An opinion on the fund’s historical performance in comparison to other funds in similar category measured through a common yardstick. The ranking is purely quantitative evaluation based on historical absolute and risk adjusted return of a fund.
1. **INTRODUCTION**
- Evolving Nature of Industry
- Fund Ranking – measured through a quantitative yardstick

1.1 Mutual fund is an effective tool for mobilizing resources from a large pool of investors, and in turn, providing them access to a variety of assets, which might otherwise be difficult. Pakistan’s mutual fund industry has witnessed notable evolution in the overall structure. Asset management companies (AMCs) have introduced a variety of products in line with varying risk-return preferences of investors.

1.2 The asset management business has two distinct elements – 1) the asset manager, and 2) the mutual funds. PACRA has developed separate methodologies to capture distinct components of the industry. Asset Manager Rating is an opinion on the quality of fund management, capability to manage risks inherent in asset management business, ability to generate sound fund performance and effectiveness of an AMC’s systems and processes. PACRA offers three products to capture varied factors of different mutual funds:

- **1) Star Ranking:** opinion on the fund’s historical performance in comparison to other funds in similar category measured through a quantitative yardstick.
- **2) Stability Rating:** The fund stability rating provides the investors with an objective measure as to the main areas of risk to which the income funds are exposed.
- **3) Capital Protection Ratings:** Capital Protection Ratings indicate the degree of certainty regarding timely payment of the original investment as per the terms of the scheme. The ratings of the capital protection funds only capture the relative degree of certainty of capital protection: it does not comment on the relative performance of these funds in terms of returns offered to investors.

2. **PROCESS OVERVIEW**
- Provides an initial screening criterion
- Quantitative measure
- Enhanced performance ranking periods

2.1 Every mutual fund investor has a distinct set of investment objectives and preferences. They all usually have unique risk-return perception and investment horizons that make it difficult to capture these preferences in a single yardstick, using which investment decisions can be made. PACRA’s Mutual Fund Performance Ranking (Star Ranking) attempts to address this investor need. The star ranking provides an initial screening criterion to investors. The ranking is a purely quantitative measure, avoiding any biases. It is based on historical returns of a fund relative to other funds in similar category. PACRA mainly follows Circular No. 7 of 2009 of SECP for defining fund categories – each having distinct characteristics – and rankings of funds in a particular category are comparable. The ranking methodology is designed in a manner that the star ranking of a fund conveys a sense of how skillfully the fund has been managed; that is, the relative star rankings of two funds in a category should be affected more by manager skills than by market circumstances or events that lie beyond the fund managers’ control. PACRA’s mutual fund ranking, therefore, provides a useful yardstick to existing and potential investors and facilitates their investment decisions.

2.2 With the maturity in the domestic industry in terms of availability of long term performance results, PACRA covers three distinct time periods in star rankings i.e., a star ranking based on fund’s performance during the trailing 12 months (1-Year Ranking); a star ranking based on fund’s performance during the trailing 36-months (3-Year Ranking); and a star ranking based on fund’s performance during the trailing 60-months (5-Year Ranking).
3. DEFINING A CATEGORY

- Funds having similar risk factors to form a category
- Minimum three funds required for a separate category

3.1 Fund categories define groups of funds whose constituents are similar in their risk factor exposure so that return comparison is meaningful. Moreover, the observed return differences among funds relate primarily to security selection or to variation in the timing and amount of exposure to different elements affecting the category. Each of these, over time, may be presumed to exercise a skill-related effect.

3.2 PACRA has identified following broad categories for purpose of classification of funds for star ranking.

1. Equity
2. Balanced
3. Asset Allocation
4. Income
5. Money Market
6. Aggressive Income
7. Index Tracker
8. Commodities
9. Fund of Funds
10. Islamic

3.3 The category of a particular fund will be established on the basis of the offering document of the fund and publicly disclosed information about its portfolio composition. The definition of a particular category can be narrowed down to generate a new category and, similarly, a new fund category can also be designed if a new class of assets is identified and is not covered by any of above categories. However, a category would only be created if there are at least three such funds to be included in that new category. As the industry matures, PACRA may consider increasing the minimum number of funds required for creating a category.

3.4 The fund of funds schemes will be ranked based on the investments strategy (based on the offering document and publically disclosed information about its portfolio composition). A particular scheme will be placed in the peer group having largely similar characteristics.

3.5 Separate categories are to be made in respect of various types of Islamic funds or other distinctive nature funds. However, given the relatively evolving nature of the industry and less than three funds available to create a new category for such funds, these could be clubbed for ranking purposes in other relevant categories having largely similar characteristic. Nevertheless, while determining rankings of funds originally falling in a given category, added funds clubbed in that category would be excluded.
4. MEASURING PERFORMANCE
- Months’ performance is used to calculate return
- Absolute return and risk adjusted return have similar weightage
- Downside deviation used for measuring risk
- 6-Month T Bill used as a risk free rate
- Characteristic of a normal distribution is used to determine the ranking

4.1 PACRA consider both absolute and risk-adjusted performance. Absolute return refers to the appreciation or depreciation that a fund has achieved over a period of time and effectively this is what an investor takes home at the end. However, at the same time, the level of risk (extent of variability) that is involved with those returns is also important. Risk-adjusted return shows the trade-off investors make between risk and return. Since star ranking is a combination of both risk and return it is likely to provide investors a better measure to gauge historical performance of different funds.

4.2 RETURN: PACRA calculates a fund’s return for a given month as follows:

\[ R = \frac{PE - PB +/ - A}{PB} \]

Where:
- \( R \) = Total return for the month
- \( PE \) = End of month NAV (net assets value) per share/certificate
- \( PB \) = Beginning of month NAV per share/certificate
- \( A \) = Adjustments on account of cash dividend, bonus issue and addition to capital.

4.3 RISK ADJUSTED RETURN: Previously in order to calculate a Fund’s risk adjusted return, PACRA used the Fund’s return volatility measured through standard deviation. This philosophy captures all variations as risk regardless of direction. Generally investors are more concerned with the negative variation highlighting their risk-averse appetite. Considering this, PACRA has revised its practice and measures the Fund’s risk adjusted return using downside deviation. The downside deviation is calculated using the negative volatility in relative to the risk free rate (Rf). PACRA uses 6-Month T-bills yield as a risk free rate.

\[ RAR = \frac{R}{DD(Rf)} \]

Where:
- Average monthly returns for the relevant period (trailing 12/36/60 monthly periods)
- \( R \) = Downside Deviation of the monthly returns of the fund. DD is computed using the returns for the relevant period
- \( DD \) = Risk free rate: Monthly average of 6-Month T Bill Yield for the relevant period

4.4 The ranking for each fund is determined using the characteristics of a normal distribution. The basic philosophy is to rank the funds based on the distance (measured through standard deviation) of their returns and risk adjusted returns (R & RAR) from the mean R & RAR of that particular category. In simplistic terms, a fund’s performance (measured by assigning 50 % weight each to the fund’s return and risk adjusted return) falling within a close range of the mean is rated as average, while
funds’ performance beyond the said range is rated as good, below average, superior or weak based on the direction and quantum of the deviation from the mean.

4.5 As per the characteristics of a normal distribution 0.45SD and 1.27SD from the mean would include 35% and 80% of the observations, respectively, while the remaining observation would fall beyond 1.27SD. Using the above relationship, the star rankings to funds are assigned within 5 categories described below:

<table>
<thead>
<tr>
<th>Weak</th>
<th>Below Average</th>
<th>Average</th>
<th>Good</th>
<th>Superior</th>
</tr>
</thead>
<tbody>
<tr>
<td>★</td>
<td>★★</td>
<td>★★★</td>
<td>★★★★</td>
<td>★★★★★</td>
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4.6 We need to emphasize that the characteristics of a normal distribution hold true when the sample size is sufficiently large. Due to limited number of funds in various categories, an outcome of the evolving nature of the mutual fund industry, the assigned rankings within a category might not follow a complete normal distribution pattern. However, the above criterion is considered more appropriate in achieving the basic objective of ranking funds’ R & RAR relative to the category mean in the current industry dynamics.

5.1 The key elements of the methodology are:

i. The rankings are calculated on the basis of performance during a particular period (12 months for 1-Year star ranking, 36 months for 3-Year star ranking and 60 months for 5-Year star ranking). For a particular fund the relevant period ranking will be disclosed.

ii. For measuring performance, equal 50% weightage is assigned to return and risk adjusted return.

iii. Only those funds are eligible for ranking that have remained operational throughout the given period.

iv. A month of a year is used as a reference period to calculate performance.

v. New category would be created with a minimum number of 3 funds.

vi. Single fund clubbed with any category would be excluded while determining rankings of funds originally falling in that category.
vii. Rankings are based on past performance of the fund. PACRA’s opinion is not a recommendation to purchase, sell or hold a fund, in as much as it does not comment on the Fund’s NAV or suitability for a particular investor.

6. METHODOLOGY REVIEW MECHANISM

6.1 PACRA adopts a dynamic approach to keep its methodologies and criteria in sync with the operating environment. The developments in the market – longevity in funds and higher focus on risk management – have necessitated the need to review the current methodology in order to stay aligned with international developments and emerging best practices.

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