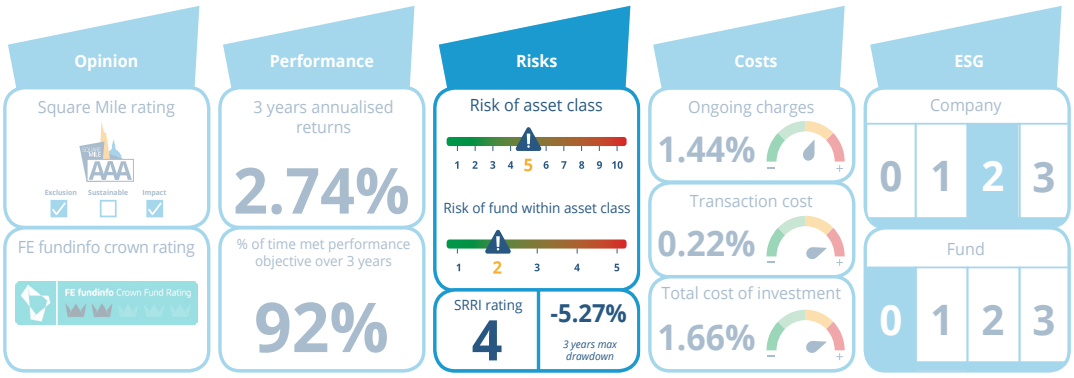
FOR PROFESSIONAL INVESTORS ONLY

Fund Dashboard:
Risk Rating Methodology



Source: Square Mile and FE fundinfo

The following methodology was created in order to provide insight into a fund's long term risk expectations relative to other asset classes as well as a short term indication of how much risk this fund has experienced relative to other strategies within the fund's asset class or defined peer group.

The level of risk an investor is willing to accept is one of the main determinants of the future performance they might expect. The risk ratings can be used independently as a broad metric to screen and select funds that best reflect the required underlying risk profile.

At the same time, it is important to note that other considerations should also be taken into account when selecting a fund. Although risk ratings group together funds with a similar risk profile this does not guarantee that the desired level of return will be achieved. An investment may cause loss of capital in any situation, regardless of risk levels.

The Fund Dashboard risk rating system uses a set of metrics to identify different levels of risk at two stages:

1. The risk of an asset class relative to other asset classes.
2. At a fund level, the risk of funds relative to their peer groups.

Each rating informs the user of the relative risk an investor would be subjected to when selecting a general asset class, a fund within an asset class and a balanced multi-asset portfolio composed of different asset classes in a diversified manner.

In both "asset class" and "risk within asset class" approaches, risk levels are split into a scale ranging between 1 to 10 and 1 to 5 respectively. Each level of risk has its own defined expected volatility characteristics, with a score of 1 representing the safest profile and 10 the riskiest for asset class or 5 being the riskiest for risk of fund within an asset class.

This methodology explains calculations and inputs behind both "asset class" risk score as well as fund risk score labelled as "risk of fund within the asset class".

Asset class risk score

The asset class risk score was designed to give an insight into a relative level of risk an investor could be exposed to when selecting a particular strategy. The calculation begins with identification and characterisation of different asset classes within the fund universe.

Universe creation

Firstly, we considered the universe of mutual funds available in the Investment Association (IA) universe. This collection was split into 44 distinctive peer groups, or asset classes containing, as of 31st May 2020, a total of 2,990 funds. No consideration was made of the fund's domicile or its legal structure. Funds which have not yet been assigned to an IA sector and which reside within IA Unclassified group have been omitted from the following process.

The resulting peer groups, which are loosely based on IA's sectors, can be found listed in Appendix 1. We hope that by keeping close to these classifications, it would more relatable and therefore practical when choosing an investment. For more information on IA sectors please click HERE.

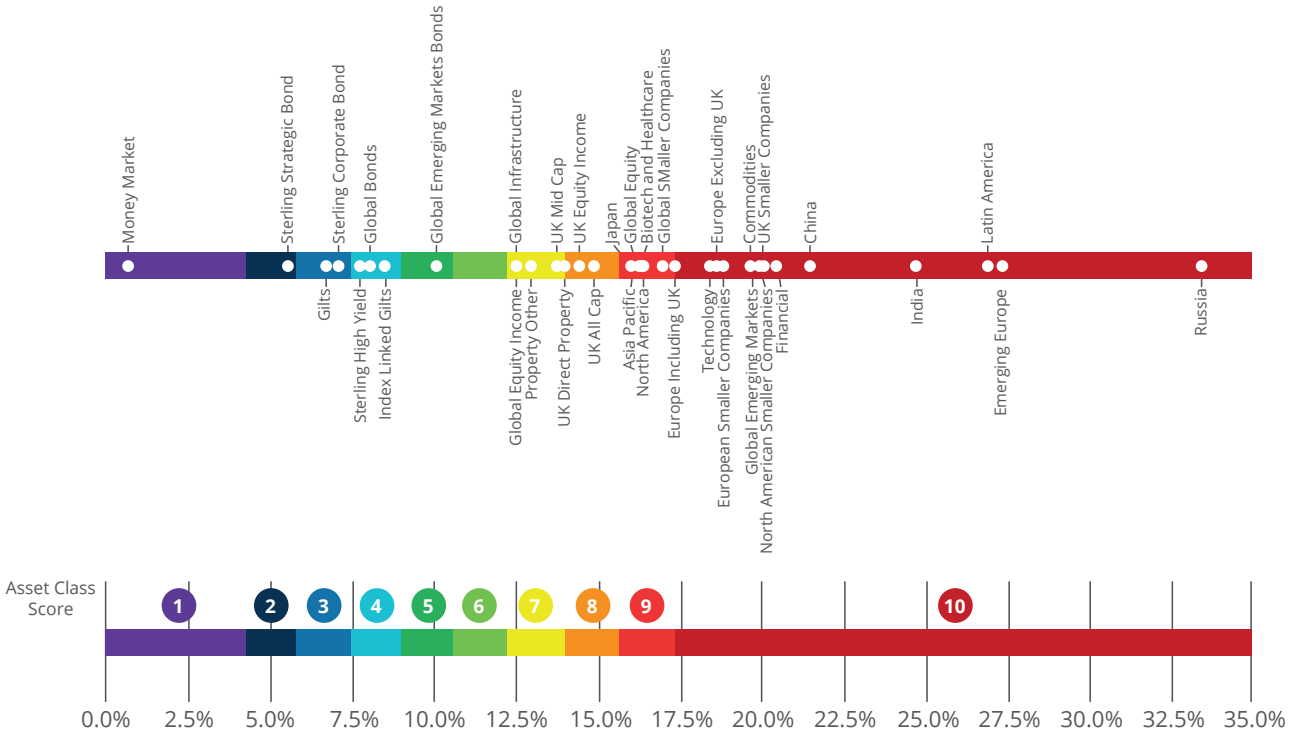
The asset classes and peer groups are reviewed on a quarterly basis. During the review, the suitability and content of each peer group is reviewed. Funds that have been launched since the last review will be added if they were not previously included during regular Fund Dashboard updates.

Asset class risk assignment – Single asset strategies

Each asset class is given a risk score based on the long term volatility expectations an investment would experience. The purpose of the rating is to provide insight into the relative levels of risk, compared to other asset classes, when selecting an asset class to invest in. Linking funds to an asset class or risk level allows a more meaningful comparison between similar single strategy funds or multi-asset strategies respectively. It also provides a more forward looking and robust measure of the volatility expectations. For example, although emerging market bonds share similar levels of volatility to global equities their individual drivers of risk and risk management are different. Therefore, it is prudent to assume that in the long term these drivers would impact the two asset classes in a different way and would eventually manifest themselves in price volatility.

Each risk score exists within bounds created by the Square Mile's strategic asset allocation process. As a consequence, it is possible to indirectly compare the risk of a single strategy investment to a multi-asset proposition. This also can be used as an informative map of asset class "positions" relative to diversified portfolios and multi-asset funds.

Every single asset peer group's historic levels of risk is mapped onto risk range bands derived from the strategic asset allocation process, as shown in Figure 1. Asset classes which displayed levels of risk greater than 9 have been given a broad score of 10.



An example showing approximate positions of various asset classes relative to each other and on single risk range, divided into different risk level buckets.

Asset class risk – Multi-asset strategies

Risk scoring multi-asset strategies on an asset class basis requires a more detailed analysis of the underlying holdings in addition to a mechanism for capturing the tactical allocation positions taken over time. A more pragmatic approach, therefore, would be to compare historic volatility of these strategies to existing risk bands, based on a standard strategic asset allocation process. This enables the user to compare risks between individual strategies and when investing in a diversified multi-asset portfolio. Due to the consequences of diversification, it is not possible to achieve the same risk score attributed to the diversified portfolio by simply taking a weighted average risk of underlying individual strategies. Although the final risk scores cannot be used directly to calculate "overall" risk of a portfolio, they can still give an estimate of the risk an investment could be exposed to. For example, an investor focusing on investments in the lower risk range would not be likely to end up with a portfolio that exhibits high risk characteristics.

Asset class risk – Multi-asset strategies - mapping

The process of risk mapping multi-asset strategies is reliant on both strategies' performance history as well as set of comparative indices which differ in their risk profiles. Square Mile's strategic asset allocation process is used to create a set of 10 risk profile indices. Each index is derived from capital market assumptions of expected return and volatility for core asset classes such as: cash, UK Corporate Bonds, Gilts, UK Equity, Europe ex UK Equity, North American Equity, Japanese Equity, Pacific ex Japan Equity and Emerging Markets Equity. The capital market assumptions are updated on an annual basis.

Once a set of comparative risk indices has been calculated, every multi-asset fund's volatility journey is mapped onto risk bands created by the risk indices, to determine which risk profile is most suitable. Although the multi-asset funds tend to be closely correlated with the risk indices, due to volatility being driven mainly by macro market events, they may at times exhibit misalignment. This could be due to the fund manager's tactical positioning or the strategy mandate changing its risk tolerance. A period of the last 5 years is used for each the fund's risk mapping, in order to make risk assignment robust to short term changes and at the same time responsive to longer term changes.

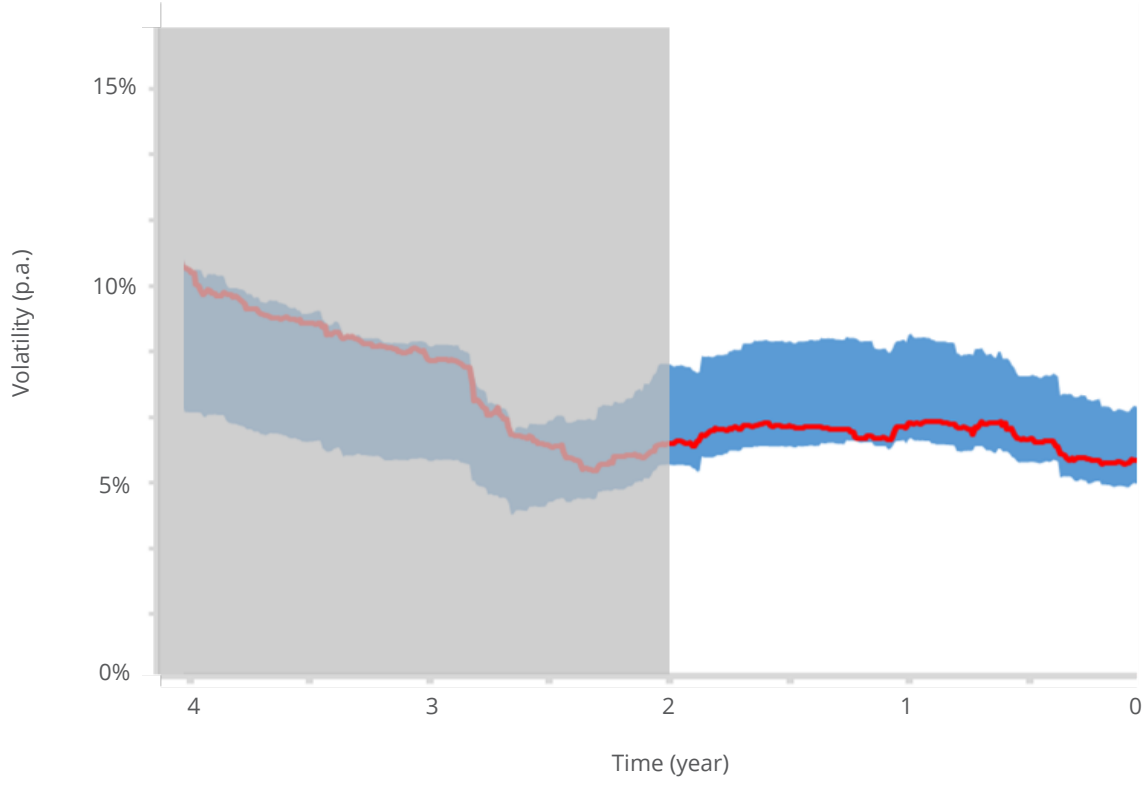


Figure 2. An example of risk mapping a fund, with a risk band displayed in blue, the fund's 3 year rolling volatility shown in red. Only the non-shaded area, representative of funds 5 year history is used.

Asset class risk – Multi-asset strategies – peer groups

An additional outcome of risk rating multi-asset strategies is the construction of multi-asset peer groups. Classifying single asset strategies is relatively simple, however multi-asset funds can consist of any number of different investment classes. The multi-asset peer groups are therefore defined by different levels of risk exhibited by their constituents.

Asset class risk – Absolute return strategies

The previously outlined methodologies relate to strategies which are bound to certain markets. Absolute return funds tend to provide returns that are unrelated to any particular market and therefore it is less relevant to compare their relative risk to other asset classes. Instead the main risk comparison for the absolute return funds is an assessment of their relative risk to other absolute return funds found within their peer group.

Asset class risk - summary

The "risk of asset class" score is designed to be viewed with the corresponding fund risk score labelled as "risk of fund within the asset class". It is possible that in the shorter term some funds, within neighbouring asset classes, would display risk characteristics which would result in their actual levels of risk overlapping. Thus, each asset class risk score serves as a long term expectation of risk and therefore we would expect the funds within each asset class to behave similarly within their assigned peer group.

Risk of a fund within the asset class

The fund's risk score, labelled as "risk of fund within the asset class", compares the risk of the fund with other similar funds as defined by their peer group. Since a majority of the risk that a fund is subjected to is dependent on the asset class it is invested in, the purpose the fund risk score is to assist in understanding a range of different styles and strategies these funds may be exhibiting. However, it is worth noting that the asset class score is based on longer historic data, spanning more than a single market cycle. Moreover, the risk the fund manager might be taking can change tactically over time. Hence, we would expect the fund risk score to be more dynamic than the asset risk score and as such more indicative of the relative levels of risk the investment was exposed to.

The risk at the fund level is defined as both the likelihood of experiencing negative returns as well as the severity of those returns. This measure can also be described as ranking funds, within a peer group, based on the frequency and magnitude of their worst returns, based on historical experience. For example, two funds with the same average return would achieve two different risk scores if their return profile is different i.e. they might exhibit different probability of rare events also known as a "fat tail risk".

Fund risk - calculation

The fund risk score methodology uses historical weekly returns including dividends over the last three years in order to build a picture of the fund's return profile, which includes statistical measures such as standard deviation, mean, skew and kurtosis. While using backward-looking measures limits the reliability of the future risk forecast it does allow us to compare how different funds with a similar strategy behaved in the same market environment. The asset class risk score is designed to be a more direct indication of future risk expectations. Once a risk score has been computed for all eligible funds within the peer group, these results are normalised to form a 1 to 5 scale which represents funds' "risk within the asset class".

The neutral score of 3 is given to funds which exist in the middle of the absolute risk scale, while scores of 1 and 2 are given to funds which exhibit smaller levels of risk. Consequently, funds with risk scores of 4 and 5 tend to be riskier. At each subsequent risk grade, the investment is exposed to more extreme levels of risk. Each consecutive risk grade within the same asset class describes an equal increase in the amount of absolute fund risk. In other words, the difference in absolute risk between grades of 1 and 2 is the same as between grades of 2 and 3. The size of this increase is dependent on the composition of the asset class itself. For example, difference in absolute risk observed between increments of a uniform asset class, UK Gilts, would be smaller than in a more diverse asset class, like Global Equities which displays a much wider range of different risk profiles.

Funds within a peer group which experienced extremely low or high levels of risk, which caused them to fall out of the 90th percentile range, have been automatically given a minimum risk score of 1 or a maximum score of 5 respectively. This tolerance band acknowledges funds which have performed below and above expected behaviour within their asset classes, thus warning of heightened risk. As a result of the tolerance bands, the final scoring of the funds becomes more reliable as it is less skewed by extreme cases.

Fund risk – summary

The fund risk score describes risk relative to other funds residing within the same peer group or asset class giving a short-term snapshot into the behaviour of various funds. The funds which are less risky are labelled with low scores of 1 and 2, while riskier funds are given scores of 4 and 5. The funds with a neutral score of 3 take a median level of risk, characteristic to their designated asset class or peer group.

Qualitative Risk Assessment

In addition to Fund Dashboard's Risk Scores, Square Mile also completes a more qualitative risk assessment, which provides more context to the fund's risk score. This risk assessment discusses 8 risk types: equity, interest rate, credit, exchange rate, liquidity, emerging markets risk, derivative and manager risk. Each risk type is graded on three levels from not significant to potentially significant and significant.

Many funds will have very defined and discreet risks but inevitably some funds will be 'borderline'. We will refer to the fund's prospectus for guidance but the prospectus tends to highlight all the potential risks that the fund may face, now or in the future. In contrast we aim to highlight the risks that we believe managers are actually assuming in their day to day operations in running funds. The guide to some of these factors can be seen below.

Equity Risk

A modest level of equity exposure can materially affect the potential volatility of a fund. Any equity exposure up to around 30% might be considered as 'Potentially Significant' and beyond this as 'Significant'. The degree of hedging (explicit and implicit) within the fund may be a factor in our grading assessment.

Interest Rate Risk

Interest rates are used in discounting the future cash flows of virtually all investments (gold may be an exception). Interest rates are seen as a key risk for fixed income investments, though the degree of significance depends on the nature of the exposure. Multi-asset approaches are likely to have significant exposure unless risks are explicitly hedged.

Credit Risk

Credit risk incorporates bond default risk (a bond's failure to meet its interest/capital obligations) and bond downgrade risks (reduction in credit rating).

Exchange Rate Risk

We have restricted ourselves to considering exchange rate risk in the security's currency denomination. We have ignored many UK equity funds' exposure to foreign equities (the IA sector classifications permit 20% to be invested abroad). Equity funds investing in predominantly non-UK regions are considered to have 'Significant' risk unless actively hedged.

Multi-asset funds tend to establish foreign holdings to diversify risks within their portfolios so we would recognise this exposure in our grading. Broadly speaking, 20-40% foreign exposure is graded as 'Potentially Significant' for these.

Liquidity Risk

Liquidity has a nasty habit of drying up when it is most needed and unfortunately it is very difficult to measure consistently. This measure's grading is largely left to our analysts' discretion. Our analysts will consider the liquidity available across the portfolio and how this might change in adverse market conditions and if the fund suffers sudden large redemptions.

Emerging Market Risk

Broadly speaking, emerging market exposure of below 5% is considered 'Not Significant' and beyond 20%-30% as 'Significant'.

Derivative Risk

Derivative risks are often latent but when they arise, they can have significant impact. This is a risk which is difficult to measure objectively and the grading is largely left to our analysts' discretion. We consider counterparty risk as a function of derivative risk.

Many funds operate within the UCITS regime and may be permitted to use derivatives. However, not all managers have historically utilised these powers and show little inclination to do so in future. We have marked such funds as 'Not Significant' though the managers may change their strategy with no notice.

Manager Risk

Often the lead manager is an important component of the Square Mile fund rating. We use this segment to highlight key person risks. Note that the total absolute risk in a fund is largely determined by the fund's investment strategy. The manager is more influential in determining the performance/risk relative to funds investing in similar assets.

Summary

In summary, the Fund Dashboard's risk scoring is displayed in two parts: asset class risk score and fund's risk score. The asset class score gives a forward-looking indication of risk relative to other respective asset classes or strategies. The fund risk score focuses on single funds residing within each asset class peer group. Both risk scores give an overall picture of risk focusing on both long-term expectations through the asset class score and short-term risk profile classification through the fund risk score. An additional qualitative risk assessment is provided for each Square Mile rated fund which supplements the risk scoring methodology highlighted above.

Since the measures explained in this paper are based on historical performance they might not fully reflect the future risk expectations and therefore they should not be used as an expression of future performance.

Share class selection

For each fund there could be as few as one investable share class or as many as 30 different share classes, each with different costs and investor outcomes. The risk scoring analysis is performed on a single chosen share class for each fund deemed the most widely available to advisers, as defined by platform availability within the appropriate peer group. This is done to make comparisons more relevant, as well as to avoid funds with many share classes skewing the analysis for less represented funds.

The rules for share class selection are listed as follows, in the order of importance:

- Share class is required to be "Clean" and sterling denominated.
- Distribution, for fixed income funds preference is given to income distribution share classes.
- Platform availability, share classes, which are more widely available receive preference.
- History length, funds with longer history are favoured.
- Cost, cheaper share classes, as determined by "total cost of investment" are preferred, however the cheapest share class might not necessarily be selected due to other stated reasons by the asset manager i.e. minimum subscription.

The share class which satisfies the majority of these criteria is selected and used to construct an appropriate peer group. On occasion, when the chosen share class becomes "closed" or restricted to fewer investors, the next recommended share class is selected.

The chosen share class for each fund is referenced and can be seen when viewing funds on the Academy of Funds website by clicking HERE.

Appendix 1

The table below illustrates coverage of different asset classes considered, as of 31st of May 2020.

Peer Group	Number of funds	Peer Group	Number of funds
Absolute Return	126	MENA	5
Asia Pacific	120	Money Market	11
Biotech and Healthcare	15	Multi Asset 1	7
China	41	Multi Asset 2	133
Commodities	41	Multi Asset 3	83
Emerging Europe	14	Multi Asset 4	118
Europe Excluding UK	127	Multi Asset 5	109
Europe Including UK	54	Multi Asset 6	102
European Smaller Companies	27	Multi Asset 7	37
Financial	14	Multi Asset 8	23
Gilts	32	Multi Asset 9	4
Global Bonds	209	North America	146
Global Emerging Markets	132	North American Smaller Companies	18
Global Emerging Markets Bond	78	Property Other	40
Global Equity	311	Sterling Corporate Bond	99
Global Equity Income	54	Sterling High Yield	46
Global Infrastructure	17	Technology	18
Global Smaller Companies	13	UK All Cap	241
Index Linked Gilts	17	UK Direct Property	31
India	22	UK Equity Income	88
Japan	79	UK Mid Cap	16
Latin America	19	UK Smaller Companies	53

Important Information

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