs are not generally inclined to borrow either cash or securities. In fact, just a small number of AIFs reported a borrowed amount higher than 0 (which is therefore the median value for this indicator as at end of 2018, in line with the previous end of year figures).



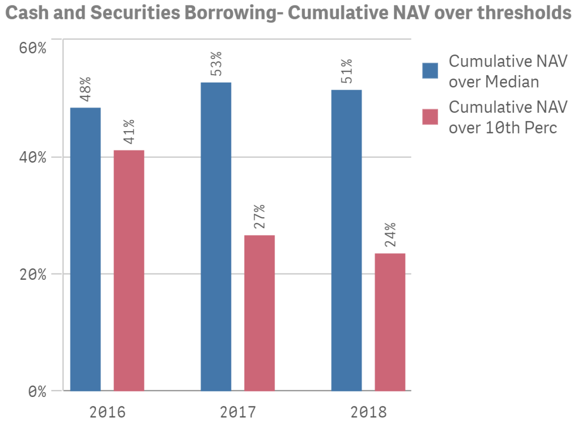
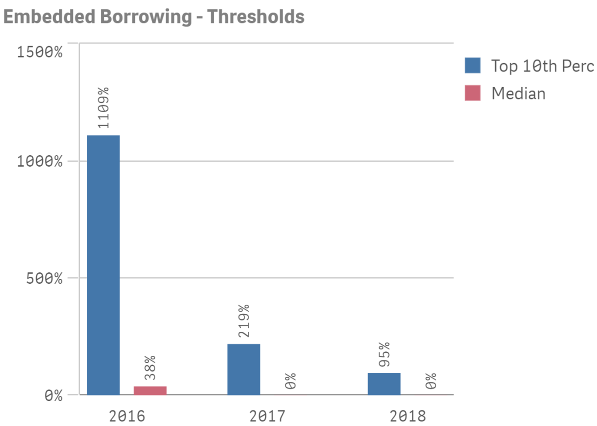


Figure 34: Leverage Risk - Borrowing of Cash and Securities

Generally, large AIFs report the highest amount borrowed. The NAV of the funds which report borrowing percentages higher than the top 10th percentile (37.25% in Q4 2018, a 3.10% increase when compared to Q4 2017) represents 23.52% of the total NAV of the funds reporting these fields. This percentage is lower than in Q4 2017, when the size of the funds above the top 10th percentile was equal to 26.62% of the total NAV. Due to the increase in the value of the top 10th percentile, the risk score for this indicator slightly increased from 2 to 2.25 on a year by year basis.

4.1.3 Borrowing Embedded in Financial Instruments

AIFMs can obtain further borrowing (on behalf of the AIFs they manage) indirectly when they enter in certain specific contracts. Derivatives are a popular category of such contracts (both traded OTC or on an Exchange). Furthermore, when shorting a position a Manager also sells shares that it does not own, but which are borrowed. Therefore, the value of this indicator is calculated as the sum of the amount of the borrowing embedded in OTC derivatives, in Exchange Traded Derivatives and the amount borrowed for short positions, as a percentage of NAV.



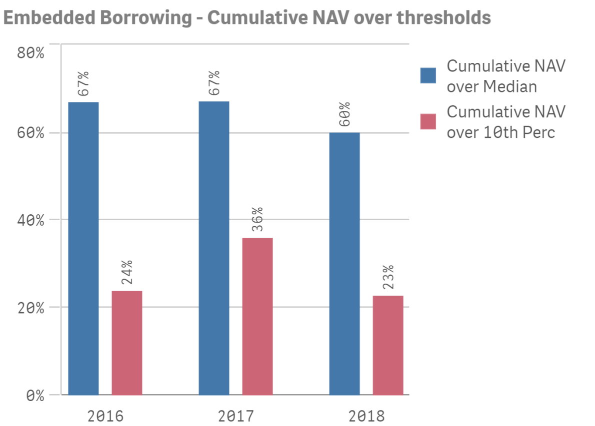


Figure 35: Leverage Risk - Borrowing Embedded in Financial Instruments

Even this type of borrowing is very limited within the Maltese AIFM industry. The median value for this indicator as at December 2018 is equal to 0%, meaning that more than 50% of the funds reporting these fields do not borrow any money or securities through financial instruments. However, there are few tendentially large funds which use this type of borrowing extensively. In fact, the cumulative NAV of the funds with embedded borrowing higher than the top 10th percentile (95.25% in December 2018) represents 22.72% of the total NAV of the funds reporting these fields. Despite these high values, comparing with the previous end of year, there seems to be a deleveraging trend. The top 10th percentile dropped by 123.65%, while the aggregated NAV of the AIFs with borrowing percentages higher than the median and the top 10th percentile decreased respectively by 7.13% and 13.20%. Consequently, the score for this indicator reflected this risk mitigation, declining from 2.25 in Q4 2017 to 1.25 in Q4 2018.

Overall, **Leverage Risk** appears to have mitigated during 2018. In particular, when compared to the NAV of the reporting AIFs, the size of the outliers decreased significantly in all of the three indicators. This was the main driver of the decline in the final score for this risk profile, which decreased to 1.75 in Q4 2018 from 2.08 in Q4 2017.

4.2 Counterparty Risk

Counterparty risk can be defined as the risk that a counterparty defaults before fulfilling its contractual obligations. Given the nature of their business, AIFMs enter in contractual obligations with several counterparties, both in their investments (such as through debt instruments or derivative contracts) and/or when they are provided with some investment services. The counterparty risk is measured through three different indicators, namely:

1. the collateral posted during the period by an AIF as a percentage of its NAV;
2. the exposure of an AIF to the largest five counterparties as a percentage of the NAV; and
3. the amount invested by the AIF in debt instruments as a percentage of the NAV.

4.2.1 Collateral Posted

AIFMs are required to report the value of collateral and other credit support that the AIF has provided to all counterparties both in the form of cash, securities and other instruments.

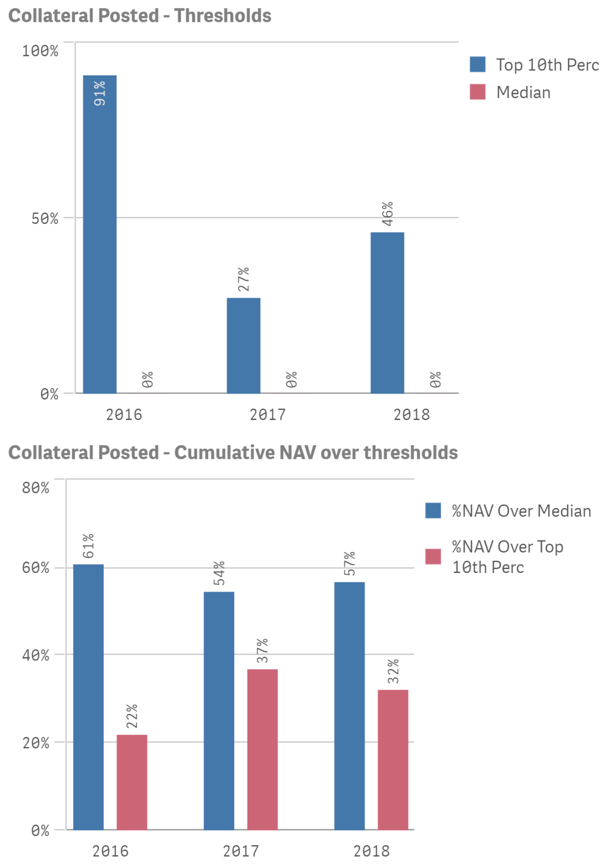


Figure 36: Counterparty Risk - Collateral Posted

AIFMs should also include the collateral assets sold and pledged in connection to repos as well as collateral provided under an arrangement pursuant to which the secured party has borrowed the securities. The risk in posting collateral originates from the fact that if an entity to which an AIFM posted the collaterals defaults, it could not return the assets.

From the reported figures, Maltese AIFMs are generally not posting collateral to any counterparty. This could reflect the fact that Maltese AIFMs do not use derivatives in an extensive way, as highlighted also by the low leverage. The median value of the collateral posted over Q4 2018 as a percentage of NAV is equal to 0, in line with the previous quarters. The fact that only 31.23% of AIFs reported a collateral percentage higher than 0%, and that the cumulative NAV of these funds is equal to 56.61% of the total NAV, indicates that the small funds are the ones which generally do not post any collateral. This is even more evident once the top 10th percentile value is analyzed. The top 10th percentile value is equal to 45.99%, nearly 20% higher than the previous year (27.30% as at end 2017). Looking at the cumulative NAV of the funds which exceed this threshold, the 10% of the funds which report the highest value of collateral in percentage of NAV represents nearly one third of the total NAV (32.04% and 4.71% lower than in the previous year). The final score of this indicator increased by 0.25 during the year, passing from 2 to 2.25.

4.2.2 Top Five Counterparties

AIFMs are required to identify the top five counterparties to which the AIF has the greatest mark-to-market net credit exposure, measured as a percentage of the NAV and excluding CCPs. Both the median and top 10th percentile indicate that the AIFs tend to be highly exposed as a percentage of the NAV to the top five counterparties, with these two thresholds being equal to 88.22% and 100% respectively. While the top 10th percentile is in line with the previous year, the median saw an increase of nearly 11%. However, it seems that small AIFs present a higher exposure to the top five counterparties than large AIFs, and the size of the funds exceeding the thresholds shrank during the year, with both the two cumulative NAV measures being halved from end 2017. The cumulative NAV of the funds exceeding the median value diminished from 65.29% to 32.22% of the total NAV, while the cumulative NAV of the funds exceeding the top 10th percentile decreased from 25.79% to 13.91%.

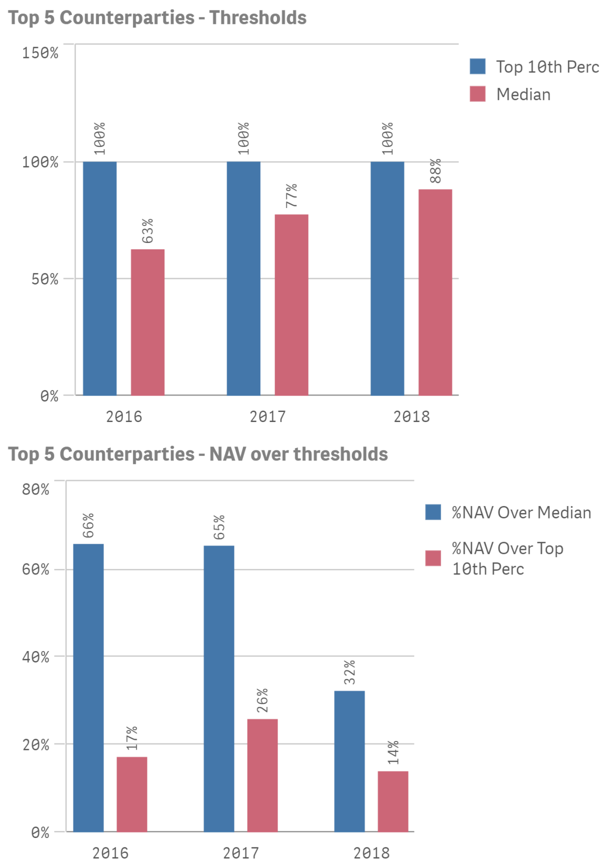


Figure 37: Counterparty Risk - Top 5 Counterparties

Mainly due to this marked decrease in the size of the outliers, the risk score for this indicator sharply decreased from 3 to 2.25 over the period 2017-2018.

4.2.3 Exposure to Debt Instruments

AIFMs need to identify the main categories of assets in which their funds are investing. The credit risk exposure is proxied with the exposure to instruments which are more subject to credit risk, like bonds, loans and structured products.

The median exposure to debt instruments as a percentage of the NAV declined by 22.67% in 2018, when compared to 2017. While at the end of 2017 the debt instruments appeared to be a very popular category of instruments, with a median value of 50.51% of NAV invested in this category, as at end 2018 this percentage dropped to 27.84%.

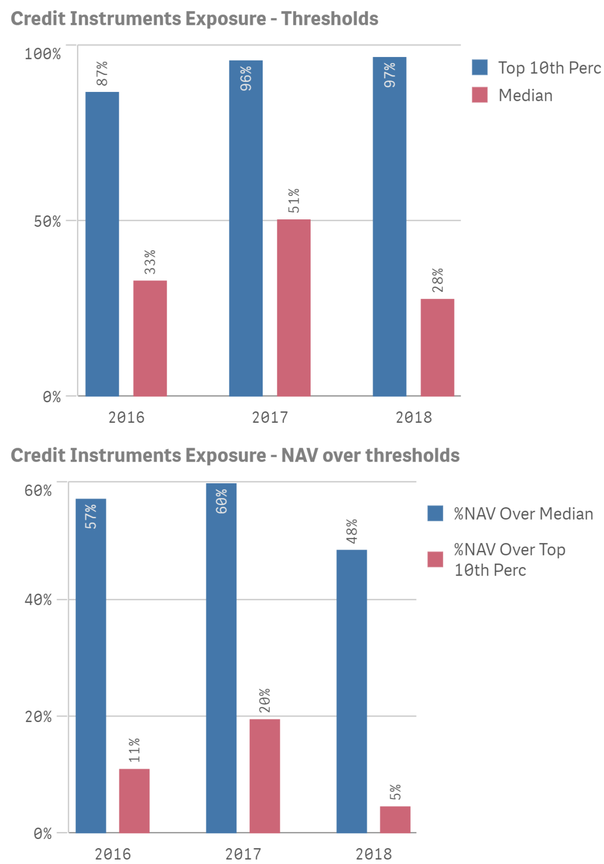


Figure 38: Counterparty Risk - Exposure to Debt Instruments

The 10% of the funds which are more exposed to debt instruments continue to have a significant share invested in these types of assets (top 10th percentile equal to 96.77%

of NAV, an increase of 0.98% compared to end of 2017). However, their size shrank considerably and, while as at end 2017 they represented nearly 20% of the total NAV, as at end 2018 this percentage reduced to only 5%. Moreover, when considering the median, the size decreased from 59.84% to 48.48% of the total NAV. These factors contributed to lowering the score for this indicator by 1.75, from 4 to 2.25.

Overall, the lower risk arising from both the exposure to debt instruments and from the top five counterparties contributed to a decrease in the final score for the **Counterparty Risk**, which, in Q4 2018, reduced to 2.25 from 3 in Q4 2017.

4.3 Liquidity Risk

ESMA defines liquidity risk in the investment funds as *"the risk that a position in the fund cannot be sold, liquidated or closed at limited cost to comply at any time with obligations to redeem units/oshares"*. This risk originates from the liquidity transformation activity in which investment funds are involved. Liquidity transformation could be substantial, particularly in instances where AIFs are investing in non-conventional assets or in less liquid products, while continuing offering redemption rights to their investors. In particular, some funds could have a high exposure in some niche markets and, therefore, a liquidity shock in such funds could become highly relevant. The liquidity risk is measured through three indicators:

1. the liquidity of the investment portfolios reported by the AIFMs;
2. the amount of redemptions received during the period by the AIFs; and
3. the liquidity mismatch.

4.3.1 Portfolio Liquidity

AIFMs are required to report the liquidity of their investment portfolios in terms of seven maturity buckets, indicating the percentage of portfolio which can be liquidated in each one of these maturity timeframes. The seven maturity buckets are: *one day or less, within one week, within one month, within three months, within six months, within one year and more than a year*. To compute the overall level of liquidity of each portfolio, a weighted average is computed, multiplying the percentage of each bucket by the minimum number of days needed to liquidate that percentage of portfolio (therefore 0, 2, 8, 31, 91, 181 and 366 respectively, assuming that a month is made of 30 days).

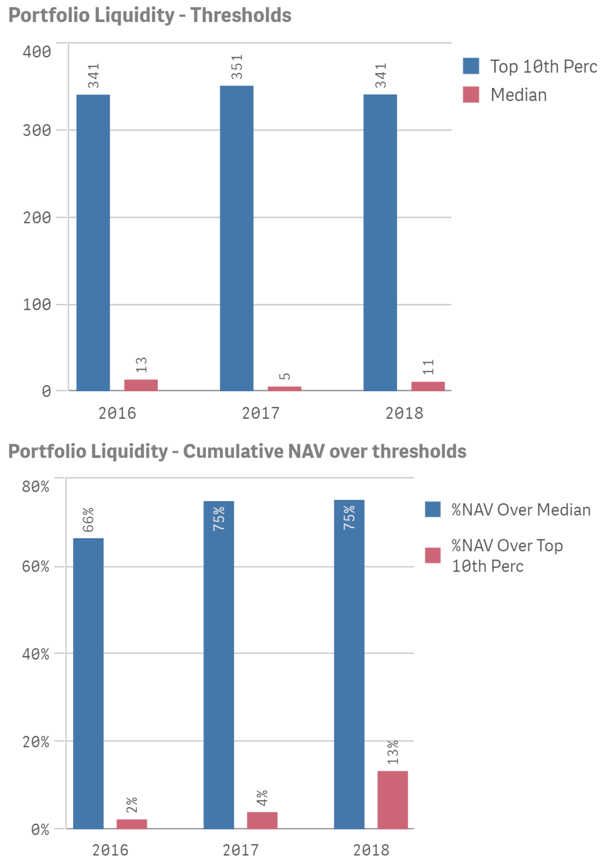
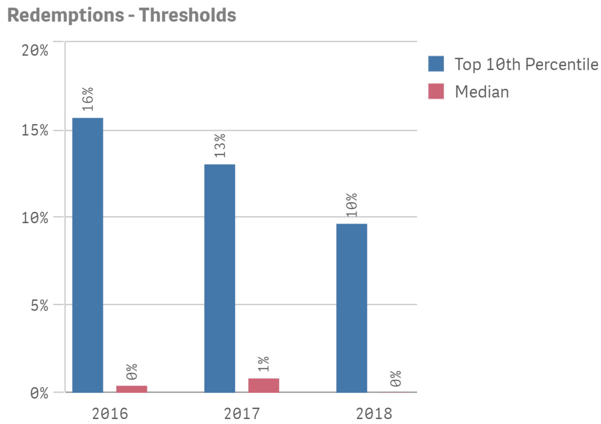


Figure 39: Liquidity Risk - Portfolio Liquidity

While the median portfolio illiquidity value increased from five to 11, the top 10th percentile decreased by 10 compared to the previous year, passing from 351 to 341. In terms of size of the outliers, the year to year comparison shows that the sum of the NAV of the funds which exceeded these two thresholds increased as percentage of the total NAV in both cases. In particular, when observing the funds which reported the most illiquid portfolios, with values above the top 10th percentile, the cumulative NAV in percentage of the total NAV increased by nearly 10% (from 3.93% to 13.28%). Historically, it seems that the outliers were mainly very small funds, with their cumulative NAV being typically well below 10%. Therefore, small funds tended to have the most illiquid portfolio in the past. Due to this growth in the size of the outliers, the score for this indicator increased from 2.75 as at end 2017 to 3.25 at end 2018.

4.3.2 Redemptions during the period

In line with Article 24(2) of Directive 2011/61/EU, AIFMs are required to report the value of the redemption they received on a monthly basis. This indicator focuses on the aggregated redemption requests received per quarter as a percentage of NAV at the end of the reporting period. Funds continued to report very low redemptions, with the median redemptions in the quarter as percentage of NAV being always below 1%. When focusing on the top 10th percentile, the situation seemed to have improved compared to the previous year, with the redemptions in the quarter declining from 13.03% to 9.64% of the NAV. However, the size of the outliers increased in both cases, with the funds reporting redemptions above the median value equal to 75.67% of the total NAV, while the funds reporting redemptions above the top 10th percentile representing the 13.55% of the total NAV. In particular, the funds which report redemptions percentages higher than the median form three quarters of the total NAV. This can be explained by the fact that small funds are usually tailor-made investment vehicles used by few investors for some specific projects and, therefore, they do not typically suffer big redemption shocks. The decrease in the values of the median and the top 10th percentile of the percentage of redemptions in the quarter drove the risk score for this indicator down by 0.5 during the year, to 2 in Q4 2018.



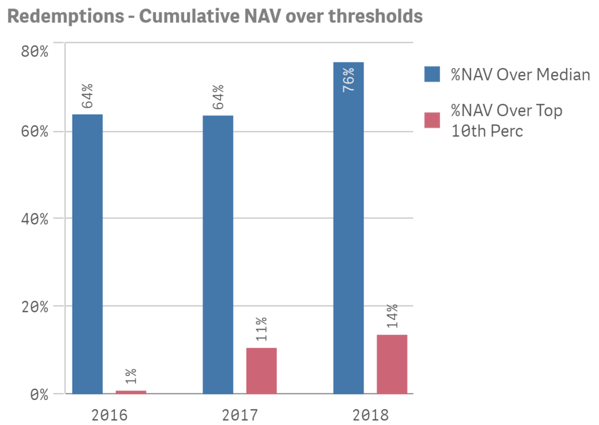


Figure 40: Liquidity Risk - Redemptions during the period

4.3.3 Liquidity Mismatch

AIFMs are also required to report the redemption policies of the AIFs they are managing and, in particular, whether they offer redemption rights to the investors. The liquidity mismatch is computed as the percentage of the portfolio which cannot be liquidated within the redemption frequency offered. The calculation of this indicator assumes a worst case scenario in which all the investors exercise their redemption at the same time. Namely, if an AIF has a weekly redemption frequency, the liquidity mismatch is calculated as the percentage of the portfolio that cannot be liquidated within one week.

The median liquidity mismatch grew from 4.79% in Q4 2017 to 18.28% in Q4 2018.

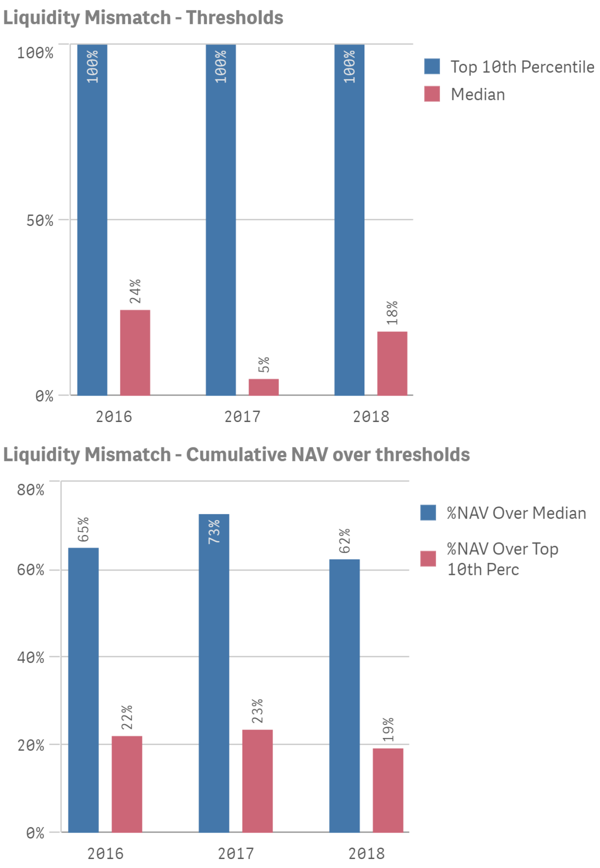


Figure 41: Liquidity Risk - Liquidity Mismatch

The top 10th percentile is stable at 100% (in line with its historical values), indicating that there are a number of funds which have a portfolio liquidity profile completely misaligned to the redemption frequency offered. However, the decreasing size of the funds above the median and the top 10th percentile (62.30% and 19.24% of the total NAV, compared to the 72.62% and 23.49% of the previous year) mitigated this increase, and actually, the final score decreased from 2.25 to 1.5 year to year.

The lower risk arising from liquidity mismatch and the lower redemptions reported compensated for the higher illiquidity in the AIFs portfolio. Therefore, the final score for **Liquidity Risk** decreased slightly from 2.5 to 2.25.

4.4 Market Risk

Market Risk is the risk of incurring losses due to movements in market factors, such as prices and interest rates. There are various measures which AIFMs can choose from in order to assess the market risk exposure of the funds they manage. However, due to data quality issues, only the Value at Risk is used in this analysis. Value at Risk is an estimation of the extent of fund losses over a defined period of time for a given confidence interval.

4.4.1 Value at Risk

AIFMs which fall within the scope of Article 24(2) of Directive 2011/61/EU are required to report the Value at Risk of the AIFs they manage. The VaR has to be computed with a confidence interval of 99%, with a 20-day holding period and a look-back period of 250 days. From the data reported, the market risk seems to have been mitigated during 2018 since both the median and the top 10th percentile Value at Risk reported decreased over the period 2017-2018, from 2.14% to 1.45% and from 23.36% to 8.04% respectively. In terms of the size of the outliers, the situation is more uncertain. The funds which reported a VaR higher than the top 10th percentile represented 5.45% of the total NAV (a decline of 7.53% compared to the previous year), however the size of the funds with VaR higher than the median increased from 23.30% to 37.41% of the total NAV. In general, the reported figures indicate that the largest funds are the ones which probably have robust market risk controls and monitoring.

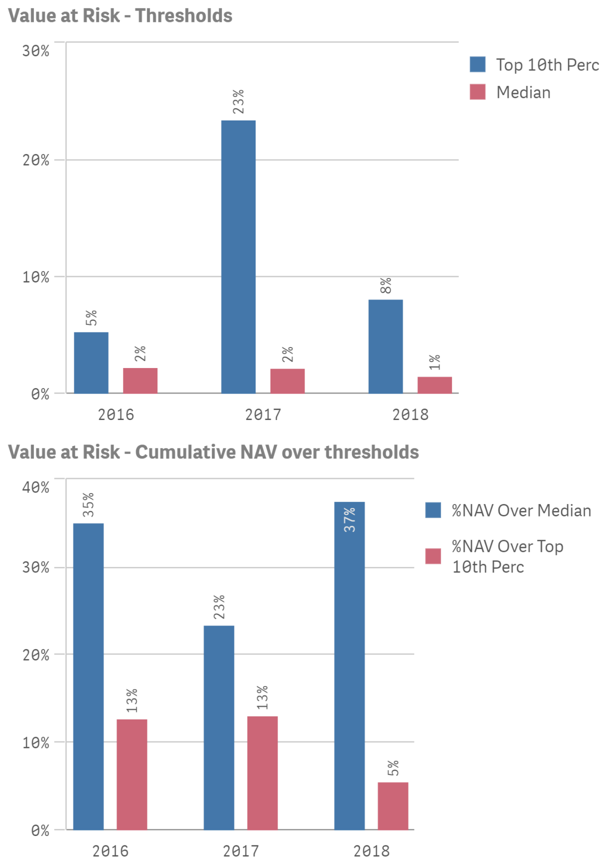


Figure 42: Market Risk - Value at Risk

The lower level of risk is reflected also by a decrease in the final score for **Market Risk**, which declined from 2.75 to 2.

4.5 Concentration Risk

Concentration risk is defined as the risk emerging from a fund which is exposed to a small number of asset types, countries or source of funding. The risk stemming from excessive concentration is measured through three indicators:

1. the Herfindahl-Hirschman Index (HHI) of the five most important portfolio concentrations;
2. the HHI of the geographical focus of the fund investment portfolio; and
3. the percentage held by the five main investors of the AIF.

4.5.1 Top Five Concentrations

AIFMs are required to report for each fund the five most important portfolio concentrations, defined as investments grouped by three criteria: asset type, market where the trade occurred and position type (long or short). This is useful in understanding whether the portfolio of an AIF is diversified or if it is mainly invested in few specific assets of a certain market. The HHI is measured as the sum of squared percentage of each concentration and, therefore, in case of maximum concentration, it would be equal to 10,000 (100% of the portfolio invested in a single concentration).

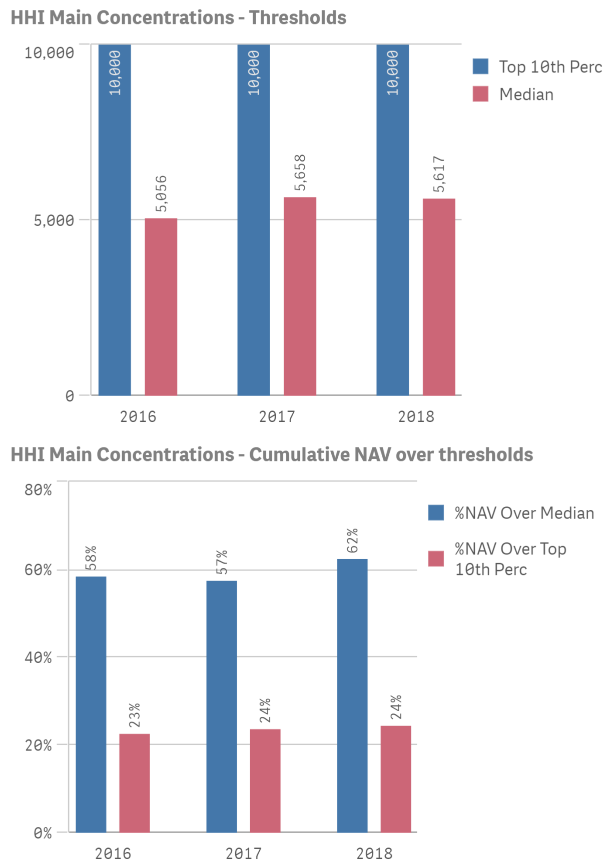


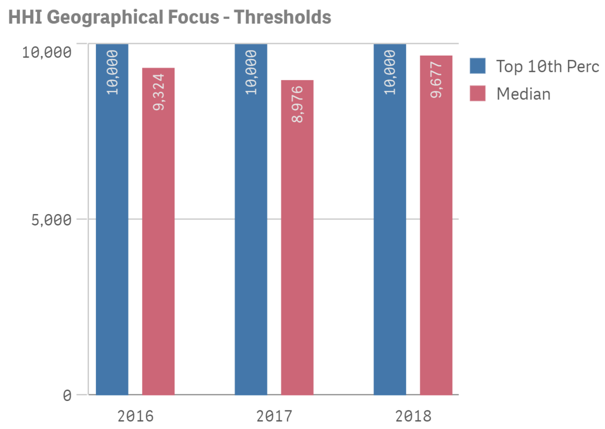
Figure 43: Concentration Risk - Top Five Concentrations

The AIFs remained relatively highly concentrated.

The top 10th percentile remained constantly at 10,000 - meaning that at least 10% of the funds are fully exposed to just one type of asset belonging to the same market. The data shows that the biggest funds are the most concentrated since the NAV of the funds which exceed the median and the top 10th percentile of the HHI represent 62.38% and 24.38% respectively, and both percentages increased compared to end of 2017. The risk score for 2018 was equal to 2.25, slightly higher than the previous year (2 in 2017).

4.5.2 Geographical Concentration

AIFMs are required to report on the region of domiciliation of their investments and the corresponding share of NAV. The HHI is also used to measure the geographical concentration.



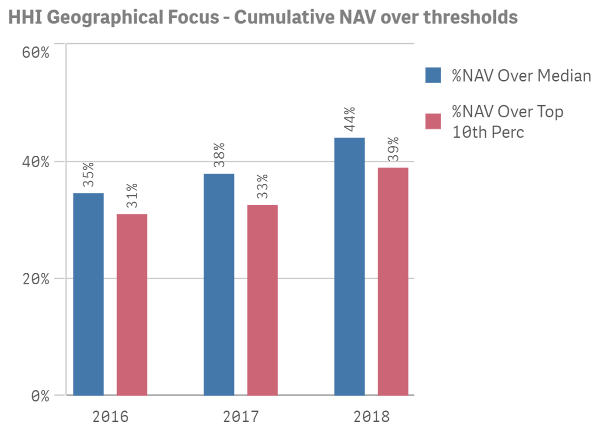


Figure 44: Concentration Risk - Geographical Concentration

From the reporting figures, it transpires that most of the funds focus on just one or a few geographical areas. The HHI of the top 10th percentile remained unchanged from the previous years at 10,000, indicating that the portfolios of the most concentrated funds were totally invested in only one geographical area. The median HHI was very high as well at 9,677 in 2018, marking a significant increase in the index (+702) from the previous year. The most geographically concentrated funds are also the largest ones. The NAV of the funds above the top 10th percentile represents 38.93% of the total NAV, an increase of 6% when compared to the previous year. Also, the percentage of the NAV above the median grew by 6.13%, reaching 44.04%. These increases resulted in the score for this indicator to increment by one point compared to the previous year, reaching 3.25.

4.5.3 Top Five Investors

Concentration risk does not concern only the asset side of the funds, but it can be greatly important also on the funding side. A fund which depends on a small number of investors is more exposed to liquidation risk in the eventuality that such investors decide to withdraw their money without prior notice. AIFMs are required to report the aggregate ownership of the top five investors that have the largest equity interest in the AIF. From the analysis carried out, it emerges that AIFs which report in Malta are highly concentrated on the top five investors.

Both the median and the top 10th percentile are equal to 100%, meaning that in more than half of the funds, the top five investors hold the whole fund. This high concentration means also that these AIFs do not have diversified funding sources, increasing the risk of sudden liquidation. This high concentration was reflected also by an increase of the risk score for this indicator, from 2.25 at end 2017, to 3 at end 2018.

Given the higher geographical concentration of the investments and the higher concentration risk arising from the funding side, the final score for the **Concentration Risk** grew during the year, from 2.16 in Q4 2017 to 2.83 in Q4 2018.

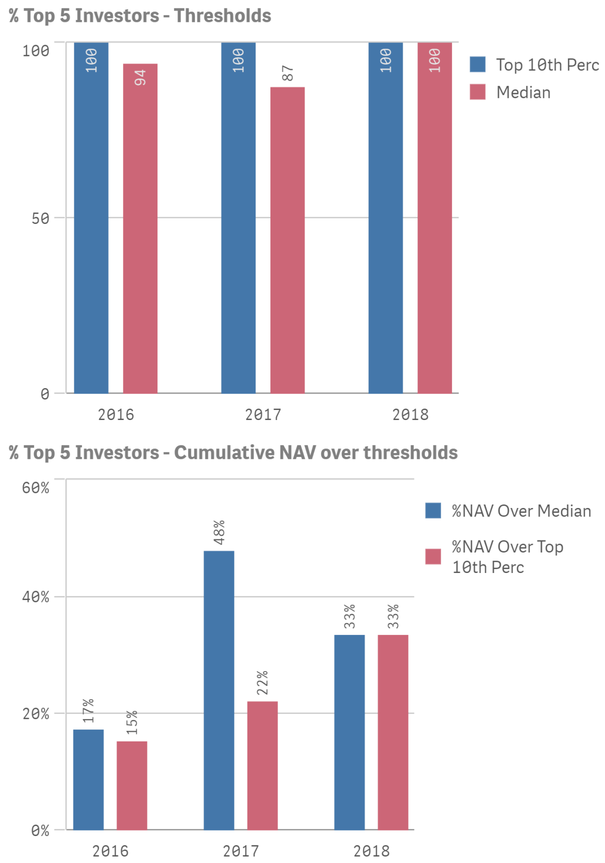


Figure 45: Concentration Risk - Top Five Investors

4.6 Operational and Other Risks

The Solvency II Directive defines operational risk as "*the risk of loss arising from inadequate or failed internal processes, personnel or systems, or from external events*". The three indicators used to measure the operational risk are:

1. change in NAV;
2. derivative transactions not cleared by CCPs; and
3. turnover during the period.

4.6.1 Change in NAV

Fund Managers recording a sharp increase in their assets under management are more exposed to operational risk, as their strategies/operations can suffer from lack of scalability. AIFMs are required to report the monthly percentage change in Net Asset Value of the AIFs over the reporting period.

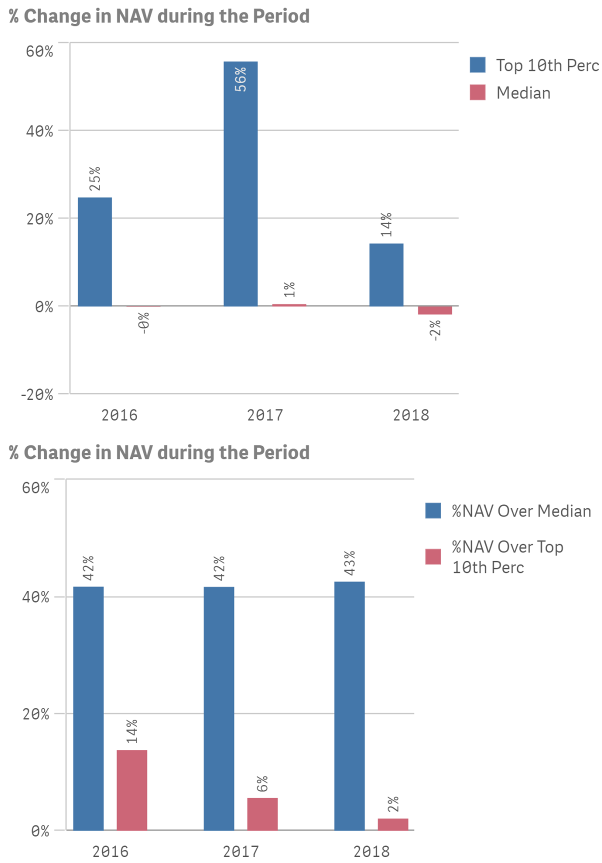


Figure 46: Operational Risk - Change in NAV

In Q4 2018, AIFs do not seem to have experienced a substantial growth in their assets. The median change in NAV was actually negative (-1.82%), while the top 10th percentile was equal to 14.36%. Both figures are much lower than in Q4 2017 (a decrease of 2.36% and

41.45% respectively). Moreover, the size of the funds which exceed the top 10th percentile is very low, and in fact their aggregated NAV is equal to 2.10% of the total NAV. Therefore, the risk score for this indicator is low, at 1.5, a decrease of more than one point compared to the previous end of year.

4.6.2 Derivative transactions not cleared by CCPs

The derivative transactions which are not cleared by CCPs, apart from being exposed to higher bilateral counterparty risk, are also subject to much higher operational risk.

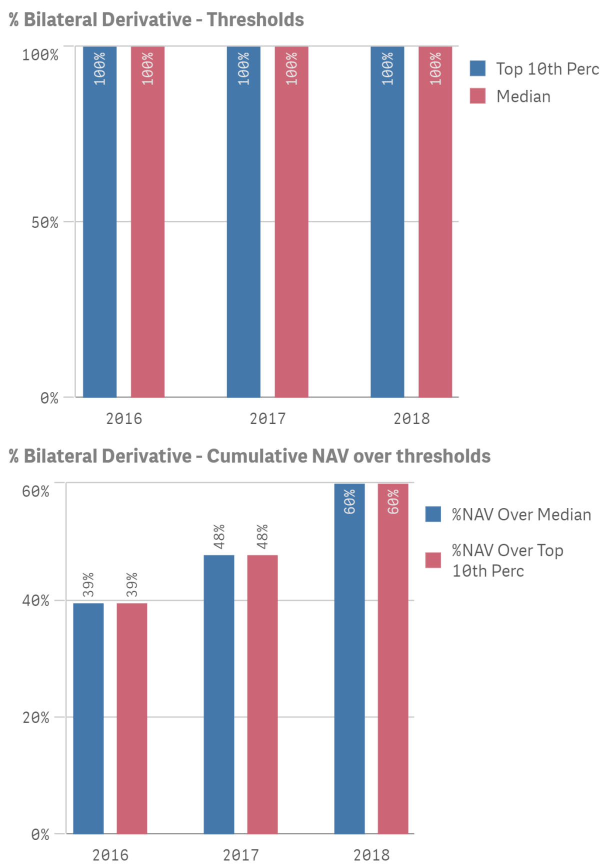


Figure 47: Operational Risk - Derivative transactions not cleared by CCPs

From the analysis carried out on the AIFM data, it emerged that funds continued to make large use of derivative transactions cleared bilaterally during the period under study. Both the median and the top 10th percentile were equal to 100% in Q4 2018, meaning that all the derivatives transactions were cleared bilaterally. The same figures were observed at the end of 2017. However, the risk score for this indicator increased to 2.75 (+0.75 compared to Q4 2017) since at the end of 2018, the NAV of the funds which cleared all the derivative transactions bilaterally represented 59.91% of the total NAV, a growth of 12.21% when compared to the previous year.

4.6.3 Fund Portfolio Turnover

AIFMs which fall within the scope of Article 24(2) of Directive 2011/61/EU need to report the value and category of the instruments traded during the reporting period. Higher turnover is linked to higher operational risk since the likelihood and associated costs of managers taking poor trading decisions is bigger. Moreover, higher turnover means also higher risk of failure in the different phases of the transaction process.

The median turnover reported by the AIFs as at end 2018 was equal to 24.52% of the NAV, 3.19% lower than in Q4 2017. However, the top 10th percentile increased by 32.29%, reaching 273.97% in 2018. AIFs which were actively trading are also larger in terms of NAV than the ones with low turnover. The aggregate NAV of the AIFs whose turnover, expressed as a percentage of NAV, was higher than the median amounted to 52.63% of the total NAV, while for the top 10th percentile, this percentage was equal to 19.22%. These two percentages were lower than in the previous year (in Q4 2017 they were equal to 66.16% and 21.32% respectively). This decrease in the size of the outliers led the risk score to decline from 2.5 in Q4 2017 to 1 in Q4 2018.

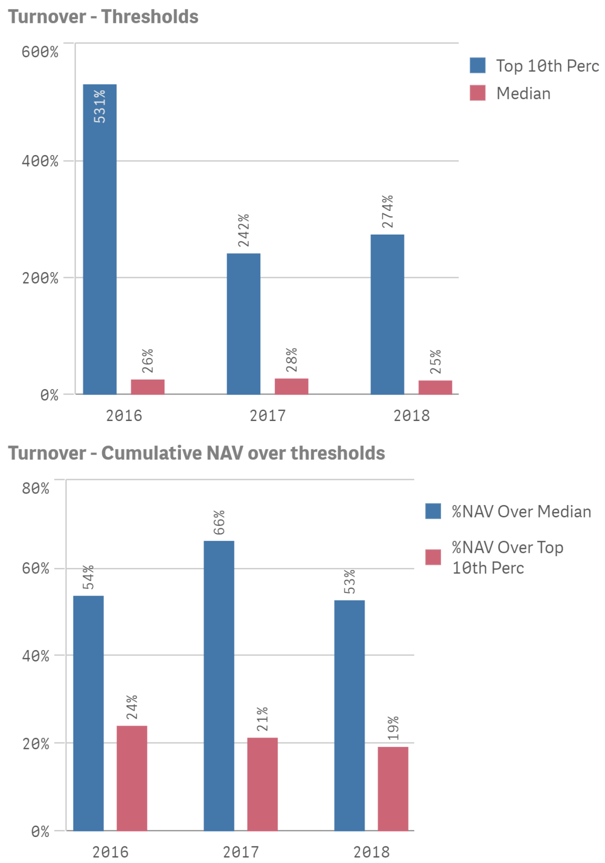


Figure 48: Operational Risk - Fund Portfolio Turnover

Despite the higher risk arising from the high percentage of derivatives cleared bilaterally, the final score for **Operational and other risks** decreased from 2.42 to 1.75, mainly due to the lower risk from fund turnovers and change in NAV.

4.7 Risk Summary

Overall, the analysis indicates that the risk in the AIFs reporting in Malta generally reduced during 2018 when compared to 2017. However, the AIFs experienced a higher concentration in the instruments in which they invested, in the geographical focus and in their shareholding composition. Despite a higher risk emanating from a less liquid portfolio, the AIFs were less exposed to liquidity risk in terms of redemptions. Moreover, the NAV of the funds which presented higher liquidity mismatch was smaller than the previous year, when expressed as percentage of the total NAV. Also, AIFs continue not to be excessively leveraged, with the median leverage, measured as AUM/NAV, always very close to 100%.

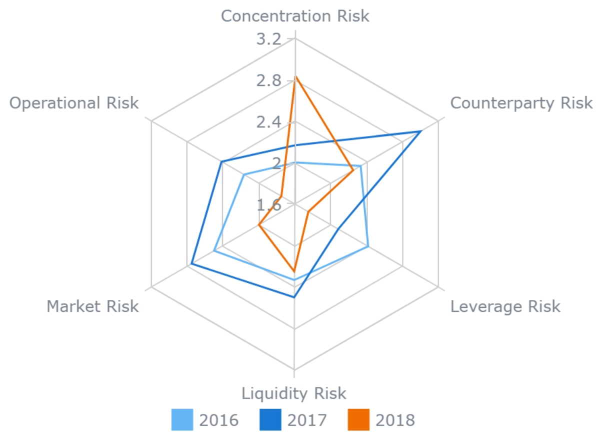


Figure 49: Risk Score Radar

However, when looking at the borrowing of cash and securities, there are few AIFs which receive substantial financial leverage. Nonetheless, the size of these AIFs engaged in borrowing activities shrank when compared to the total NAV of the reporting funds. Finally, market risk decreased during the year, probably as a de-risking reaction to the turbulence in the markets during December 2018. From the reported figures it also appears that the larger AIFs tend to manage better this type of risk.

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