

## MUTUAL FUND RANKING METHODOLOGY

### INTRODUCTION

Mutual fund industry in Pakistan has shown impressive growth in recent years. Its acceptance as a useful tool to deploy funds is on rise amongst both individual and corporate investors. However, at the same time, the increasing number of asset managers as well as funds has necessitated the need of an independent opinion on their performance.

PACRA follows a comprehensive approach to rate the two distinct ingredients of the mutual fund industry – asset managers and funds. These two are rated on separate scales. While the asset manager rating seeks to determine the professional capacity of asset managers, the rankings/ratings of mutual funds aim to highlight relative positioning of a particular fund with reference to certain identified parameters. PACRA has so far developed three different products for ranking/rating mutual funds, given the varying nature of these funds and the different investment consideration and information requirement of investors. The main product, mutual fund performance ranking (commonly referred to as *Star Ranking*), is applicable to a large number of funds' categories and focuses on relative actual recorded performance of a mutual fund. The other two products namely, *funds' stability rating*, and *funds' capital protection rating* are applicable to income and money market funds, and capital protected funds, respectively.

PACRA's comprehensive offerings include instrument and entity credit ratings, insurer financial strength ratings, fund ratings, asset manager ratings and real estate gradings.

PACRA's opinion is not a recommendation to purchase, sell or hold a security, in as much as it does not comment on the security's market price or suitability for a particular investor.

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### PROCESS OVERVIEW

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' 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 has defined different fund categories – each having distinct characteristics – and rankings of funds in a particular

### Methodology

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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 skill 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.

PACRA assigns two types of star rankings i.e., a star ranking based on fund's performance during the trailing 12 months; and a *long-term star ranking* based on fund's performance during the trailing 36-months. These rankings are presently done on two cut off periods ending; i) June 30, and December 31. However, as the industry matures further, PACRA may enhance the time period of performance review for long-term star ranking, most likely to five years compared to existing practice of three years, and may also increase the frequency of updates to quarterly basis.

### DEFINING A CATEGORY

Fund categories define groups of funds whose constituents are similar in their risk factor exposures so that return comparisons are 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.

The following considerations apply while assigning a fund to a particular category:

- Funds are grouped by the type of investments that dominate their portfolios.
- In general, funds in the same category can be considered reasonable substitutes for the purposes of portfolio construction.
- Category membership of a fund is based on long-term portfolio composition philosophy for the fund as disclosed by its asset manager.

PACRA, after a detailed evaluation of mutual funds in Pakistan, has identified the following categories (separate subcategories in respect of open and closed end funds has to be maintained):

1. **Equity Fund:** A fund that at least invests around 50% of its net assets in equities at all times.
2. **Balanced Fund:** A fund that carries a mix of interest-based and equity securities and at least invests around 30% of its net assets in equities at all times.
3. **Income Fund:** A fund that invests in interest-based instruments / securities and weighted average maturity of its assets is more than 90 days at all times.
4. **Money-Market Fund:** A fund that invests in money market and other short-term interest based instruments / securities including spread transactions. The weighted average maturity of its assets is less than 90 days at all times.
5. **Asset Allocation Fund:** A fund that can invest in any class of asset in any proportion according to criteria set in its offering document.
6. **Islamic Fund:** A fund that invests in *shariah* compliant instruments only.

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.

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.

### MEASURING PERFORMANCE

PACRA considers 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.

### RETURN

PACRA calculates a fund's return for a given month as follows:

$$R = \frac{PE - PB \pm A}{PB}$$

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.

### RISK ADJUSTED RETURN

To measure a Fund's risk adjusted return, PACRA uses the Fund's *return* volatility measured through standard deviation:

$$RAR = \frac{R}{SD}$$

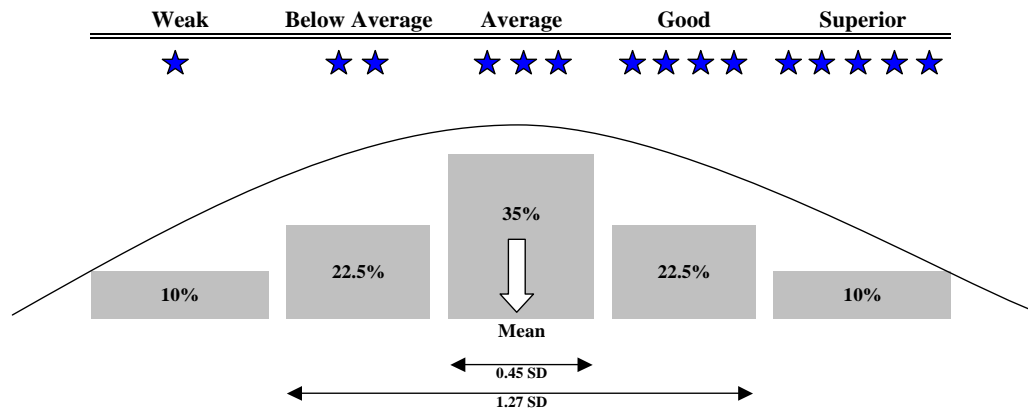
Where

R = Average monthly returns for the trailing 12 monthly periods (36 months for long-term star ranking)

SD = Standard deviation of the monthly returns of the fund. SD is computed using the returns for trailing 12 months (36 months for long-term star ranking)

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.

As per the characteristics of a normal distribution 0.45 SD and 1.27SD from the mean would include 35% and 80% of the observations, respectively, while the remaining observation would fall beyond 1.2SD. Using the above relationship, the star rankings to funds are assigned within 5 categories described below:



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. As the number of funds in individual categories increase, the assigned rankings are more likely to follow a normal distribution pattern.

Other elements considered while arriving at a ranking include:

- The rankings are calculated on the basis of performance during a particular period (12 months for short-term star ranking and 36 months for long-term star ranking). For measuring performance, equal 50% weightage is assigned to return and risk adjusted return.
- Only those funds are eligible for ranking that have remained operational throughout the given period (i.e. one year for short-term star ranking and 3 years for long-term star ranking).
- A month of a year is used as a reference period to calculate performance.

To summarise, the star ranking is strictly a quantitative measure and funds are rated within their respective categories. The ranking exercise measures performance of funds in a risk and return combination and then funds are ranked accordingly on the basis of their performance. It is important to note that a fund's particular star ranking is with reference to its category and consequently, rankings are comparable only in the same category.