



Modified sharpe ratio application in calculation of mutual fund star ranking

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Abstract

Purpose of this study is to apply to modify Sharpe Ratio to calculate Star Ranking of Equity-based mutual funds registered in Mutual Fund Association of Pakistan, further, the idea was to recalibrate locally developed models being used in Pakistan by autonomous professional bodies who professionally assigns star ranking of mutual funds, equity market exhibited negative returns from July 2017 onwards this research which brought the problem to assign star ranking due to model structure, model relies on risk-adjusted return (Sharpe Ratio), therefore Sharpe Ratio has a limitation in negative excess return. Two developed models were simultaneously compared to witness the predictive power of these models, (1) modified Sharpe and (2) VIS Credit Rating Company (Explaining the Stars) Model. Data was collected from March 2013 to March 2018 quarterly and the exercise was done quarterly. Findings revealed a magnificent piece of work, (1) there is no difference between model 1 and model 2 by both way results exhibited same mutual fund star rankings, (2) both methods have a different way of calculating final score with same results, and (3) modified Sharpe ratio is quite well when excess return is negative but when there is a mix of negative and positive better to use VIS model as well as in positive excess returns. A research paper could not calibrate other models developed by rating companies (Pakistan Credit Rating Company) which is a future research gap.

Keywords: Modified Sharpe Ratio, Mutual Funds, Risk-Adjusted Return, Sharpe Ratio, Star Rankings;

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1. Introduction

Performance measures always concern to every individual investor, Asset Manager and other stakeholders. (William F. Sharpe, 1966) was a pioneer of performance measure by introducing Sharpe Ratio that refers to risk-adjusted return. Sharpe Ratio is being widely used in both the Industrial universe and Academia world, this is perceived best yardstick to measure the performance of the stock or mutual fund McLeod & van Vuuren, (2004); Scholz & Wilkens, (2006). Numerous papers were published to witness the wide use of Sharpe Ratio to evaluate the performance of the mutual fund, hence most of Investor, Research Analyst and Financial Analyst prefer to use Sharpe Ratio as yardstick to evaluate best performing fund in peer groups.

In simple words, the greater the number of Sharpe the better is the fund, that can be understood by a simple example e.g. fund having an absolute return at 10% whereas the risk-free rate is 5% and standard deviation reports 2.5%, let solve the equation of Sharpe Ratio $(\text{Return} - \text{Risk-Free Rate}) / \text{Standard Deviation}$ so in the following example Sharpe Ratio will be 2 times, that means investor earns two times than it risk after deducting risk-free rate, which seems quite sufficient.

Later on, further, development has been done by Markowitz H, (1952) who introduced the role of variance in the derivation of Sharpe Ratio, he model's conceptual framework based on the mean-variance model and second by Ferruz and Sarto, (2004), in his model, there was no need of any validation in the application in contrast to pre equilibrium model for financial assets, further compare to other rest of classical method of performance evaluation were introduced by Jensen, (1968) as Jensen's Alpha and Treynor (1965) Treynor Ratio need to have the support of Capital Asset Pricing Model (CAPM) for Validation.

The most concerning area of these ratios that they deal with the adjustment of excess return for beta (Risk) of the CAPM model, while being analysis these both ratios have relax assumptions and these are quite diversifiable. Compare to Modigliani (1997) proclaims appropriateness of these measures while comparing the performance of Mutual Funds, hence it seems quite difficult to understand these calculations by an individual investor specifically those investors who do not know modern portfolio theory.

Size relative returns are another most concerning area while measuring the performance of the mutual fund, for example, a fund has a very small size which is generally very easy to manage but on the flip side fund having healthy size seems difficult to manage so comparing both in term of their Sharp Ratio does not be very intellectual size of fund should be considered in fund performance, in another word investor not only account for Sharpe Ratio of a fund as well as fund size or fund relative return (Bhar, 2019; Baris, 2019).

Further refinement of the Sharpe Ratio was given by Modigliani and Modigliani (1997) by including leverage to fund which means having more leverage funds will be riskier. Modern Portfolio Theory introduced risk-adjusted return known as M-Squared Measure. As aforementioned Jensen and Treynor ratio deal with not only return but also account for risk associated with fund returns and provides risk-adjusted return as the yardstick for performance measurement, their ratio only account for risk associated with fund return but M-Squared Measure refers to Risk Matching approach, in which not only fund risk is an account for but risk of the market also compare with risk of fund and then risk matching index is developed, the core idea of using M-Squared Measure is encountering leverage effect and role of leverage while comparing mutual fund performance, an investor can achieve desired investment performance with the desired level of risk (Stancheva, 2018). This method gives significant

relaxation to investors that can alter fund risk to determine the level of leverage on that investor can achieve an optimal level of return.

As mentioned above, the significant role of Sharpe Ratio, Treynor Ratio and M-Squared Measure in terms of performance evaluation of mutual fund, we will be comparing mutual fund performance by empirical methodologies in the globe. Star Ranking is a very easy term to understand any mutual fund performance (Equity-Based) by any individual investor, therefore the whole idea of this research in base on Star Ranking and these rankings are calculated based on Sharpe Ratio, Modified Sharpe Ratio and given methodology of local professional rating companies in Pakistan, the crunch of research of interesting results that direct investor way of using risk-adjusted return. We have made a thorough document to compare different calculation method and their results.

1.1 Problem Statement

"Creating factor to Assign Stars to Mutual Fund in Pakistan Especially when Funds report negative excess returns"

This is always been a genuine issue to assign star ranks for the mutual fund while the stock market is negative, in many research previously, numerous suggestions were prescribed in different space. We have bridge two separates school of thoughts to assign star rankings. (1) Craig L. Israelsen Model of refinement of Sharpe ratio with (2) local credit rating company in Pakistan.

In Pakistan we have two rating agencies who are professionally assigning star ranking of mutual funds, (1) VIS Credit Rating Company and (2) Pakistan Credit Rating Company. We have taken VIS Model as a benchmark to compare Craig Model, specifically speaking, testing these model is to contribute significant findings for mutual funds manager for accuracy of mutual fund ranking when market exhibit negative return.

1.2 Research Questions

Very basic questions are raised in this research, if we can't use Sharpe Ratio so what can we use and will it be feasible to refine Sharpe Ratio and calculate star rankings.

1.3 Objective of the Study

The object of this study is to create a bridge to amalgamate two school of thoughts on a single platform, we will be comparing star rankings driven from two different models and further showing limitation of Sharpe Ratio when excess return is negative.

1.4 Research Gape

Due to time-constrained we only encounter one local credit rating company in Pakistan. Model of Pakistan Credit Rating Company could not be tested with Craig Model, further, we have just taken the funds which have exposure in the stock market, funds like Income and Money market could not be covered in this article.

1.5 Significant of this Study

This study will be very benevolent for those who are financial econometricians, Investors, Mathematician and Mutual Fund Managers. This study further contributes a significant piece of work to deal with star ranking in a negative excess return environment.

Definition of Key Words	
Acronyms	Full Form
AMC	Asset Management Companies
APT	Arbitrage Pricing Theory
AUM	Assets under Management
CAGR	Compound Annual Growth Rate
CAPM	Capital Asset Pricing Model
CMA	Capital Markets Authority
DEA	Data Envelopment Analysis
EMH	Efficient Market Hypothesis
FMR	Fund Manager Report
GDP	Gross Domestic Product
ICP	Investment Corporation of Pakistan
IR	Information Ratio
MPT	Modern Portfolio Theory
MQR	Management Quality Rating
NAV	Net Asset Value
PKISRV	Pakistan Islamic Revaluation Rate
PKRV	Pakistan Revaluation Rate
PSX	Pakistan Stock Exchange
S & P	Standard and Poor
SBP	State Bank of Pakistan
SECP	Securities and Exchange Commission of Pakistan
SR	Sharpe Ratio
VPS	Voluntary Pension Fund

2. Literature Review

This segment will be covering most phases likewise, section will be covering the most supporting theories to research, and latest research work done in preceding years, this section mostly covering work and grounded theories for Mutual Fund Performance evaluation factors and models.

2.1 Theoretical Literature Review

The academic literature always remains the base of practical approaches none of the professional models developed without academic help, hence to make our research more strong we are taking support from past literature and theories which refer to delivers valuable contributions in the mutual fund industry. Some the most important grounded theories are followings, Efficient Market Hypothesis (EMTH), Modern Portfolio Theory (MPT), Capital Asset Pricing Model (CAPM), William Sharpe theory (SRT), Jensen Alpha Theory (JAT), Information Ratio Theory (IRT), Sortino Ratio Theory, and Modified SR and IR Theory.

2.2 Efficient Market Hypothesis

Eugene F. Fama (1970) a Nobel Laureate was the first who introduce the role of information, not only he represented the role of information but also its application in given three forms of information, further Eugene F. Fama (1970) was the one who first introduced the concept of technical and fundamental analysis. He introduced three forms of information such as Weak Form of Information, Semi Weak Form of Information and Strong Form of Information.

- Weak forms of information represent that all past available information cannot predict future prices, meaning technical analysis does not work investors should look into fundamental analysis.
- In Semi weak form of information refers that past prices and information availed from financial statement cannot predict future prices of stock, meaning neither technical nor fundamental analysis work but information which is not publically avail may predict future prices of stock
- Strong form of Information directs that both publically and privately available information cannot predict future prices of stock because none of investor can beat market return.

2.3 Capital Asset Pricing Model (CAPM)

Risk measurement and its significant impact on security's return always is the blue area for every investor, an investor not only account for systematic risk but also consider the unsystematic risk of a security. William Sharpe (1964) firstly introduces the concept of unsystematic risk of security and defines a tool to calculate the cost of equity by adjusted unsystematic risk, it presents unsystematic risk by Beta in the equation as follows.

$$R_a = R_f + \beta_a (R_m - R_f)$$

Where; R_f = Risk-free rate

β_a = Beta of the security

R_m = Expected market return

$(R_m - R_f)$ = Equity market premium

2.4 Sharpe Ratio Theory

The most considerable area for any investor is earning after adjusting the risk of a security, hence William F. Sharpe (1964) introduced a model of risk-adjusted return. Sharpe Ratio is one of the most common measures which widely being used in academic literature and financial industries, further to understand the Sharpe Ratio equation in the exhibit below (Celik, Abdul-Kareem & Ulukapi Yilmaz, 2019).

$$\text{Sharpe ratio} = (\text{Mean portfolio return} - \text{Risk-free rate}) / \text{Standard deviation of portfolio return}$$

2.5 Information Ratio

IR is quite similar to SR, the only difference between both of them, SR calculate excess return on the basis of Risk Free Rate whereas IR does this by subtracting benchmark return from absolute return.

2.6 Modified SR and IR Theory

Where above mentioned literature exhibit important of Sharpe and Information Ratio, these ratios have some significant decencies likewise it cannot be viable to use when excess return is negative,

hence Craig, L. Isrealsen (2005) introduced a way of Sharpe and Information Ratio refinement and that is mainly the whole idea of research, its calculation and implementation will be discussed in section 4.

2.7 Literature Comparison

Sharpe ratio is the comprehensive adequacy and association between research domain, academics Literature and financial institute/industries of securities to measure the performance assessments. Earlier theories of portfolio management indicate, Sharpe Ratio is the major tool/constraint to use in institutions as an indicator of performance

The first theory of Sharpe Ratio is hosted by William F. Sharpe in (1966) and the basic idea/framework behind that theory was erected from the modern portfolio theory which is introduced by Henry Markowitz (1952). Further extension to this, standard deviation of fund's return is considered as measure of risk associated with fund investment prescribed the SR, where as Treynor (1965) and Jensen Alpha (1968) models were based on systematic risk as beta which was driven from CAPM model. The essential transformation is that it seems SR base on the total risk but not on systematic risk however well diversified portfolios have approximate systematic risk. Fund performance can be measure by using aforementioned ratios and these ratio further can be employed on bootstrapping method of risk measurement. The Sharpe ratio has its primary benefit when applied to the inadequately varied portfolio utilizing it holds supplementary evidence that sponsors catch vital for building a completely up-to-date investment outcome. Since stakeholders/sponsors are visible total portfolio's risk nevertheless compensated only for the systematic portion of that risk, Stakeholders frequently want their leaders/supervisors to remove utmost or all the non-systematic risk in their portfolios.

This delivers virtuous aim to favor the Sharpe ratio, if only for portfolios that have not been completely diversified, one with both non-systematic and systematic risks. Hypothetical deliberation of the Sharpe ratio emphasizes completely on its ex-ante presentation, i.e. this ratio is expected to be obliged as a projection tool/device instead of measurement of an ex-post performance (Sharpe, 1966; Mc Leod & van Vuuren, 2004; Arhin, 2019). Regardless of this, Sharpe Ratio still being considered as one of the best measures for performance evaluation of fund by the investors, fund managers, and analyst, it is indeed the best tool for assessing risk-adjusted return, based on Sharpe (1994) in contention perspective that results-driven from the ratio (Risk-Adjusted Return) have a significant predictive power of funds' performance in term of return after adjusted risk which is quite similar to ex-ante findings (Mc Leod & van Vuuren, 2004; Çolak & Çetin, 2016; Adebisi, Sanni, & Oyetunji, 2019). There is a minor difference between ex-ante and ex-post Sharpe Ratio, whereas ex-ante refers to expected return and ex-post deals with annualized or historical returns used in Sharpe Ratio.

This little difference makes significant understand to evaluate performance measurement for funds. As excess return plays a key role for achieving risk-adjusted return in Sharpe calculation, and excess return is availed through subtracting the risk-free rate from the total return of fund than divided by standard deviation of that fund this is equal to normal Sharpe Ratio With the comparison to other famous fund performance measures Jensen Alpha and Treynor Ratio consider not only funds excess return but also a systematic risk (beta) with it in easy words like the CAPM model, assuming that risk associated with securities is diversifiable.

Difference between Jensen Alpha and Sharpe ratio that Jensen Alpha has significant room to use a single or multi-factor model to evaluate fund of portfolio performance but the debate is it only deals with the diversifiable risk associated with securities Ferruz and Sarto (2004).

Considering beta coefficient as a perfect measure of risk would not be so true this is the challenging element which is supposed to be justified in the practical implementation of models, further it is quite sensitive to the benchmark of respective securities and that can be alarming for evaluating fund performance in term of rankings or ratings that can vary on its benchmark, where some of the funds

may get the advantage of relaxing benchmarks or vice versa, furthermore R-Square value witnesses reliability of obtained alpha and beta coefficient, hence Sharpe Ratio had the advantage of beta and alpha that it can avoid issues which come along with estimation with them.

Modigliani and Modigliani (1997) advocated that mutual fund having the highest value of risk-adjusted return may or maybe not the best performing funds on basis of Jensen Alpha and Treynor Ratio because it is not necessary to achieve an optimal level of return along with the desired level of risk, further Modigliani and Modigliani (1997) suggested that these both of measure are quite straightforward in context to practical implementation in academia and industry too, one of the drawbacks of these measures that an investor who is not familiar with modern portfolio theory will find many difficulties to understand number driven from Jensen Alpha and Treynor.

Leverage effect refers to a straight line concept of borrowing that investor nullifies its portfolio risk to market risk by borrowing amount through boosting investment in the portfolio. In inverse, investors buy risk-free securities to nullify the risk of a portfolio with the market by selling a portion of the portfolio, this exercise deals with the sensitivity of portfolio risk and market risk.

Besides, investors who are risk lovers tend to borrow more money to increase investment in the portfolio for raising their expected return, in opposite to this risk-averse investors liquidate a certain portion of their portfolio and buy some risk-free securities to get the optimal level of returns.

M-Square measure is an alteration in the original Sharpe Ratio which adjust the performance of fund by adding up some leverage effect and make portfolio optimal As highlighted by Modigliani and Modigliani (1997). In another word exercise of matching risk and returns are called M-Square measure where some leverage effect is put to nullifies the risk of portfolio with market risk and on flip side investor unlevered original portfolio by liquidating some proportion of portfolio and purchasing risk-free securities from that amount to get portfolio optimal.

To address the issue of negative excess returns, Israelsen (2003, 2005) modified the sharpe ratio and recalculate in term of rankings, hence the method of his calculation was solely based on the amendments in the denominator by using exponent function and refined the Sharpe Ratio to rank fund, and the whole idea of his refinement in the SR was because of negative excess returns, SR has this limitation that whenever there is negative excess return it cannot rank accurately, this what the gape covered by this magnificent piece of study.

3. Research Methodology

Measurement of research transparency is viewed through the process that is used in the research work, therefore this research process is known as research methodology. Roadmap of research, methods employed and every individual process will be covered in this segment.

3.1 Research Philosophy

Idea if research is driven from the general phenomena, the positivism method is employed to witness finding transparently, that a financial term can be translated in simple language.

3.2 Research Approach

Research work based on secondary data, deductive approach is best suited for this research article.

3.3 Research Design

Research design refers to the set of methods and procedures employed in the research, hence it is sub-divided in below mentioned segments such as research strategy, Research Choice, Time Horizon, Population, Sample Size, Research Technique and Research Procedure.

3.3.1 Research Strategy

Being a secondary type of research, entire data was collected from most available sources e.g. Websites (authentic), articles, and financial statements of each sampled entity.

3.3.2 Choice

Mono Method has been employed in this research.

3.3.3 Time Horizon

This study took us around 8 months, most of the time was consumed in data accumulation and developing models.

3.3.4 Population

In Pakistan, Mutual Fund Industry comprised on 19 AMCs as on 30th of March 2018, below are the list of these AMCs and their all funds including money market and income funds, however we have just encountered the funds having significant exposure in equity market (Both Conventional and Shariah Compliant).

S.no	AMC Name	# of Funds (Including Income and Money Market)	# of Funds (Equity, Balanced & Asset Allocation)
1	786 Investments Limited	3	0*
2	ABL Asset Management Company Limited	7	3
3	AKD Investment Management Limited	3	1
4	Al Meezan Investment Management Limited	8	4
5	Alfalah GHP Investment Management Limited	10	4
6	Atlas Asset Management Limited	6	2
7	AWT Investments Limited	5	3
8	BMA Asset Management Company Limited	2	0**
9	Faysal Asset Management Limited	9	4
10	First Capital Investments Limited	1	1
11	Habib Asset Management Limited	5	2
12	HBL Asset Management Limited	13	7
13	JS Investments Limited	8	5
			4
14	Lakson Investments Limited	6	
15	MCB-Arif Habib Savings and Investments Limited	12	6
16	National Investment Trust Limited	6	2
17	NBP Fund Management Limited	17	7
18	Pak Oman Asset Management Company Limited	11	5
19	UBL Fund Managers Limited	13	5
	Total	145	65

* BMA does not have any fund in ranking category

** 786 Investment does not have any fund in ranking category

3.3.5 Sample Size

Data was collected from the official website of Mutual Fund Association of Pakistan (MUFAP) by using convenient sampling method, data comprised on 5 years starts from March 2013 to March 2015 having 65 equity based mutual funds listing in MUFAP, funds are classified in 3 broad categories as

Equity, Asset Allocation, and Balanced Fund for Islamic and Conventional both. This model is driven by mathematics equation development and have static model so need not to stretch data.

3.3.6 Technique

Excel Based modeling has been used in this entire research to come up with findings that bring a sound understanding of mutual fund evaluation while creating fund rankings, hence the rationale of this research was to make some sufficient models which can mutual rank perfectly while the market is producing negative returns.

Methodology of calculating ranking was adopted from local credit rating companies like VIS Credit Rating Company and Pakistan Credit Rating Company (Specialized Institutes who professionally assign star ranking in Pakistan), and research test-retest their methodology with Modified Sharpe Ratio. Ranking are modeled quarterly for each of the fund further, univariate analysis are employed to witness validation of the model (Olawumi, Adewusi, & Oyetunji, 2019).

3.3.7 Procedures

To model star ranking of each sampled fund we have employed a modified share ratio (Israelsen, Craig L, 2005), below is the methodology of calculating the modified Sharpe ratio.

Steps	Frequency	Variables	Specification	Calculation
1	Daily	Net Asset Value (NAV)	Unit Price	Absolute Number
	When Declared	Dividend Payout	Dividend in PKR	Absolute Number
2	When Declared	Dividend Payout	Dividend in PKR	Absolute Number
	1 Day Before Dividend Announced	Ex-Net Asset Value	Unit Price	Absolute Number
	When Declared	Dividend Factor	Calculation	(Ex-NAV / Dividend Payout + # of Units) = Dividend Factor
3	Monthly	Adjusted NAV	Calculation	Unit Price * Dividend Factor = Adjusted NAV
	Beginning Period of Month	Adjusted NAV	Calculated	Absolute Number
	Ending Month	Adjusted NAV	Calculated	Absolute Number
4	Quarter End	Quarterly Return	Calculation	(Ending / Beginning NAV) -1
	Quarter End	Monthly Return	Calculated	(Ending / Beginning NAV) -1
	Quarter End	Quarterly Standard Deviation	Calculation	Using STDEV formula in Excel for 3 months return
	Quarter End	Peer Average Standard Deviation	Calculation	Using Average In Excel for all fund in category
5	Quarter End	Peer Multiple (Standard Deviation)	Calculation	Fund STDV / Peer STDV
	Quarterly	Pakistan Investment Bond Rate	Percentage	Absolute %
	Quarter End	Quarterly Return	Calculated	(Ending / Beginning NAV) -1
	Quarter End	Excess Return	Calculation	(Absolute Return - PIB) in %
	Quarter End	Peer Average Excess	Calculation	Using Average In Excel for all fund in

	Return		category
Quarter End	Peer Multiple (Excess Return)	Calculation	Fund Excess Return / Peer Excess Return
Quarter End	Peer Multiple (Excess Return)	Calculated	Fund Excess Return / Peer Excess Return
Quarterly End	Peer Multiple (Standard Deviation)	Calculated	Fund STDV / Peer STDV
6	Modification in Denominator Factor	Calculation	(Peer Multiple (Excess Return) / Abs of Peer Multiple (Standard Deviation) ^
Quarterly	Modified Denominator	Calculation	Modification in Denominator Factor (Peer Multiple (Excess Return) /
Quarter End	Modified Sharpe Ratio	Calculation	Modified Denominator

Israelsen, Craig L. "A refinement to the Sharpe ratio and information ratio." *Journal of Asset Management* 5, no. 6 (2005): 423-427.

EXPLAINING THE STARS – VIS Credit Rating Company, Pakistan

After calculating risk-adjusted return fund is rank concerning their category, the fund is assigned ranking as per the methodology of VIS Credit Rating Company as below illustrates this well.



EXPLAINING THE STARS – VIS Credit Rating Company, Pakistan

3.4 Excel Modeling

Below given steps illustrate the methodology of comparing results to each model.

- Plain Ranks are calculated based on dividend-adjusted excess return.
- Rank on Sharpe Ratio is used to understand how Sharpe Ratio deals with negative excess return.
- Actual Star is calculated based on the Sharpe Ratio mentioned in step # 2.
- VIS Star Rankings, they use "Peer Multiple (Excess Return) - Peer Multiple (Standard Deviation)" for calculating risk-adjusted return and assign star ranking based on this score as per their methodology, hence this study is solely base on local credit rating companies' methodology so taking their star ranking was very important while making the final comparison.
- In the last segment, Modified Sharpe Ratio is used as mentioned in the above table, and Mutual Funds are assigned star ranking based on the final modified Sharpe Ratio score.

4. Results and Discussion

In this section, detailed working will be covered, the very first table illustrated AMC rating assigned by the local credit rating companies on yearly basis, and we assumed surveillance rating as for the next period until the actual one is not announced as on March 2018, the rationale of incorporating

these Management Quality Rating that rankings driven from the model can be further compared with management quality rating of the firms.

Table 1 Management Quality Rating of Each AMC Quarter wise

S.no	Symbol	AMC Name	March 2018	June 2017	June 2017	June 2017	June 2017	June 2017
1	ABL	ABL Asset Management Company Ltd	AM2 ++	AM2 +	AM2 +	AM2	AM2	AM2
2	AKD	AKD Investment Management Ltd	AM3 ++	AM3 ++	AM3 +	AM3	AM3 -	AM3 -
3	Alfalah	Alfalah GHP Investment Management Ltd	AM2 +	AM2 +	AM2	AM2 -	AM3 +	AM3
4	Atlas	Atlas Asset Management	AM2 +	AM2 +	AM2	AM2 -	AM2 -	AM2 -
5	BMA	BMA Funds Management	AM3	AM3	AM3	AM3	AM3 +	AM3 +
6	Faysal	Faysal Asset Management Company Ltd	AM3	AM3 ++	AM3 ++	AM3 +	AM3 +	AM3 +
7	FirstCap	First Capital Mutual Fund	AM4 ++	AM4 ++	AM4 +	AM4 +	AM4 +	AM4 +
8	Habib	Habib Funds Ltd	AM3 +	AM3 +	AM3	AM3	AM3	AM3
9	HBL	HBL Asset Management Company Ltd	AM2 +	AM2	AM2 -	AM2 -	AM2 -	AM3 +
10	JS	JS Investment Ltd	AM2	AM2	AM2	AM2 -	AM2 -	AM2 -
11	Lakson	Lakson Investment Ltd	AM2 +	AM2 +	AM2	AM2 -	AM3 +	AM3 +
12	MCB-AH	MCB-Arif Habib Savings and Investments Limited	AM2++	AM2++	AM2++	AM2+	AM2	AM2
13	Meezan	Al Meezan Investment Management Ltd	AM1	AM1	AM2 ++	AM2 +	AM2	AM2
14	NIT	National Investment Trust Ltd	AM2 ++	AM2 ++	AM2 +	AM2	AM2 -	AM2 -
15	NAFA	NBP Fund Management Limited	AM1	AM1	AM2++	AM2+	AM2	AM2
16	Pak Oman	Pak Oman Asset Management Company Limited	AM3	AM3+	AM3++	AM3+	AM3+	AM3+
17	AWT	AWT Investment Management Ltd	AM3+	AM3+	AM3+	AM3	AM3	AM3
18	UBL FM	UBL Fund Managers Ltd	AM1	AM2++	AM2++	AM2+	AM2	AM2

*Dawood Investment Ltd was not rated.

Table 2. Ranking Comparison (Conventional Asset Allocation Fund)

S.no	Fund Name	Excess Return	STDV	Sharpe	Plain Rank	Rank on Sharpe	Star Rank on Plain Sharpe Ratio	Star Rank on VIS Model	Star Rank on Modified Sharpe
							30-Mar-18	30-Mar-18	30-Mar-18
1	Meezan Asset Allocation Fund	-15.24%	5.15%	(2.96)	8	7	3	2	2
2	Alfalah GHP Value Fund	-13.26%	4.52%	(2.93)	7	6	3	3	3
3	Faysal Asset Allocation Fund	-27.89%	6.33%	(4.41)	12	9	2	1	1
4	Lakson Asset Allocation Developed Markets Fund	3.99%	0.79%	5.06	1	1	5	5	5
5	Lakson Tactical Fund	-6.11%	3.07%	(1.99)	5	4	4	3	3
6	MCB Pakistan Asset Allocation Fund	-3.05%	2.21%	(1.38)	3	2	5	4	4

7	MCB Pakistan Frequent Payout Fund	-1.24%	0.28%	(4.47)	2	10	2	5	5
8	NAFA Asset Allocation Fund	-8.30%	3.62%	(2.30)	6	5	3	3	3
9	Askari Asset Allocation Fund	-24.43%	3.46%	(7.07)	10	12	1	2	2
10	Pak Oman Advantage Asset Allocation Fund	-25.87%	4.16%	(6.22)	11	11	1	1	1
11	PIML Asset Allocation Fund	-16.25%	4.49%	(3.62)	9	8	3	3	3
12	UBL Asset Allocation Fund	-3.85%	2.11%	(1.82)	4	3	4	4	4

Above table clearly illustrate the limitation of Sharpe ratio in the case on a negative excess return, therefore as can be viewed that fund MCB "Pakistan Frequent Payout Fund" having the best performance in the peer group assigned 2 stars by plain Sharpe ratio, but if looking at plain rankings based on excess return this fund is assigned 2 ranks in peer-group so the rule of thumb in star ranking if one ranking is false then we can't trust entire ranking there might be some more false rankings.

Next, initially, we hypothesized, that VIS model and Modified Sharpe Ratio more how to represent same results, in case modified Sharpe Ratio we had to do some alteration with denominator but in case of VIS methodology we had to minus Risk from the return to avail risk-adjusted return, in both of the cases results are same and the major contribution of this study is providing significant room to use the trick of VIS or Modified Sharpe Ratio whichever is convenient. Last both of the columns represent the same results, however, calculation of the both are very different.

Table 3. Ranking Comparison (Conventional Balanced Fund)

S.no	Fund Name	Excess Return	STDV	Sharpe	Plain Rank	Rank on Sharpe	Star Rank on Plain Sharpe Ratio	Star Rank on VIS Model	Star Rank on Modified Sharpe
							30-Mar-18	30-Mar-18	30-Mar-18
1	Faysal Stock Fund (Formerly: Faysal Balanced Growth Fund)	-17.65%	4.41%	(4.00)	5	5	2	2	2
2	HBL Multi-Asset Fund	-9.50%	4.10%	(2.32)	3	2	4	3	3
3	Unit Trust of Pakistan	-14.65%	4.73%	(3.10)	4	4	3	3	3
4	Pakistan Capital Market Fund	-3.19%	3.23%	(0.99)	1	1	5	5	5
5	NAFA Multi-Asset Fund	-8.34%	3.58%	(2.33)	2	3	3	4	4
6	Primus Strategic Multi-Asset Fund	-18.57%	4.34%	(4.28)	6	6	1	1	1

Above table illustrates false rankings of Sharpe Ratio compare to the plain rankings, as “HBL Multi-Asset Fund” and “NAFA Multi-Asset Fund” are ranked 2 and 3 respectively, whereas plain ranks claim that these areas 3 and 2 respectively, further in contrast to Star Ranking based on Plain Sharpe Ratio, VIS Star Ranks and Modified Star Ranking are also differed from Plain Sharpe one, for these two of the funds, moreover again the last columns are giving the same results which again supports our initial hypothesis.

Table 4. Ranking Comparison (Conventional Equity Fund)

S.no	Fund Name	Excess Return	STDV	Sharpe	Plain Rank	Rank on Sharpe	Star Rank	Star Rank	Star Rank
							on Plain Sharpe Ratio	on VIS Model	on Modified Sharpe
							30-Mar-18	30-Mar-18	30-Mar-18
1	ABL Stock Fund	-17.72%	5.48%	(3.24)	14	16	2	3	3
2	AKD Opportunity Fund	-17.06%	6.49%	(2.63)	13	11	3	2	2
3	Alfalah GHP Alpha Fund	-14.16%	5.34%	(2.65)	11	12	3	3	3
4	Alfalah GHP Stock Fund	-14.85%	5.38%	(2.76)	12	13	3	3	3
5	Atlas Stock Market Fund	-5.95%	5.12%	(1.16)	1	1	5	5	5
6	First Capital Mutual Fund	-26.23%	5.75%	(4.56)	20	19	1	1	1
7	First Habib Stock Fund	-19.45%	5.63%	(3.45)	16	17	2	2	2
8	HBL Stock Fund	-13.48%	5.73%	(2.35)	9	7	4	3	3
9	HBL Energy Fund	-8.94%	5.53%	(1.62)	3	3	4	4	4
10	HBL Equity Fund	-13.35%	5.66%	(2.36)	8	8	3	3	3
11	JS Growth Fund	-20.33%	5.66%	(3.59)	17	18	2	2	2
12	JS Large Cap Fund	-9.72%	5.69%	(1.71)	5	4	4	4	4
13	JS Value Fund	-17.84%	6.10%	(2.93)	15	14	2	2	2
14	Lakson Equity Fund	-12.52%	5.31%	(2.36)	7	9	3	4	4
15	MCB Pakistan Stock Market Fund	-7.37%	4.89%	(1.51)	2	2	5	5	5
16	National Investment Unit Trust	-13.70%	5.66%	(2.42)	10	10	3	3	3
17	NAFA Stock Fund	-10.29%	5.30%	(1.94)	6	6	4	4	4
18	Askari Equity Fund	-25.20%	5.11%	(4.93)	19	20	1	1	2
19	PIML Value Equity Fund	-20.64%	6.40%	(3.22)	18	15	2	2	1
20	UBL Stock Advantage Fund	-9.50%	5.19%	(1.83)	4	5	4	4	4

The aforementioned table witnessed many variations in rankings specifically in plain ranks and Sharpe Ratio rankings, e.g. "PIML Value Equity Fund" ranks as 18 as per excess return but share says it 15 means better rating however is it not, that can be seen in the last 2 columns. Here again, both of the last column represents same results apart from Fund number 18 and 19 a little variation, not more, therefore more than 90% ranks are correct and these 18 & 19 of the fund are not effecting other rankings in the peer groups, this little variation is only because of decimal numbers in the final score, further, it is very considerable that when excess return is negative that may ruin actual results and fully depend on the plain Sharpe will always be dangerous.

Table 5. Ranking Comparison (Conventional Islamic Asset Allocation Fund)

S.no	Fund Name	Excess Return	STDV	Sharpe	Plain Rank	Rank on Sharpe	Star Rank on Plain Sharpe Ratio	Star Rank on VIS Model	Star Rank on Modified Sharpe
							30-Mar-18	30-Mar-18	30-Mar-18
1	Faysal Islamic Asset Allocation Fund	-17.06%	4.28%	(3.98)	6	6	2	2	2
2	HBL Islamic Asset Allocation Fund	-5.39%	1.69%	(3.19)	3	5	3	5	4
3	Lakson Islamic Tactical Fund	-8.72%	3.25%	(2.68)	4	3	4	3	3
4	Alhamra Islamic Asset Allocation Fund	-3.69%	3.06%	(1.21)	1	1	5	4	4
5	NAFA Islamic Asset Allocation Fund	-10.88%	3.56%	(3.05)	5	4	3	3	3
6	Askari Islamic Asset Allocation Fund	-22.97%	3.97%	(5.78)	7	7	2	2	2
7	Pak Oman Islamic Asset Allocation Fund	-26.44%	4.36%	(6.06)	8	8	1	1	1
8	Al Ameen Islamic Asset Allocation Fund	-4.35%	2.07%	(2.10)	2	2	4	4	5

Above table witnesses transparent rankings of mutual funds, therefore in the comparison between plain and Sharpe ratio based ranking records significant difference, likewise fund 2 and 3 were ranked 3 & 4 by plain ranks and 5 & 3 by Sharpe ratio respectively, therefore in comparison with a star ranking normal Sharpe ratio do not assign transparent star rankings to the fund having a bunch of variation in peer-group, at last, two columns rankings given by both of different model witnessed almost same results apart from fund number 2 and 8 due to decimal numbers variation in the final number, but interestingly these variations do not disturb whole results in peer-group, these methods are quite close to each other's.

Table 6. Ranking Comparison (Conventional Islamic Equity Fund)

S.no	Fund Name	Excess Return	STDV	Sharpe	Plain Rank	Rank on Sharpe	Star Rank on Plain Sharpe Ratio	Star Rank on VIS Model	Star Rank on Modified Sharpe
							30-Mar-18	30-Mar-18	30-Mar-18
1	ABL Islamic Stock Fund	-17.85%	5.68%	(3.14)	14	16	2	2	2
2	ABL Islamic Dedicated	-18.20%	5.85%	(3.11)	17	15	2	2	2

Stock Fund									
3	Al Meezan Mutual Fund	-16.65%	5.82%	(2.86)	13	12	3	3	3
4	Meezan Energy Fund	-6.21%	5.34%	(1.16)	1	1	5	5	5
5	Meezan Islamic Fund	-17.90%	5.77%	(3.10)	15	14	2	2	2
6	Alfalah GHP Islamic Stock Fund	-14.48%	5.59%	(2.59)	8	8	3	3	3
7	Atlas Islamic Stock Fund	-8.32%	5.01%	(1.66)	2	3	4	5	5
8	First Habib Islamic Stock Fund	-20.16%	6.33%	(3.19)	18	17	2	1	1
9	HBL Islamic Stock Fund	-16.1%	5.85%	(2.75)	12	11	3	3	3
10	HBL Islamic Equity Fund	-14.28%	5.62%	(2.54)	7	7	3	3	3
11	JS Islamic Fund	-18.1%	5.62%	(3.23)	16	18	1	2	2
12	Alhamra Islamic Stock Fund (Formerly: MCB Pakistan Islamic Stock Fund)	-9.31%	4.96%	(1.88)	4	4	4	4	4
13	NIT Islamic Equity Fund	-14.7%	5.82%	(2.52)	10	6	4	3	3
14	NAFA Islamic Energy Fund	-8.56%	5.61%	(1.53)	3	2	5	4	4
15	NAFA Islamic Active Allocation Equity Fund	-15.4%	5.14%	(3.00)	11	13	3	3	3
16	NAFA Islamic Stock Fund	-14.60%	5.35%	(2.73)	9	10	3	3	3
17	PIML Islamic Equity Fund	-22.7%	6.03%	(3.76)	19	19	1	1	1
18	Al Ameen Islamic Dedicated Equity Fund	-14.25%	5.23%	(2.73)	6	9	3	4	4
19	Al Ameen Shariah Stock Fund	-12.5%	5.16%	(2.43)	5	5	4	4	4

Above ranking are witnessing the similarities between VIS and Craig Model (Modified Sharpe), in both the last columns showing exactly same Star Ranking assigned by both of different models, that means that instead of modifying denominator likewise in Modified Share we also can use the trick by subtracting risk from returns to get the risk-adjusted return in case market producing negative excess returns for funds or stock. Further plain ranks defining blackness of normal Sharpe ratio that is limited with negative excess return.

In all of the above tables were tested only on a single quarter, the rest of the comparison sheet from March 2013 to December 2017 are given in appendix A.

5. Discussion & Conclusions

5.1 Discussion

Core rationale of choosing this study, stock market in Pakistan producing negative returns from July 2017 to onwards, hence analyst found difficulties to assigned star ranking for mutual funds, because the ranking mechanism is solely based on Sharpe Ratio (Risk-Adjusted Return). So there should be a simulated model that can make a transparent ranking system meanwhile excess returns are negative.

Sharpe Ratio has this limitation that it can be used with the negative excess return so that this study employed three models (1) Normal Sharpe, (2) Return minus Risk (VIS Credit Rating Company's

Methodology), and Modified Sharpe Ratio (Craig, L. Israelsen, 2005), and we have compared results of these three models two each other for getting to know the real face of star ranking.

5.2 Conclusion

This research paper solely depends on the refinement of Sharpe Ratio and its application in case excess return encountered negative, hence in the light to the above-mentioned tables, it is being concluded that we cannot use normal sharp ratio to assign star ranking to mutual fund because of its limitation. Furthermore in the test-retest of the equation we revealed magnificent findings that we can refine Sharpe ratio in two ways, e.g. model-driven from (Craig, Israelsen, 2005; Tenbele, 2019) and model-driven from VIS Credit Rating Company (Explaining the Stars) a local credit rating firm in Pakistan. Both of the models represent almost the same results in terms of star ranking, but the most interesting element that both of the models are far away in terms of calculation. Whereas Craig Model refines or alters denominator (Standard Deviation / Tracking Error) and VIS Model Subtracts risk from returns and both comes to final score which is risk-adjusted return and then assign star rankings, further after preprocessing entire data with the negative and positive excess return we came to an end that both models are very robust to use in negative excess return but in positive and mix stream excess return VIS model is very closer to the actual Sharpe ratio (only in positive excess return) exhibit in appendix A.

6. Recommendations

6.1 Recommendation for Stakeholders

Recommendation for Asset Management Companies that rank their funds as per their methodology and compare them with the driven model above in case fund returns or excess returns are negative, this paper can be benchmark to rank mutual accurately (Surikhan et al., 2019).

Model is based on negative excess return this model fits well in negative returns, however, we have left a significant gap in the research for future researches that developed such model which can refine Sharpe Ratio and use it in term of both Negative and Positive excess Returns.

Limitation of the Study

This study was based comparative study between two different school of thoughts and their calculation in contrast to calculate star rankings of mutual fund, hence this was tested on for the model of a single rating company in Pakistan, therefore someone else can check this by using different credit rating firms which independently announce star ranking of the mutual fund around the globe

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The article represented mathematical equation building to compute star ranking by far different methodology with the same end results, and entire work was done independently.

References

- Agudo, L. F., & Marzal, J. L. S. J. O. (2004). An analysis of Spanish investment fund performance: some considerations concerning Sharpe's ratio. *32(4)*, 273-284.
- Israelsen, C. L. (2005). A refinement to the Sharpe ratio and information ratio. *Journal of Asset Management*, *5(6)*, 423-427.
- Israelsen, C. L. J. F. P. (2003). Sharpening the Sharpe Ratio. *33(1)*, 49-51.
- Jensen, M. C. (1968). The performance of mutual funds in the period 1945–1964. *The Journal of finance*, *23(2)*, 389-416.
- Malkiel, B. G., & Fama, E. F. J. T. j. o. F. (1970). Efficient capital markets: A review of theory and empirical work. *25(2)*, 383-417.
- Markowitz, H. J. M. H. (1952). Portfolio Selection, *Journal of Finance*. 77-91.

- McLEOD, W., & van Vuuren, G. J. I. A. J. (2004). Interpreting the Sharpe ratio when excess returns are negative. *33(59)*, 15-20.
- Modigliani, F., & Leah, M. (1997). Risk-adjusted performance. *Journal of portfolio management*, *23(2)*, 45.
- Mutual funds association of Pakistan (2020). Retrieved from <https://www.mufap.com.pk/index.php>
- Pakistan credit rating Agency (PACRA) (2020). Retrieved from <https://www.pacra.com.pk/index.php>
- Scholz, H., & Wilkens, M. J. U. W. P. C. U. o. I. (2006). The Sharpe Ratio's Market Climate Bias— Theoretical and Empirical Evidence from US Equity Mutual Funds.
- Sharpe, W. F. (1966). Mutual fund performance. *The Journal of Business*, *39(1)*, 119-138.
- Sharpe, W. F. J. J. o. p. m. (1994). The sharpe ratio. *21(1)*, 49-58.
- Sharpe, W. F. J. T. j. o. f. (1964). Capital asset prices: A theory of market equilibrium under conditions of risk. *19(3)*, 425-442.
- Treynor, J. (1965). How to rate management of investment funds.
- VIS Credit Rating Co. Ltd. (2020). Retrieved from <http://jcrvis.com.pk/>
- Çolak, M., & Çetin, T. (2016). Situation Analysis of The Timber Producers in The Turkey Central Anatolia Region. *Global Journal of Business, Economics and Management: Current Issues*, *6(2)*, 154-163. <https://doi.org/10.18844/gjbem.v6i2.1353>
- Stancheva, V. (2018). Critical success factors for customer portfolio management. *Global Journal of Business, Economics and Management: Current Issues*, *7(3)*, 285-290. <https://doi.org/10.18844/gjbem.v7i3.2964>
- Bhar, A. (2019). Design & implementation of a personal Cash flow program using Microsoft Excel®. *Global Journal of Business, Economics and Management: Current Issues*, *9(1)*, 29-40. <https://doi.org/10.18844/gjbem.v9i1.4032>
- Baris, S. (2019). Innovation and institutional quality: Evidence from OECD countries. *Global Journal of Business, Economics and Management: Current Issues*, *9(3)*, 165-176. <https://doi.org/10.18844/gjbem.v9i3.4364>
- Celik, A., Abdul-Kareem, A., & Ulukapi Yilmaz, H. (2019). The impact of corporate social responsibility on community development: Evidence from Ghana. *Global Journal of Business, Economics and Management: Current Issues*, *9(3)*, 122-133. <https://doi.org/10.18844/gjbem.v9i3.4288>
- Olawumi, S., Adewusi, A., & Oyetunji, A. (2019). Analysis of the factors influencing access to mortgage finance in Lagos, Nigeria. *Global Journal of Business, Economics and Management: Current Issues*, *9(3)*, 113-121. <https://doi.org/10.18844/gjbem.v9i3.4430>
- Adebiyi, J., Sanni, G., & Oyetunji, A. (2019). Assessment of political risk factors influencing the corporate performance of multinationals construction companies in northeastern Nigeria. *Global Journal of Business, Economics and Management: Current Issues*, *9(2)*, 63-75. <https://doi.org/10.18844/gjbem.v9i2.4232>
- Arhin, S. (2019). Internal control and management guidance of power industry in Ghana? Revenue mobilisation perspectives. *Global Journal of Business, Economics and Management: Current Issues*, *9(3)*, 177-186. <https://doi.org/10.18844/gjbem.v9i3.4437>
- Surikhan, U., Panyapan, W., Kamkankaew, P., Thanitbenjasith, P., Limpiangkanan, P., & Kaewma, K. (2019). Enhancing purchase intention through marketing activities and brand equity: An exploration of local brand coffee bar in Thailand. *Global Journal of Business, Economics and Management: Current Issues*, *9(1)*, 8-15. <https://doi.org/10.18844/gjbem.v9i1.1363>
- Tenbele, N. (2019). Effectiveness of internal control system in higher learning institution, in Nairobi, Kenya. *Global Journal of Business, Economics and Management: Current Issues*, *9(3)*, 143-155. <https://doi.org/10.18844/gjbem.v9i3.4399>

Alvi, J. Rehan, M. & Saeed, S. (2020). Modified sharpe ratio application in calculation of mutual fund star ranking. *Global Journal of Business, Economics and Management: Current issue 10(1)*, 58-82. DOI: 10.18844/gjbem.v%vi%i.4714

Appendix A

Star Rank on Plain Sharpe Ratio

Asset Allocation Fund													
Fund Name	Meezan Asset Allocation Fund	Alfalah GHP Value Fund	Faysal Asset Allocation Fund	Lakson Asset Allocation Developed Markets Fund	Lakson Tactical Fund	MCB Pakistan Asset Allocation Fund	MCB Pakistan Frequent Payout Fund	NAFA Asset Allocation Fund	Askari Asset Allocation Fund	Pak Oman Advantage Asset Allocation Fund	PIML Asset Allocation Fund	UBL Asset Allocation Fund	
30-Mar-18	3	3	2	5	4	5	2	3	1	1	3	4	
29-Dec-17	3	3	3	5	4	1	1	4	2	2	3	5	
29-Sep-17	3	3	1	5	4	2	3	5	2	3	1	4	
30-Jun-17	3	4	2	3	5	3	1	5	2	3	1	4	
31-Mar-17	3	5	2	2	3	3	1	5	3	4	1	4	
30-Dec-16	3	5	1	2	3	3	2	5	3	4	1	4	
30-Sep-16	2	5	3	3	3	3	1	5	2	4	1	4	
30-Jun-16	2	5	3	4	4	2	1	3	2	3	3	5	
31-Mar-16	3	5	3	3	3	2	1	4	2	3	3	4	
31-Dec-15	2	5	3	4	3	3	1	3	2	2	2	4	
30-Sep-15	2	3	3	1	4	4	2	3	2	2	2	5	
30-Jun-15	1	3	2	1	3	4	1	4	2	3	1	5	
31-Mar-15	2	3	3	2	3	4	2	4	1	2	2	5	
31-Dec-14	2	3	3	2	1	4	2	3	4	2	2	5	
30-Sep-14	3	3	3	2	1	4	3	3	4	2	3	5	
30-Jun-14	2	3	3	2	1	4	2	3	4	2	2	5	
31-Mar-14	2	4	3	2	1	3	2	4	5	3	2	2	
31-Dec-13	2	3	3	4	2	2	2	5	4	3	2	1	
30-Sep-13	2	3	2	5	2	3	2	4	3	4	2	1	
28-Jun-13	1	3	2	2	1	4	1	4	5	3	1	1	

Star Rank on VIS Model

Asset Allocation Funds													
Fund Name	Meezan Asset Allocation Fund	Alfalah GHP Value Fund	Faysal Asset Allocation Fund	Lakson Asset Allocation Developed Markets Fund	Lakson Tactical Fund	MCB Pakistan Asset Allocation Fund	MCB Pakistan Frequent Payout Fund	NAFA Asset Allocation Fund	Askari Asset Allocation Fund	Pak Oman Advantage Asset Allocation Fund	PIML Asset Allocation Fund	UBL Asset Allocation Fund	
30-Mar-18	2	3	1	5	3	4	5	3	2	1	3	4	
29-Dec-17	2	3	1	5	3	4	5	3	2	1	3	4	
29-Sep-17	3	3	1	5	3	3	4	5	2	2	1	4	
30-Jun-17	3	5	1	3	4	3	2	5	2	3	1	4	
31-Mar-17	2	5	1	2	3	3	3	5	3	4	1	4	
30-Dec-16	3	5	1	2	3	3	3	5	1	4	2	4	
30-Sep-16	2	5	1	3	3	3	3	5	1	4	2	4	
30-Jun-16	2	5	2	4	4	2	3	3	1	3	3	5	
31-Mar-16	3	5	2	3	3	3	2	4	1	3	3	4	
31-Dec-15	3	5	3	3	3	3	2	4	1	2	3	4	
30-Sep-15	3	4	3	2	3	3	2	4	1	3	3	5	
30-Jun-15	3	3	2	3	3	4	1	4	2	3	3	5	
31-Mar-15	3	3	3	3	3	4	2	4	1	2	3	5	
31-Dec-14	3	3	3	2	3	4	1	3	4	2	3	5	
30-Sep-14	3	4	3	3	2	3	1	3	5	2	3	4	
30-Jun-14	3	4	4	3	2	3	1	3	5	2	3	3	
31-Mar-14	3	4	3	3	2	3	1	4	5	2	3	3	
31-Dec-13	3	3	3	3	2	3	1	5	4	4	3	2	
30-Sep-13	3	3	3	3	2	3	2	4	4	5	3	1	
28-Jun-13	3	3	3	3	2	3	2	4	5	4	3	2	

Star Rank on Modified Sharpe
Asset Allocation Funds

Fund Name	Mezzan Asset Allocation Fund	Aifalah GHP Value Fund	Faysal Asset Allocation Fund	Lakson Asset		MCB Pakistan Asset Allocation Fund	MCB Pakistan Frequent Payout Fund	NAFA Asset Allocation Fund	Askari Asset Allocation Fund	Pak Oman Advantage Asset Allocation Fund	PIML Asset Allocation Fund	UBL Asset Allocation Fund
				Allocation Developed Markets Fund	Lakson Tactical Fund							
30-Mar-18	2	3	1	5	3	4	5	3	2	1	3	4
29-Dec-17	2	3	1	5	3	4	5	3	2	1	3	4
29-Sep-17	3	3	1	5	3	3	4	5	2	2	1	4
30-Jun-17	3	4	1	3	5	3	2	5	2	3	1	4
31-Mar-17	3	5	2	2	3	3	1	5	3	4	1	4
30-Dec-16	3	5	1	2	3	3	2	5	3	4	1	4
30-Sep-16	2	5	3	3	3	3	2	5	1	4	1	4
30-Jun-16	2	5	1	4	4	2	3	3	2	3	3	5
31-Mar-16	3	5	2	3	3	2	3	4	1	3	3	4
31-Dec-15	2	3	3	4	3	3	2	3	1	2	2	4
30-Sep-15	2	3	3	2	4	4	2	3	1	2	2	5
30-Jun-15	1	3	2	1	3	4	1	4	2	3	1	5
31-Mar-15	2	3	3	2	3	4	2	4	1	2	2	5
31-Dec-14	2	3	3	2	2	4	2	3	4	1	2	5
30-Sep-14	2	3	3	2	2	4	2	3	4	1	2	5
30-Jun-14	2	3	3	2	1	4	2	3	4	2	2	5
31-Mar-14	2	4	3	2	1	3	2	4	5	3	2	2
31-Dec-13	2	3	3	4	1	2	2	5	4	3	2	2
30-Sep-13	2	3	2	5	1	3	2	4	3	4	2	2
28-Jun-13	1	3	2	2	1	4	1	4	5	3	1	1

Star Rank on Plain Sharpe Ratio

Balanced Fund

Fund Name	Faysal Stock Fund	HBL Multi Asset Fund	Unit Trust of Pakistan	Pakistan Capital Market Fund	NAFA Multi Asset Fund	Primus Strategic Multi Asset Fund
30-Mar-18		2	4	3	5	3
29-Dec-17		2	3	3	4	5
29-Sep-17		2	3	3	5	4
30-Jun-17		1	3	3	4	5
31-Mar-17		2	3	3	4	5
30-Dec-16		1	2	3	4	5
30-Sep-16		1	2	4	3	5
30-Jun-16		3	2	4	1	5
31-Mar-16		3	1	3	2	4
31-Dec-15		5	1	2	4	3
30-Sep-15		3	1	2	4	3
30-Jun-15		3	1	2	5	3
31-Mar-15		4	1	2	5	3
31-Dec-14		3	1	3	4	5
30-Sep-14		2	3	3	4	5
30-Jun-14		2	3	3	4	5
31-Mar-14		2	3	4	3	5
31-Dec-13		2	3	5	3	4
30-Sep-13		2	4	5	3	3
28-Jun-13		1	4	5	2	3

Star Rank on VIS Model

Balanced Fund

Fund Name	Faysal Stock Fund	HBL Multi Asset Fund	Unit Trust of Pakistan	Pakistan Capital Market Fund	NAFA Multi Asset Fund	Primus Strategic Multi Asset Fund
30-Mar-18	2	3	3	5	4	1
29-Dec-17	2	3	3	5	4	1
29-Sep-17	2	3	3	5	4	1
30-Jun-17	1	3	3	4	5	2
31-Mar-17	2	3	3	4	5	1
30-Dec-16	1	2	3	4	5	3
30-Sep-16	1	2	4	3	5	3
30-Jun-16	3	2	4	1	5	3
31-Mar-16	3	1	3	2	4	5
31-Dec-15	5	1	2	4	3	3
30-Sep-15	3	1	2	4	3	5
30-Jun-15	3	1	2	5	3	4
31-Mar-15	4	1	2	5	3	3
31-Dec-14	3	1	3	4	5	2
30-Sep-14	2	3	3	4	5	1
30-Jun-14	2	3	3	4	5	1
31-Mar-14	2	3	4	3	5	1
31-Dec-13	1	3	5	3	4	2
30-Sep-13	2	4	5	3	3	1
28-Jun-13	1	4	5	2	3	3

Star Rank on Modified Sharpe

Balanced Fund

Fund Name	Faysal Stock Fund	HBL Multi Asset Fund	Unit Trust of Pakistan	Pakistan Capital Market Fund	NAFA Multi Asset Fund	Primus Strategic Multi Asset Fund
30-Mar-18	2	3	3	5	4	1
29-Dec-17	1	3	3	5	4	2
29-Sep-17	2	3	3	5	4	1
30-Jun-17	1	3	3	4	5	2
31-Mar-17	2	3	3	4	5	1
30-Dec-16	1	2	3	4	5	3
30-Sep-16	1	2	4	3	5	3
30-Jun-16	3	2	4	1	5	3
31-Mar-16	3	1	3	2	4	5
31-Dec-15	5	1	2	4	3	3
30-Sep-15	3	1	2	4	3	5
30-Jun-15	3	1	2	5	3	4
31-Mar-15	4	1	2	5	3	3
31-Dec-14	3	1	3	4	5	2
30-Sep-14	2	3	3	4	5	1
30-Jun-14	2	3	3	4	5	1
31-Mar-14	2	3	4	3	5	1
31-Dec-13	2	3	5	3	4	1
30-Sep-13	2	4	5	3	3	1
28-Jun-13	1	4	5	2	3	1

Star Rank on Plain Sharpe Ratio

Equity fund

Fund Name	ABL Stock Fund	AKD Opportunit y Fund	Alfalah GHP Alpha Fund	Alfalah GHP Stock Fund	Atlas Stock Market Fund	First Capital Mutual Fund	First Habib Stock Fund	HBL Stock Fund	HBL Energy Fund	HBL Equity Fund	JS Growth Fund	JS Large Cap Fund	JS Value Fund	Lakson Equity Fund	MCB Pakistan Stock	National Investment Unit Trust	NAFA Stock Fund	Askari Equity Fund	PIML Value Equity Fund	UBL Stock Advantage Fund	
30-Mar-18	2	3	3	3	3	5	1	2	4	4	3	2	4	2	3	5	3	4	1	2	4
29-Dec-17	2	4	4	3	3	2	2	2	3	5	4	3	5	1	2	4	3	3	1	2	4
29-Sep-17	3	2	3	3	3	5	1	2	2	5	3	4	4	2	3	4	4	3	1	2	4
30-Jun-17	4	3	3	3	3	1	2	2	2	3	4	5	2	3	4	5	4	1	2	4	
31-Mar-17	4	4	3	3	2	3	2	1	4	2	4	3	2	3	4	5	5	2	1	3	
30-Dec-16	4	3	3	2	4	4	2	1	3	2	4	2	3	4	3	5	5	1	3	2	
30-Sep-16	4	3	4	3	4	2	2	2	2	1	3	3	4	4	3	5	5	1	2	3	
30-Jun-16	3	4	5	5	3	3	2	2	1	3	2	2	4	4	3	3	4	1	2	4	
31-Mar-16	3	4	5	5	2	2	2	2	1	3	2	3	4	3	3	3	4	1	4	4	
31-Dec-15	4	5	4	5	3	2	1	2	2	1	3	3	3	2	4	3	4	2	3	4	
30-Sep-15	4	5	4	4	2	3	2	1	1	3	3	4	2	3	4	3	5	2	2	3	
30-Jun-15	4	4	4	4	3	3	2	1	1	2	2	4	2	3	5	3	5	3	2	3	
31-Mar-15	4	3	4	4	3	2	2	2	1	3	2	4	2	4	5	3	5	3	1	3	
31-Dec-14	4	4	3	3	3	2	2	1	1	3	2	3	2	4	5	4	5	3	1	3	
30-Sep-14	3	3	2	4	3	3	1	2	1	4	2	2	3	4	4	5	5	3	1	3	
30-Jun-14	3	4	3	1	3	2	1	2	2	5	4	3	4	3	3	5	4	2	1	3	
31-Mar-14	3	5	2	1	3	3	1	2	4	4	4	3	4	3	2	5	3	2	1	3	
31-Dec-13	3	4	1	3	3	2	1	2	3	4	4	5	5	3	2	4	3	2	1	3	
30-Sep-13	3	5	2	3	4	1	1	2	2	3	4	4	5	3	2	4	3	3	1	3	
28-Jun-13	3	4	2	5	3	1	1	2	2	2	3	4	5	4	3	4	3	3	1	3	

Star Rank on VIS Model

Equity fund

Fund Name	ABL Stock Fund	AKD Opportunit y Fund	Alfalah GHP Alpha Fund	Alfalah GHP Stock Fund	Atlas Stock Market Fund	First Capital Mutual Fund	First Habib Stock Fund	HBL Stock Fund	HBL Energy Fund	HBL Equity Fund	JS Growth Fund	JS Large Cap Fund	JS Value Fund	Lakson Equity Fund	MCB Pakistan Stock	National Investment Unit Trust	NAFA Stock Fund	Askari Equity Fund	PIML Value Equity Fund	UBL Stock Advantage Fund
30-Mar-18	3	2	3	3	5	1	2	3	4	3	2	4	2	4	5	3	4	1	2	4
29-Dec-17	3	2	3	3	4	1	2	3	4	3	2	4	2	4	5	3	4	2	1	5
29-Sep-17	3	2	3	3	5	1	2	2	5	3	4	4	2	3	4	4	3	1	2	4
30-Jun-17	4	3	3	3	4	1	2	2	2	3	5	5	2	3	3	4	4	1	2	4
31-Mar-17	4	5	3	3	2	3	2	1	4	2	4	2	3	3	4	5	4	2	1	3
30-Dec-16	4	2	3	3	4	4	2	1	3	2	4	2	3	4	3	5	5	1	3	2
30-Sep-16	4	4	3	3	4	2	2	2	2	1	3	3	4	4	3	5	5	1	2	3
30-Jun-16	3	4	5	5	2	3	2	2	1	3	2	2	4	4	3	3	4	1	3	4
31-Mar-16	3	5	4	5	2	2	2	2	1	3	2	3	4	3	3	3	4	1	4	4
31-Dec-15	4	5	4	5	3	1	1	2	3	2	2	3	3	2	4	3	4	2	3	4
30-Sep-15	4	5	4	4	2	3	2	1	1	3	3	4	2	3	4	3	5	2	2	3
30-Jun-15	4	4	4	4	3	3	2	1	1	2	2	4	2	3	5	3	5	3	2	3
31-Mar-15	4	3	4	4	3	2	3	2	1	2	2	4	2	4	5	3	5	3	1	3
31-Dec-14	4	4	3	3	3	2	2	1	1	3	2	3	2	4	5	4	5	3	3	3
30-Sep-14	3	3	2	4	3	3	1	2	1	4	2	2	3	4	4	5	5	3	3	3
30-Jun-14	3	4	3	1	3	2	1	2	3	5	4	3	4	3	3	5	4	2	3	2
31-Mar-14	3	5	2	1	3	3	1	2	4	4	4	3	4	3	2	5	3	2	3	3
31-Dec-13	3	4	2	2	3	3	1	2	3	4	4	5	5	3	1	4	3	2	3	3
30-Sep-13	3	5	2	3	4	1	1	2	2	3	4	4	5	3	2	4	3	3	3	3
28-Jun-13	3	4	1	5	3	1	2	2	2	2	4	4	5	3	3	4	3	3	3	3

Star Rank on Modified Sharpe
Equity fund

Fund Name	ABL Stock Fund	AKD Opportunity Fund	Alfalah GHP Alpha Fund	Alfalah GHP Stock Fund	Atlas Stock Market Fund	First Capital Mutual Fund	First Habib Stock Fund	HBL Stock Fund	HBL Energy Fund	HBL Equity Fund	JS Growth Fund	JS Large Cap Fund	JS Value Fund	Lakson Equity Fund	MCB Pakistan Stock	National Investment Unit Trust	Nafa Stock Fund	Askari Equity Fund	PIML Value Equity Fund	UBL Stock Advantage Fund
30-Mar-18	3	2	3	3	5	1	2	3	4	3	2	4	2	4	5	3	4	2	1	4
29-Dec-17	3	1	3	3	4	1	2	3	5	3	2	4	2	4	4	3	4	2	2	5
29-Sep-17	3	2	3	3	5	1	2	2	5	3	4	4	2	3	4	4	3	1	2	4
30-Jun-17	4	3	3	3	3	1	2	2	2	3	4	5	2	3	4	5	4	1	2	4
31-Mar-17	4	4	3	3	2	3	2	1	4	2	4	3	2	3	4	5	5	2	1	3
30-Dec-16	4	3	3	2	4	4	2	1	3	2	4	2	3	4	3	5	5	1	3	2
30-Sep-16	4	3	4	3	4	2	2	2	2	1	3	3	4	4	3	5	5	1	2	3
30-Jun-16	3	4	5	5	2	3	2	2	1	3	2	2	4	4	3	3	4	1	3	4
31-Mar-16	3	4	5	5	2	2	2	2	1	3	2	3	4	3	3	3	4	1	4	4
31-Dec-15	4	5	4	5	3	1	1	2	3	2	2	3	3	2	4	3	4	2	3	4
30-Sep-15	4	5	4	4	2	3	2	1	1	3	3	4	2	3	4	3	5	2	2	3
30-Jun-15	4	4	4	4	3	3	2	1	1	2	2	4	2	3	5	3	5	3	2	3
31-Mar-15	4	3	4	4	3	2	2	1	2	3	2	4	2	4	5	3	5	3	1	3
31-Dec-14	4	4	3	3	3	2	2	1	1	3	2	3	2	4	5	4	5	3	1	3
30-Sep-14	3	3	2	4	3	3	1	2	1	4	2	2	3	4	4	5	5	3	1	3
30-Jun-14	3	4	3	1	3	2	1	2	2	5	4	3	4	3	3	5	4	2	1	3
31-Mar-14	3	5	2	1	3	3	1	2	4	4	4	3	4	3	2	5	3	2	1	3
31-Dec-13	3	4	1	3	3	2	1	2	3	4	4	5	5	3	2	4	3	2	1	3
30-Sep-13	3	5	2	3	4	1	1	2	2	3	4	4	5	3	2	4	3	3	1	3
28-Jun-13	3	4	2	5	3	1	1	2	2	2	3	4	5	4	3	4	3	3	1	3

Star Rank on Plain Sharpe Ratio

Islamic Asset Allocation Fund

Fund Name	Faysal Islamic Asset Allocation Fund	HBL Islamic Asset Allocation Fund	Lakson Islamic Tactical Fund	Alhamra Islamic Asset Allocation Fund	NAFA Islamic Asset Allocation Fund	Askari Islamic Asset Allocation Fund	Pak Oman Islamic Asset Allocation Fund	Al Ameen Islamic Asset Allocation Fund
30-Mar-18	2	3	4	5	3	2	1	4
29-Dec-17	4	3	2	5	3	1	2	4
29-Sep-17	2	3	3	5	4	1	2	4
30-Jun-17	4	3	1	5	3	2	2	4
31-Mar-17	2	2	1	4	5	3	3	4
30-Dec-16	1	3	2	4	5	2	4	3
30-Sep-16	2	2	1	4	5	3	4	3
30-Jun-16	2	1	3	3	5	2	4	4
31-Mar-16	2	1	2	3	5	3	4	4
31-Dec-15	1	2	3	3	5	2	3	4
30-Sep-15	1	2	4	3	5	2	3	3
30-Jun-15	1	1	1	5	4	2	3	3
31-Mar-15	2	2	2	5	4	1	3	3
31-Dec-14	2	2	1	4	5	2	3	3
30-Sep-14	2	2	1	3	5	3	4	2
30-Jun-14	2	2	2	3	5	3	4	1
31-Mar-14	2	2	1	3	5	4	2	2
31-Dec-13	2	2	1	2	5	3	4	2
30-Sep-13	1	1	1	3	5	2	4	1
28-Jun-13	1	1	1	3	4	5	2	1

Star Rank on VIS Model

Islamic Asset Allocation Fund

Fund Name	Faysal Islamic Asset Allocation Fund	HBL Islamic Asset Allocation Fund	Lakson Islamic Tactical Fund	Alhamra Islamic Asset Allocation Fund	NAFA Islamic Asset Allocation Fund	Askari Islamic Asset Allocation Fund	Pak Oman Islamic Asset Allocation Fund	Al Ameen Islamic Asset Allocation Fund
30-Mar-18	2	5	3	4	3	2	1	4
29-Dec-17	2	5	3	4	3	2	1	4
29-Sep-17	2	4	3	5	3	2	1	4
30-Jun-17	4	3	2	5	4	2	1	3
31-Mar-17	1	3	2	5	4	3	2	4
30-Dec-16	1	3	2	4	5	2	4	3
30-Sep-16	1	3	2	4	5	2	4	3
30-Jun-16	1	2	3	3	5	2	4	4
31-Mar-16	1	2	3	3	5	2	4	4
31-Dec-15	2	3	3	3	5	1	3	4
30-Sep-15	2	2	3	4	5	1	3	3
30-Jun-15	3	3	2	5	4	1	3	3
31-Mar-15	3	3	2	5	4	1	3	3
31-Dec-14	3	3	1	4	5	2	3	3
30-Sep-14	3	3	1	3	5	3	4	2
30-Jun-14	3	3	1	4	5	3	3	2
31-Mar-14	2	2	1	4	5	3	2	2
31-Dec-13	3	3	1	2	5	3	4	3
30-Sep-13	4	4	1	2	5	3	4	4
28-Jun-13	3	3	1	3	4	5	2	3

Star Rank on Modified Sharpe

Islamic Asset Allocation Fund

Fund Name	Faysal Islamic Asset Allocation Fund	HBL Islamic Asset Allocation Fund	Lakson Islamic Tactical Fund	Alhamra Islamic Asset Allocation Fund	NAFA Islamic Asset Allocation Fund	Askari Islamic Asset Allocation Fund	Pak Oman Islamic Asset Allocation Fund	Al Ameen Islamic Asset Allocation Fund
30-Mar-18	2	4	3	4	3	2	1	5
29-Dec-17	2	5	3	4	3	2	1	4
29-Sep-17	2	3	3	5	4	2	1	4
30-Jun-17	4	3	1	5	3	2	2	4
31-Mar-17	2	2	1	4	5	3	3	4
30-Dec-16	1	3	2	4	5	2	4	3
30-Sep-16	2	2	1	4	5	3	4	3
30-Jun-16	1	2	3	3	5	2	4	4
31-Mar-16	1	3	3	2	5	2	4	4
31-Dec-15	2	2	3	3	5	1	3	4
30-Sep-15	2	2	4	3	5	1	3	3
30-Jun-15	1	1	1	5	4	2	3	3
31-Mar-15	2	2	2	5	4	1	3	3
31-Dec-14	1	1	1	4	5	2	3	3
30-Sep-14	2	2	1	3	5	3	4	2
30-Jun-14	2	2	1	3	5	3	4	2
31-Mar-14	1	1	1	3	5	4	2	1
31-Dec-13	1	1	1	2	5	3	4	1
30-Sep-13	1	1	1	3	5	2	4	1
28-Jun-13	1	1	1	3	4	5	2	1

Star Rank on Plain Sharpe Ratio

Islamic Equity

Fund Name	ABL Islamic Stock Fund	ABL Islamic Dedicated Stock	Al Meezan Mutual Fund	Meezan Energy Fund	Meezan Islamic Fund	Alfalalah GHP Islamic Stock	Atlas Islamic Stock Fund	First Habib Islamic Stock	HBL Islamic Stock Fund	HBL Islamic Equity Fund	JS Islamic Fund	Alhamra Islamic Stock Fund	NIT Islamic Equity Fund	NAFA Islamic Energy Fund	NAFA Islamic Active Allocation	NAFA Islamic Stock Fund	PIML Islamic Equity Fund	Al Ameen Islamic Dedicated Equity	Al Ameen Shariah Stock Fund
30-Mar-18	2	2	3	5	2	3	4	2	3	3	1	4	4	5	3	3	1	3	4
29-Dec-17	3	3	2	5	1	3	4	4	2	3	2	3	2	5	3	3	1	4	4
29-Sep-17	3	1	3	3	2	4	5	3	2	2	4	4	2	5	3	3	1	3	4
30-Jun-17	3	1	3	1	2	3	4	5	2	3	5	4	2	3	4	4	2	3	3
31-Mar-17	3	1	3	1	3	3	3	3	2	2	4	4	2	4	5	5	2	3	4
30-Dec-16	3	1	3	1	3	3	4	1	2	2	5	4	3	4	5	4	2	2	3
30-Sep-16	3	1	3	1	4	4	3	1	2	1	4	3	2	5	5	4	2	2	3
30-Jun-16	2	2	4	2	4	5	2	1	1	3	2	2	3	4	5	3	3	3	4
31-Mar-16	3	2	3	2	4	5	3	2	2	3	3	2	1	2	3	4	5	1	4
31-Dec-15	4	2	3	2	4	5	2	1	2	3	3	2	1	2	2	4	5	2	3
30-Sep-15	4	2	3	2	3	4	3	1	2	5	5	2	1	2	2	2	4	2	3
30-Jun-15	5	1	3	1	3	4	2	1	2	4	5	3	1	1	1	2	3	1	4
31-Mar-15	5	2	4	2	3	3	2	1	1	3	5	3	2	2	2	2	2	2	4
31-Dec-14	3	1	4	1	3	3	3	1	2	2	5	5	1	1	1	1	1	1	4
30-Sep-14	3	2	5	2	4	3	3	2	3	1	2	5	2	2	2	2	1	2	4
30-Jun-14	3	2	5	2	4	2	3	2	3	1	3	5	2	2	2	2	1	2	4
31-Mar-14	2	1	4	1	4	3	2	2	3	1	5	3	1	1	1	1	1	1	5
31-Dec-13	1	1	3	1	4	2	3	2	3	1	4	3	1	1	1	1	1	1	5
30-Sep-13	1	1	3	1	4	3	4	2	2	1	3	3	1	1	1	1	1	1	5
28-Jun-13	1	2	3	2	4	3	3	2	3	2	4	2	2	2	2	2	2	2	5

Star Rank on VIS Model

Islamic Equity

Fund Name	ABL Islamic Stock Fund	ABL Islamic Dedicated Stock Fund	AI Meezan Mutual Fund	Meezan Energy Fund	Meezan Islamic Fund	Alfalah GHP Islamic Stock Fund	Atlas Islamic Stock Fund	First Habib Islamic Stock Fund	HBL Islamic Stock Fund	HBL Islamic Equity Fund	JS Islamic Fund	Alhamra Islamic Stock Fund	NIT Islamic Equity Fund	NAFA Islamic Energy Fund	NAFA Islamic Active Allocation Equity Fund	NAFA Islamic Stock Fund	PIML Islamic Equity Fund	Al Ameen Islamic Dedicated Equity Fund	Al Ameen Shariah Stock Fund
30-Mar-18	2	2	3	5	2	3	5	1	3	3	2	4	3	4	3	3	1	4	4
29-Dec-17	3	2	2	5	2	3	5	1	2	3	3	4	3	4	3	3	1	4	4
29-Sep-17	3	1	3	3	2	4	5	2	2	3	4	4	2	5	3	3	1	3	4
30-Jun-17	3	1	3	1	2	3	4	5	2	3	5	4	2	3	4	4	2	3	3
31-Mar-17	3	2	3	1	3	3	3	3	2	2	4	4	2	4	5	5	1	3	4
30-Dec-16	3	3	3	1	3	3	4	2	1	2	5	4	3	4	5	4	2	2	3
30-Sep-16	3	3	3	3	4	4	3	2	1	1	5	3	2	4	5	4	2	2	3
30-Jun-16	2	3	4	3	4	5	2	1	1	3	2	2	3	3	5	4	3	3	4
31-Mar-16	3	3	3	3	4	5	3	2	1	3	3	2	1	3	3	4	5	2	4
31-Dec-15	4	3	3	3	4	5	3	1	1	3	3	2	2	3	2	4	5	3	3
30-Sep-15	4	3	3	3	3	4	3	1	1	5	5	2	2	3	3	2	4	3	3
30-Jun-15	5	3	3	3	3	4	2	1	2	4	5	3	2	3	3	1	3	3	4
31-Mar-15	5	3	4	3	3	3	3	1	2	3	5	3	3	3	3	1	2	3	4
31-Dec-14	3	3	4	3	3	3	3	1	2	1	5	4	3	3	3	3	2	3	5
30-Sep-14	3	3	5	3	5	3	3	2	3	1	2	4	3	3	3	3	1	3	4
30-Jun-14	3	3	4	3	4	2	3	2	3	1	3	5	3	3	3	3	1	3	5
31-Mar-14	1	3	4	3	4	3	2	2	3	3	5	3	3	3	3	3	2	3	5
31-Dec-13	1	3	3	3	4	2	3	2	3	3	4	3	3	3	3	3	3	3	5
30-Sep-13	1	3	3	3	4	3	4	2	2	3	3	3	3	3	3	3	3	3	5
28-Jun-13	1	3	3	3	4	3	3	2	3	3	4	2	3	3	3	3	3	3	5