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Measuring Managerial Skills of Closed-End Mutual Funds in Bangladesh and Its Linkage to the Management Fee

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Abstract:
This report mainly focuses on identifying the managerial skills of fund managers, asset management companies in managing closed-end mutual funds of Bangladesh those are floated during 2013 to 2019 and which allowed to review the management fee system in the mutual fund industry. The analysis found that six fund managers have positive alphas or can produce an abnormal return, which is significant, six other fund managers can be called neither significant nor worst and seven other fund managers have negative alphas or cannot earn excess return due to the lack of managerial skills which are not significant statistically. The highest value in R-square refers that the movement of these mutual funds can be explained not only by the market index but also by the other three factors. It can be concluded that some fund managers have managerial skills, and some don't have skills, but the current management fee structure system of Bangladesh is counterproductive. This report finds that the seven fund managers with negative alpha, get the same or higher management fees just like the fund managers of positive alpha.

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1. Introduction

This paper tries to explore how asset management companies use their skills to earn an abnormal return. A mutual fund's portfolio is structured and maintained to match the investment objectives by making a pool of funds to share risk. For the purpose of earning profit and for investing in securities such as stocks, bonds, money market instruments and similar assets, professional management of funds is used so that the controllable risks are substantially reduced. Bangladesh's capital market is very narrow and there is little scope to introduce any new financial instrument which hinders mutual fund industry. Most mutual funds of Bangladesh are closed-end, meaning a collective investment scheme that has affixed number of shares which are not redeemable from the fund and the shares can be purchased and sold only in the market. Investment Corporation of Bangladesh (ICB) launched by government in 1980 was the first-ever Mutual Funds for the sake of investors and of the capital market. The first private sector to take initiative of organizing a mutual fund was Asset & Investment Management Services of Bangladesh Limited (AIMS) in 1999. Though the mutual fund industry grew over time there has only been closed-end fund since the beginning of the mutual funds. The country's first-ever open-end mutual fund hit market in the first quarter of 2010, expanding the orbit of stock market and providing shareholders with a very useful and convenient investing vehicle.

For evaluating the managerial skills, the Carhart model is used to measure the alpha for each of all closed-end 32 mutual funds. The abnormal return is determined by separating return attributed to the market factor, size factor, value factor and momentum factor (Maris, 2000). As the percentage of the management fee is the same for all fund managers and the basis is only NAV od the scheme, it raises a debate that whether the payment system is systematic or not. The report reviews whether it can be useful to provide the management fee based on the skills or based on NAV of the scheme. Analyzing further, it can be concluded that some fund managers have managerial skills, and some don't have skills, but the current management fee structure system of Bangladesh is counterproductive. This report discusses that the fund managers with negative alpha, get the same or higher management fees just like the fund managers of positive alpha. As, the percentage of management fee is same for all fund managers and the basis is only NAV od the scheme, it raises a debate that whether the payment system is systematic or not. The current management fee structure as per regulation of mutual fund is not properly incented to ensure that the fund managers having managerial skills is not being properly compensated. The report suggests that it can be useful to provide the management fee based on the skills not based on NAV of the scheme.

2. Literature Review:

Like in countries worldwide mutual fund manager's performances in Bangladesh are measured based on the net asset value (NAV) of the funds. A performance study was done by Berk & van Binsbergen, (2012) named 'Measuring Skill in the Mutual Fund Industry' shows the dollar-value that a mutual fund adds as the measure of skill, they find that the average mutual fund can add value for about $3.2 million and the skills remain constant for about 10 years. The document further shows that investors recognize this skill and reward it by investing more capital with better funds. According to Brown & Vickers, (1963), there are two Standpoints which assess portfolio performance. One is the construction and internal criteria of portfolio and another is the influence of market factors. These two standpoints are interdependent and this is 10 points that affect the performance of investment two certain extents to accord with the expectation of shareholders or investors. The distribution of assets in the portfolio and other internal structure relatively affect the performance of portfolio but there are still some external influences from the market which is difficult to manage. That is

why with such investment objectives like capital security, capital growth, profit margin may not be met Because these preferences of investors are not easily amenable took quantification.

According to Cagnazzo, (2019), investors try to investigate the performance level of portfolios by using different market timing strategies. According to the resource findings, there are some short term determinants which can explain equity and fixed income from a mutual fund. The paper analyzed whether investors can take effective timing decision and if they are is any performance gap. The result sized most of the front shows negative performance gap and all are statistically significant but regardless of strategy, group fund shows worse performance. The research of Fama, (1970) reviewed different literature from theoretical to empirical work. In an effective market, price provides an indication for future resource allocation and from this, institutions can make different investment decisions. In the stores can choose security days based on their own preferences with the assumption that the security price will fully reflect all the available information. The researcher called the market efficient if the information is fully reflected. According to the Grinblatt & Titman, (1989), there are different types of evaluation techniques to measure portfolio performance but there is still no basic measurement to evaluate skills of professional portfolio managers who can earn abnormal returns. The research reviewed previous studies regarding the performance evolution of mutual fund managers and most of the result sized negative performance and no performance for most of the average mutual fund. The researcher expressed that if the managers have superior skills, they might be able to capture higher compensation. So, only gross return can be observed to understand performance skills of managers without considering transaction cost, management fee and other expenses. Grinblatt & Titman, (1994) also reviewed the positive period weighting measure and quadratic regression. The paper analyzed different determinants to evaluate mutual fund performance by using fund characteristics like- load, net asset value, expenses, management fee and turnover. The findings suggest that turnover has a significant positive relationship with the fund managers ability to earn abnormal profit.

Based on the previous studies, to measure the excess return that managers produce with managerial skills, this paper used the Carhart model, by using closed-end mutual funds of Bangladesh. That's why, this paper has a purpose to review the different aspects of Asset management companies of Bangladesh and their skills, mutual fund industry and its prospects and problems and to analyze the payment system in mutual fund industry in Bangladesh.

3. Research Method

For our quantitative analysis, critical analyses are done on common and popular practices of theoretical tools in the research world around the DSE in Bangladesh. Periodical reports of SEC, Bangladesh Bank, DSE, and different mutual fund organizations are reviewed with relevant factors. Annual reports and financial statements of 32 Closed-end mutual funds are analysed. Different study reports during the last decade are also reviewed for understanding the scenario of using theories in practical analyses. Data of everyday fund facts are collected from two types of sources: stock market and mutual fund organizations. The sample in this study consist of 32 mutual funds traded in DSE & the sample periods is 2013 to 2019 (total 25 periods by quarterly). All the NAV data has been used to calculate return by using Log and then has been transposed. Market capital of mutual funds has been calculated by using price

and the total number of units, Book to Market has been calculated by using price and NAV at cost. All the return has been sorted then based on Market Capital, Book to Market value and past return weight for each period. By sorting and averaging the returns, values for SMB, HML, UMD have been found. Six portfolios have been created based on size factor and value factor- S/H, S/M, S/L, B/H, B/M, B/L; among which B/H has the most significant alpha, which means the big-sized and high valued portfolio can outperform in the market. The R square has been calculated to review, if the portfolio has positive or negative alpha and if best fitted according to R square.

4. Results and Discussion

4.1 The model

The Fama and French Three-Factor Model is an asset pricing model that expands on the capital asset pricing model (CAPM) by adding size and value factors to the market risk factor in CAPM. This model considers the fact that value and small-cap stocks outperform markets regularly. By including these two additional factors, the model adjusts for the outperformance tendency, which is thought to make it a better tool for evaluating manager performance.

In portfolio management, the Carhart four-factor model is an extension of the Fama–French three-factor model including a momentum factor for asset pricing of stocks. It is also known in the industry as the MOM factor (monthly momentum). Momentum in stock is described as the tendency for the stock price to continue rising if it is going up and to continue declining if it is going down.

The model used is to find the alpha which is a measurement to measure skills of asset managers. The alpha is a measurement which is the average abnormal return before fees are subtracted from the mutual fund. The model used is given below-

$$R_{p,t} = R_{f,t} + \beta_{p,t}^{mp}\left(R_{m,t} - R_{f,t}\right) + \beta_{p,t}^{smb}(SMB) + \beta_{p,t}^{hml}(HML) + \beta_{p,t}^{umd}(UMD)$$

Where,

$R_{p,t}$ = the return of risk-free asset or portfolio

$R_{f,t}$ = the risk-free rate of return

$\beta^{mp}_{p,t}$ = the responsiveness or coefficient of market premium

$R_{m,t} - R_{f,t}$ = the market risk premium

$\beta^{smb}_{p,t}$ = the coefficient of SMB

SMB = the factor premium for the size effect

$\beta^{hml}_{p,t}$ = the coefficient of HML

HML = the factor premium for value effect

$\beta^{umd}_{p,t}$ = the coefficient of UMD

UMD = the factor premium for momentum effect

After finding the t value and alpha by this model, managerial skills can be measured.

If, Alpha < 0 = No skills

Alpha > 0 = Skills

4.2 Construction of the Portfolio

All the mutual funds are sorted into two different size- SMALL & BIG, based on their market capitalization. Then the funds are sorted again into three percentile- HIGH, MEDIUM, LOW, by the value factor or by the book to market ratio. The HIGH portfolio includes the last 30% of the funds, the MEDIUM portfolio consists of middle 40% of funds and SMALL portfolio includes first 30% funds. So, the six portfolios from 2013 to 2019 are- S/H, S/M, S/L, B/H, B/M, B/L, which are sorted based on the interaction of the size and book to market ratio. Then, the SMB, HML, UMD has been calculated based on these formulae-

For SMB,

$$SMB = \frac{1}{3}\left(\frac{S}{H} + \frac{S}{M} + \frac{S}{L}\right) - \frac{1}{3}\left(\frac{B}{H} + \frac{B}{M} + \frac{B}{L}\right)$$

For HML,

$$HML = \frac{1}{2}\left(\frac{S}{H} + \frac{B}{H}\right) - \frac{1}{2}\left(\frac{S}{L} + \frac{B}{L}\right)$$

For UMD,

$$UMD = \frac{1}{2}\left(\frac{S}{U} + \frac{B}{U}\right) - \frac{1}{2}\left(\frac{S}{U} + \frac{B}{U}\right)$$

The return is calculated by - $R_{i,t} = \ln NAV_t - \ln NAV_{t-1}$

$R_{m,t}$ has been calculated from the DSEX index of Dhaka Stock Exchange. The $R_{f,t}$ is calculated from 91 days T-bill of Bangladesh government.

4.3 Descriptive statistics

Appendix A shows the summary statistics of the average quarterly return of the six portfolios based on the size and book to market basis. Among all the portfolio, B/L produces the highest excess return where S/L produces the 2nd best return. The B/H portfolio produces the lowest return. Appendix B shows the summary statistics of Rm-Rf, SMB, HML, UMD and among these 4 factors, SMB produces the highest return. This indicates a strong presence of SMB in DSE. The market premium is also having a significant presence, but all the factors produce a negative return. The table of Appendix C shows the correlation between the 4 factors, which shows the significance of the correlation coefficient. There is a high positive correlation between SMB and UMD. Also, there is a positive relation between market premium and UMD. SMB and Rm- Rf has a negative correlation.

4.4 Regression Analysis

4.4.1 Regression Analysis of Six Portfolios

Appendix D shows R-square, which is a statistical measure that represents the percentage of a fund or security's movements that can be explained by movements in a benchmark index. Here the S/L portfolio has 92% in R square, which means the portfolio can be explained by the movement of the index. The B/H portfolio has the least value in R square which is 6%. In Appendix E, the table Represent regression result of the excess return of six portfolios constructed based on size and book to market value factor by using formula. This study applies to statistics for evaluating the significance of estimated coefficients and intercept and f- statistics for evaluating the overall significance of the model. R2 Value indicates the portion of the dependent variable has been explained by the independent variable. Over the period of 2013-2019, the regression result of constructed portfolios shows a positive linear relationship between the monthly average excess return and market risk premium. The coefficient of size premium of S/L is significant at 1% significance level. The size of the coefficient of size premium is larger in small size portfolio and much lower at big size portfolio. This implies that size premium or SMB offers a strong impact in explaining the average excess return of the small portfolios. In this regression coefficient result, the regression coefficient is consistently found mostly negative for all portfolios except B/H where only the coefficient of SMB is negative. The coefficient of Momentum factor is found mostly positive in five portfolios among the six portfolios.

4.4.2 Regression Analysis of Individual mutual fund

In the table of Appendix F, the R-square of three mutual funds is higher than other mutual funds, which are AB Bank 1st Mutual Fund, NLI First Mutual Fund, First Bangladesh Fixed Income Fund. It means these mutual fund movements can be explained by the movement in

index. According to Appendix G, ICB AMCL 2nd NRB Mutual fund, EBL first mutual fund, NLl 1st mutual fund, ICB AMCL Second Mutual Fund, AB Bank 1st Mutual Fund, First Bangladesh Fixed Income Fund, EXIM Bank 1st Mutual Fund has negative alpha where NCCBL first mutual fund, First Bangladesh fixed income fund, NLI first mutual fund, LR global fund, MBL mutual fund, AIBL mutual fund, IFIL mutual fund, DBH mutual fund, Prime finance mutual fund are the mutual funds with mostly positive coefficient. The UMD factor has the most positive coefficient which means it contributes significantly to the return of mutual fund. The market return premium also contributes positively. But the size premium is mostly having a negative coefficient

4.5 Measuring Skills of Asset Managers in Mutual Fund Industry

From the table of Appendix G, it can be shown that six mutual funds have positive alpha and the level of significance is higher than 1.65. There are other six mutual funds that have positive alpha, but they are neither significant nor worst. ICB AMCL second mutual fund, EBL First Mutual Fund, AB Bank 1st Mutual Fund, ICB AMCL Second Mutual Fund, NLI First Mutual Fund, First Bangladesh Fixed Income Fund, EXIM Bank 1st Mutual Fund- these five mutual funds have negative alpha, which means the asset managers couldn't produce excess return, which means the asset managers have fewer skills. But they are not significant statistically. But, most of the mutual funds have positive alpha, which means the asset management company has skills and they are producing excess return.

4.6 Findings

This report shows the asset management companies have skills to produce excess return based on Bangladesh mutual fund industry, but the payment of the asset management company is weakly structured. Generally, the asset managers fee is given based on NAV. Appendix I shows the table of fee allocation based on NAV. This payment system is not systematic as, from the result of analysis, that some companies don't have the skills to produce positive excess return. But the payment system is same for both skilled and less-skilled asset management companies. From the table of Appendix J, it can be shown that the asset management company of ICB AMCL 2nd NRB Mutual fund is getting higher management fee even they are less skilled to produce excess return. Same for the asset management companies of NLI First Mutual Fund, First Bangladesh Fixed Income Fund, EXIM Bank 1st Mutual Fund the management fee is higher even they are less skilled. But the asset management companies like- Phoenix Finance 1st Mutual Fund, ICB AMCL Third NRB Mutual Fund, MBL 1st Mutual Fund are getting same or less management fee, even though they are skillfully producing abnormal return. So, the payment system should include such policy that the asset management companies who produce excess return by their skills will get fee-based on their earned return.

4.7 Recommendations

So, this report suggests that rather than NAV based payment system, the payment system should be based on skill-based earned return, which can be called performance-based payment system or performance fee. It has some advantages over the traditional payment system. Firstly, as both skilled and less skilled asset management companies are getting a fixed fee, the skilled asset management companies can be demotivated. The less skilled asset management companies will get privileged and can be less motivated to manage the mutual fund more skillfully, as they are getting the same fee. Secondly, most of the mutual fund doesn't pay cash dividend if they have excess return or fund to give dividend. As paying dividend lowers the NAV of the mutual funds. For showing higher NAV they reduce cash

dividend (Merton, 1981). Thirdly, with the fixed payment system to the asset management companies, the performance-based fee can be introduced, so the asset management companies fee more motivated to use their skills to produce excess return. So, rather than paying management fee based on NAV, this report shows it is more useful if the fee is given based on the Performance or skills to produce excess return.

5. Conclusion

Performance evaluation measures of mutual fund managers are basically examined Alpha. The most widely used indicator in Bangladesh, especially in the relevant environment with Dhaka Stock Exchange (DSE), its net asset value (NAV). There is increasing demand for deeper understanding of mutual fund performances, which includes the formation of fund in terms of ownership status, investment option and stock variety (Anand & Murugaiah, 2006). The Carhart model is the extension of the 3-factor model which introduce another momentum factor. This research has shaded light on searching for skills of asset management companies and introducing performance measuring payment system (Deb, 2013). The evidence with available data related to DSE in Bangladesh are analyzed in relations with theoretical tools and it suggests that there are skills of asset management companies those help to produce excess return. It is concluded that further rigorous research needs to be done for forming an accepted payment system expressing significant relationship between fund return and performance-based payment.

6. References

Anand, S., & Murugaiah, V. (2006). Analysis of Components of Investment Performance - An Empirical Study of Mutual Funds in India. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.961999

Berk, J., & van Binsbergen, J. (2012). Measuring Managerial Skill in the Mutual Fund Industry. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.2038108

Brown, F., & Vickers, D. (1963). MUTUAL FUND PORTFOLIO ACTIVITY, PERFORMANCE, AND MARKET IMPACT. *The Journal Of Finance*, *18*(2), 377-391. https://doi.org/10.1111/j.1540-6261.1963.tb00730.x

Cagnazzo, A. (2019). Market-Timing Performance of Mutual Fund Investors in Emerging Markets. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.3364879

Deb, R. (2013). A Comparative Study on Performance Evaluation of Selected Mutual Fund Tax Saving Schemes. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.2307798

Fama, E. (1970). Efficient Capital Markets: A Review of Theory and Empirical Work. *The Journal Of Finance*, *25*(2), 383. https://doi.org/10.2307/2325486

Grinblatt, M., & Titman, S. (1989). Mutual Fund Performance: An Analysis of Quarterly Portfolio Holdings. *The Journal Of Business*, *62*(3), 393. https://doi.org/10.1086/296468

Grinblatt, M., & Titman, S. (1994). A Study of Monthly Mutual Fund Returns and Performance Evaluation Techniques. *The Journal Of Financial And Quantitative Analysis*, *29*(3), 419. https://doi.org/10.2307/2331338

Maris, B. (2000). Market Volatility and Perverse Timing Performance of Mutual Fund Managers. *CFA Digest*, *30*(3), 60-61. https://doi.org/10.2469/dig.v30.n3.727

Merton, R. (1981). On Market Timing and Investment Performance. I. An Equilibrium Theory of Value for Market Forecasts. *The Journal Of Business*, *54*(3), 363. https://doi.org/10.1086/296137

7. Appendix

A. Summary statistics of average quarterly return of the six portfolios

	B/H	B/M	B/L	S/H	S/M	S/L
Mean	0.002421	0.070301	0.141393	0.007554	0.037362	0.030545
Standard Error	0.006474	0.04995	0.075058	0.012678	0.021523	0.030885
Median	0	0.002091	-0.00567	-0.00757	0.007373	0.009495
Mode	0	#N/A	-0.00567	#N/A	#N/A	#N/A
Standard Deviation	0.028954	0.223384	0.33567	0.056698	0.096254	0.138123
Sample Variance	0.000838	0.0499	0.112675	0.003215	0.009265	0.019078
Kurtosis	1.184982	12.53227	4.895336	0.062641	3.882058	14.03451
Skewness	0.816707	3.449702	2.256123	0.485118	2.088045	3.431156
Range	0.12423	0.978559	1.296284	0.224043	0.339347	0.717354
Minimum	-0.04837	-0.05053	-0.07659	-0.08308	-0.03848	-0.14299
Maximum	0.075859	0.928031	1.219695	0.140965	0.300871	0.574359
Sum	0.048412	1.406015	2.827862	0.151083	0.747249	0.610892
Count	20	20	20	20	20	20

B. The summary statistics of Rm-Rf, SMB, HML, UMD

	Rm-Rf	SMB	HML	UMD
Mean	-0.04264	-0.02146	0.087628	-0.23302
Standard Error	0.01733	0.025236	0.046349	0.120728
Median	-0.0283	-0.00481	0.002904	-0.01143
Mode	-0.0283	#N/A	#N/A	#N/A
Standard Deviation	0.077503	0.112858	0.207277	0.53991
Sample Variance	0.006007	0.012737	0.042964	0.291503
Kurtosis	2.311517	4.886881	2.42242	13.40291
Skewness	-0.98306	-1.57505	1.916923	-3.46509
Range	0.34785	0.55527	0.666801	2.401968
Minimum	-0.26215	-0.3765	-0.0662	-2.3438
Maximum	0.0857	0.178765	0.600606	0.058169
Sum	-0.85275	-0.42928	1.752558	-4.66034
Count	20	20	20	20

C. The correlation between the 4 factors

	Rm-Rf	SMB	HML	UMD
Rm-Rf	1			
SMB	-0.23088	1		
HML	0.0978	-0.08482	1	
UMD	0.004073	0.556341	-0.12449	1

D. Regression Analysis of Six Portfolios

Regression Statistics	S/L	S/M	S/H	B/L	B/M	B/H
Multiple R	0.64	0.71	0.74	0.94	0.93	0.26
R Square	0.41	0.50	0.55	0.88	0.87	0.07
Adjusted R Square	0.26	0.36	0.43	0.85	0.83	-0.18
Standard Error	0.12	0.08	0.04	0.13	0.09	0.03
Observations	20	20	20	20	20	20

E. Regression result of excess return of six portfolios

Portfolio	FACTOR		Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%	F	Significance F
S/L	ALPHA	Intercept	-0.01	0.03	-0.35	0.73	-0.09	0.06	-0.09	0.06	2.66	0.07
	Rm-Rf	0.07	-0.13	0.36	-0.35	0.73	-0.90	0.64	-0.90	0.64		
	SMB	-0.12	-0.10	0.30	-0.32	0.75	-0.74	0.55	-0.74	0.55		
	HML	0.20	0.43	0.13	3.22	0.01	0.15	0.71	0.15	0.71		
	UMD	-0.16	0.01	0.06	0.18	0.86	-0.12	0.14	-0.12	0.14		
S/M	ALPHA	Intercept	0.03	0.02	1.35	0.20	-0.02	0.08	-0.02	0.08	3.73	0.03
	Rm-Rf	0.07	0.26	0.23	1.09	0.29	-0.24	0.75	-0.24	0.75		
	SMB	-0.12	0.11	0.20	0.56	0.58	-0.31	0.52	-0.31	0.52		
	HML	0.20	-0.12	0.09	-1.35	0.20	-0.30	0.07	-0.30	0.07		
	UMD	-0.16	-0.13	0.04	-3.26	0.01	-0.22	-0.05	-0.22	-0.05		
S/H	ALPHA	Intercept	0.03	0.01	2.57	0.02	0.01	0.06	0.01	0.06	4.61	0.01
	Rm-Rf	0.07	0.48	0.13	3.70	0.00	0.20	0.76	0.20	0.76		
	SMB	-0.12	-0.09	0.11	-0.84	0.42	-0.32	0.14	-0.32	0.14		
	HML	0.20	0.02	0.05	0.48	0.64	-0.08	0.12	-0.08	0.12		
	UMD	-0.16	0.03	0.02	1.50	0.15	-0.01	0.08	-0.01	0.08		
B/L	ALPHA	Intercept	0.09	0.04	2.29	0.04	0.01	0.17	0.01	0.17	28.76	0.00
	Rm-Rf	0.07	0.97	0.39	2.48	0.03	0.14	1.80	0.14	1.80		
	SMB	-0.12	-1.05	0.33	-3.21	0.01	-1.74	-0.35	-1.74	-0.35		
	HML	0.20	1.37	0.14	9.56	0.00	1.07	1.68	1.07	1.68		
	UMD	-0.16	0.20	0.07	2.90	0.01	0.05	0.34	0.05	0.34		
B/M	ALPHA	Intercept	0.01	0.03	0.52	0.61	-0.04	0.07	-0.04	0.07	24.56	0.00
	Rm-Rf	0.07	0.20	0.28	0.72	0.48	-0.39	0.79	-0.39	0.79		
	SMB	-0.12	-0.09	0.23	-0.37	0.72	-0.58	0.41	-0.58	0.41		

	HML	*0.20*	*-0.27*	*0.10*	*-2.65*	*0.02*	*-0.49*	*-0.05*	*-0.49*	*-0.05*		
	UMD	*-0.16*	*-0.37*	*0.05*	*-7.74*	*0.00*	*-0.48*	*-0.27*	*-0.48*	*-0.27*		
B/H	*ALPHA*	*Intercept*	*0.01*	*0.01*	*0.72*	*0.48*	*-0.01*	*0.03*	*-0.01*	*0.03*	*0.28*	*0.89*
	Rm-Rf	*0.07*	*0.05*	*0.10*	*0.57*	*0.58*	*-0.15*	*0.26*	*-0.15*	*0.26*		
	SMB	*-0.12*	*-0.05*	*0.08*	*-0.67*	*0.51*	*-0.22*	*0.12*	*-0.22*	*0.12*		
	HML	*0.20*	*-0.01*	*0.04*	*-0.29*	*0.78*	*-0.09*	*0.06*	*-0.09*	*0.06*		
	UMD	*-0.16*	*0.01*	*0.02*	*0.54*	*0.60*	*-0.03*	*0.04*	*-0.03*	*0.04*		

F. Regression Analysis of Individual mutual fund

Regression Statistics	***Multiple R***	***R Square***	***Adjusted R Square***	***Standard Error***	***Observations***
Grameen One: Scheme Two	*0.56*	*0.31*	*0.13*	*0.06*	*20.00*
ICB AMCL 2nd NRB Mutual fund	*0.56*	*0.31*	*0.13*	*0.07*	*20.00*
EBL First Mutual Fund	*0.66*	*0.43*	*0.28*	*0.05*	*20.00*
ICB AMCL Second Mutual Fund	*0.48*	*0.23*	*0.02*	*0.22*	*20.00*
ICB Employees Provident Mutual Fund One: Scheme One	*0.51*	*0.26*	*0.07*	*0.08*	*20.00*
Trust Bank First Mutual Fund	*0.62*	*0.39*	*0.22*	*0.04*	*20.00*
Prime Finance First Mutual Fund	*0.70*	*0.48*	*0.35*	*0.06*	*20.00*
DBH First Mutual Fund	*0.69*	*0.48*	*0.34*	*0.04*	*20.00*
IFIC Bank 1st Mutual Fund	*0.81*	*0.66*	*0.57*	*0.03*	*20.00*
Phoenix Finance 1st Mutual Fund	*0.68*	*0.46*	*0.32*	*0.06*	*20.00*
ICB AMCL Third NRB Mutual Fund	*0.67*	*0.45*	*0.30*	*0.06*	*20.00*
1st Janata Bank Mutual Fund	*0.48*	*0.23*	*0.03*	*0.04*	*20.00*
Green Delta Mutual Fund	*0.71*	*0.51*	*0.38*	*0.03*	*20.00*
Popular Life First Mutual Fund	*0.62*	*0.39*	*0.22*	*0.03*	*20.00*
IFIL Islamic Mutual Fund-1	*0.46*	*0.22*	*0.01*	*0.07*	*20.00*
PHP First Mutual Fund	*0.58*	*0.34*	*0.16*	*0.04*	*20.00*
AIBL 1st Islamic Mutual Fund	*0.44*	*0.20*	*-0.02*	*0.06*	*20.00*
MBL 1st Mutual Fund	*0.55*	*0.30*	*0.11*	*0.05*	*20.00*
Southeast Bank 1st Mutual Fund	*0.45*	*0.20*	*-0.01*	*0.04*	*20.00*
EBL NRB Mutual Fund	*0.75*	*0.56*	*0.45*	*0.04*	*20.00*
"Reliance One" the first scheme of Reliance Insurance Mutual Fund	*0.73*	*0.53*	*0.40*	*0.04*	*20.00*
LR Global Bangladesh Mutual Fund One	*0.58*	*0.33*	*0.16*	*0.05*	*20.00*

AB Bank 1st Mutual Fund	*0.98*	*0.96*	*0.95*	*0.12*	*20.00*
NLI First Mutual Fund	*0.98*	*0.95*	*0.94*	*0.13*	*20.00*
First Bangladesh Fixed Income Fund	*0.98*	*0.96*	*0.94*	*0.12*	*20.00*
NCCBL Mutual Fund-1	*0.74*	*0.55*	*0.43*	*0.41*	*19.00*
ICB AMCL Sonali Bank Limited 1st Mutual Fund	*0.78*	*0.60*	*0.44*	*0.44*	*15.00*
EXIM Bank 1st Mutual Fund	*0.88*	*0.78*	*0.68*	*0.36*	*14.00*
Vanguard AML Rupali Bank Balanced Fund	*1.00*	*1.00*	*65535.00*	*0.00*	*1.00*
SEML Lecture Equity Management Fund	*1.00*	*1.00*	*65535.00*	*0.00*	*3.00*
Vanguard AML BD Finance Mutual Fund One	*1.00*	*1.00*	*65535.00*	*0.00*	*3.00*

G. Regression result of excess return of all mutual funds

Name	***Asset managers***	***Coefficients***	***Standard Error***	***t Stat***	***P-value***	***Lower 95%***	***Upper 95%***	***Lower 95.0%***	***Upper 95.0%***	***F***	***Significance F***
Grameen One: Scheme Two	*AIMS*	*0.01*	*0.01*	*0.46*	*0.65*	*-0.02*	*0.03*	*-0.02*	*0.03*	*1.70*	*0.20*
ICB AMCL 2nd NRB Mutual fund	*ICB*	*-0.01*	*0.02*	*-0.90*	*0.38*	*-0.05*	*0.02*	*-0.05*	*0.02*	*1.70*	*0.20*
EBL First Mutual Fund	*RACE*	*0.00*	*0.01*	*-0.42*	*0.68*	*-0.03*	*0.02*	*-0.03*	*0.02*	*2.83*	*0.06*
ICB AMCL Second Mutual Fund	*ICB*	*-0.02*	*0.05*	*-0.42*	*0.68*	*-0.13*	*0.09*	*-0.13*	*0.09*	*1.11*	*0.39*
ICB Employees Provident Mutual Fund One: Scheme One	*ICB*	*0.00*	*0.02*	*0.18*	*0.86*	*-0.03*	*0.04*	*-0.03*	*0.04*	*1.34*	*0.30*
Trust Bank First Mutual Fund	*RACE*	*0.00*	*0.01*	*0.02*	*0.98*	*-0.02*	*0.02*	*-0.02*	*0.02*	*2.36*	*0.10*
Prime Finance First Mutual Fund	*ICB*	*0.03*	*0.02*	*1.62*	*0.13*	*-0.01*	*0.07*	*-0.01*	*0.07*	*3.53*	*0.03*

DBH First Mutual Fund	*LR Global*	*0.03*	*0.01*	*2.41*	*0.03*	*0.00*	*0.05*	*0.00*	*0.05*	*3.41*	*0.04*
IFIC Bank 1st Mutual Fund	*RACE*	*0.01*	*0.01*	*1.31*	*0.21*	*-0.01*	*0.03*	*-0.01*	*0.03*	*7.30*	*0.00*
Phoenix Finance 1st Mutual Fund	*ICB*	*0.03*	*0.02*	*1.72*	*0.11*	*-0.01*	*0.07*	*-0.01*	*0.07*	*3.25*	*0.04*
ICB AMCL Third NRB Mutual Fund	*ICB*	*0.03*	*0.02*	*1.76*	*0.10*	*-0.01*	*0.07*	*-0.01*	*0.07*	*3.08*	*0.05*
1st Janata Bank Mutual Fund	*RACE*	*0.02*	*0.01*	*1.50*	*0.16*	*-0.01*	*0.04*	*-0.01*	*0.04*	*1.15*	*0.37*
Green Delta Mutual Fund	*LR Global*	*0.03*	*0.01*	*2.75*	*0.01*	*0.01*	*0.05*	*0.01*	*0.05*	*3.91*	*0.02*
Popular Life First Mutual Fund	*RACE*	*0.02*	*0.01*	*1.56*	*0.14*	*-0.01*	*0.04*	*-0.01*	*0.04*	*2.35*	*0.10*
IFIL Islamic Mutual Fund-1	*ICB*	*0.03*	*0.02*	*1.40*	*0.18*	*-0.01*	*0.07*	*-0.01*	*0.07*	*1.03*	*0.42*
PHP First Mutual Fund	*RACE*	*0.02*	*0.01*	*1.73*	*0.10*	*0.00*	*0.05*	*0.00*	*0.05*	*1.92*	*0.16*
AIBL 1st Islamic Mutual Fund	*LR Global*	*0.02*	*0.02*	*1.47*	*0.16*	*-0.01*	*0.06*	*-0.01*	*0.06*	*0.93*	*0.48*
MBL 1st Mutual Fund	*LR Global*	*0.03*	*0.01*	*1.92*	*0.07*	*0.00*	*0.06*	*0.00*	*0.06*	*1.60*	*0.23*
Southeast Bank 1st Mutual Fund	*VIPB*	*0.01*	*0.01*	*0.63*	*0.54*	*-0.02*	*0.04*	*-0.02*	*0.04*	*0.95*	*0.46*
EBL NRB Mutual Fund	*RACE*	*0.01*	*0.01*	*0.87*	*0.40*	*-0.01*	*0.03*	*-0.01*	*0.03*	*4.82*	*0.01*
"Reliance One" the first scheme of Reliance Insurance Mutual Fund	*AIMS*	*0.02*	*0.01*	*1.52*	*0.15*	*-0.01*	*0.04*	*-0.01*	*0.04*	*4.20*	*0.02*

LR Global Bangladesh Mutual Fund One	*LR Global*	*0.02*	*0.01*	*1.51*	*0.15*	*-0.01*	*0.05*	*-0.01*	*0.05*	*1.88*	*0.17*
AB Bank 1st Mutual Fund	*RACE*	*-0.04*	*0.04*	*-1.03*	*0.32*	*-0.11*	*0.04*	*-0.11*	*0.04*	*85.81*	*0.00*
NLI First Mutual Fund	*VIPB*	*-0.02*	*0.04*	*-0.64*	*0.53*	*-0.10*	*0.06*	*-0.10*	*0.06*	*76.02*	*0.00*
First Bangladesh Fixed Income Fund	*RACE*	*-0.04*	*0.04*	*-1.07*	*0.30*	*-0.11*	*0.04*	*-0.11*	*0.04*	*82.12*	*0.00*
NCCBL Mutual Fund-1	*LR Global*	*0.07*	*0.13*	*0.59*	*0.56*	*-0.20*	*0.35*	*-0.20*	*0.35*	*4.36*	*0.02*
ICB AMCL Sonali Bank Limited 1st Mutual Fund	*ICB AMCL*	*0.22*	*0.14*	*1.55*	*0.15*	*-0.10*	*0.54*	*-0.10*	*0.54*	*3.79*	*0.04*
EXIM Bank 1st Mutual Fund	*RACE*	*-0.11*	*0.13*	*-0.83*	*0.43*	*-0.41*	*0.19*	*-0.41*	*0.19*	*7.76*	*0.01*
Vanguard AML Rupali Bank Balanced Fund	*Vanguard*	*2.40*	*0.00*	*####*	*#NUM!*	*2.40*	*2.40*	*2.40*	*2.40*	*#NUM!*	*#NUM!*
SEML Lecture Equity Management Fund	*SEML*	*0.03*	*0.00*	*####*	*#NUM!*	*0.03*	*0.03*	*0.03*	*0.03*	*#NUM!*	*#NUM!*
Vanguard AML BD Finance Mutual Fund One	*Vanguard*	*0.03*	*0.00*	*####*	*#NUM!*	*0.03*	*0.03*	*0.03*	*0.03*	*#NUM!*	*#NUM!*

H. Mutual funds having negative alpha

Name	***Asset manager***	***Coefficients***	***Standard Error***	***t-Stat***	***Significance***
ICB AMCL 2nd NRB Mutual fund	*ICB*	*-0.01483341*	*0.016433486*	*-0.9*	*Not significant*
EBL First Mutual Fund	*RACE*	*-0.00451097*	*0.010862273*	*-0.42*	*Not significant*

ICB AMCL Second Mutual Fund	*ICB*	*-0.0212977*	*0.050672813*	*-0.42*	*Not significant*
AB Bank 1st Mutual Fund	*RACE*	*-0.03607152*	*0.035137561*	*-1.03*	*Not significant*
NLI First Mutual Fund	*VIPB*	*-0.02379451*	*0.037150187*	*-0.64*	*Not significant*
First Bangladesh Fixed Income Fund	*RACE*	*-0.0381926*	*0.035674985*	*-1.07*	*Not significant*
EXIM Bank 1st Mutual Fund	*RACE*	*-0.10944422*	*0.132465211*	*-0.83*	*Not significant*

I. Fee allocation based on NAV

NAV of scheme	***1st TK 50m***	***Next TK 200m***	***Next TK 250m***	***Over TK 500m***
Rate of fee	*2.50%*	*2.00%*	*1.50%*	*1.00%*

J. Fee earned by Mutual Funds

Name	***31-03-2017***	***31-12-2016***	***30-09-2016***	***30-06-2016***	***31-03-2016***
TO	***FEE***	***FEE***	***FEE***	***FEE***	***FEE***
Grameen One: Scheme Two	*5,041,925*	*34,984,632*	*33,285,128*	*33,584,276*	*32,069,316*
ICB AMCL 2nd NRB Mutual fund	*16,630,000*	*15,110,000*	*14,090,000*	*14,410,000*	*14,270,000*
EBL First Mutual Fund	*393,529*	*13,700,202*	*16,523,965*	*16,357,858*	*15,534,530*
ICB AMCL Second Mutual Fund	*9,340,000*	*8,377,500*	*7,725,000*	*7,702,500*	*7,582,500*
ICB Employees Provident Mutual Fund One: Scheme	*11,260,000*	*10,202,500*	*9,625,000*	*9,647,500*	*9,572,500*
Trust Bank First Mutual Fund	*36,387,540*	*5,949,997*	*5,822,855*	*32,604,540*	*30,883,205*
Prime Finance First Mutual Fund	*4,106,000*	*3,610,000*	*3,374,000*	*3,458,000*	*3,386,000*
DBH First Mutual Fund	*17,454,333*	*16,624,000*	*16,312,000*	*16,720,000*	*16,168,000*
IFIC Bank 1st Mutual Fund	*23,397,930*	*21,571,291*	*20,843,869*	*20,773,068*	*19,716,135*
Phoenix Finance 1st Mutual Fund	*9,724,000*	*8,943,000*	*8,421,000*	*8,430,000*	*8,241,000*
ICB AMCL Third NRB Mutual Fund	*13,210,000*	*12,060,000*	*11,400,000*	*11,350,000*	*11,230,000*
1st Janata Bank Mutual Fund	*34,677,099*	*32,020,631*	*31,458,686*	*31,400,516*	*29,836,169*
Green Delta Mutual Fund	*20,770,000*	*19,885,000*	*19,510,000*	*19,990,000*	*19,330,000*
Popular Life First Mutual Fund	*35,803,693*	*32,919,664*	*31,940,682*	*31,599,365*	*30,056,389*
IFIL Islamic Mutual Fund-1	*14,400,000*	*13,600,000*	*12,940,000*	*13,590,000*	*13,070,000*
PHP First Mutual Fund	*33,102,973*	*30,348,983*	*29,679,094*	*29,458,364*	*28,036,239*
AIBL 1st Islamic Mutual Fund	*15,290,000*	*14,940,000*	*14,750,000*	*14,700,000*	*15,520,000*
MBL 1st Mutual Fund	*15,470,000*	*14,880,000*	*14,700,000*	*14,520,000*	*15,030,000*
Southeast Bank 1st Mutual Fund	*18,079,565*	*17,331,182*	*17,001,894*	*17,361,118*	*15,914,245*
EBL NRB Mutual Fund	*26,902,140*	*25,062,139*	*24,514,054*	*24,377,550*	*23,329,669*
"Reliance One" the first scheme of Reliance Insurance	*12,385,300*	*11,677,450*	*11,102,700*	*11,308,400*	*11,024,050*
LR Global Bangladesh Mutual Fund One	*37,814,432*	*36,103,490*	*36,850,083*	*36,290,138*	*34,859,169*
AB Bank 1st Mutual Fund	*2,503,422*	*25,278,907*	*24,632,338*	*25,664,877*	*24,641,833*
NLI First Mutual Fund	*11,590,337*	*11,177,600*	*11,006,465*	*11,177,600*	*10,321,925*
First Bangladesh Fixed Income Fund	*86,191,733*	*80,204,256*	*77,686,794*	*76,801,248*	*73,958,963*
NCCBL Mutual Fund-1	*121,777,119*	*15,674,966*	*15,414,558*	*15,240,952*	*15,501,361*
ICB AMCL Sonali Bank Limited 1st Mutual Fund	*14,200,000*	*13,320,000*	*12,650,000*	*12,860,000*	*12,480,000*

EXIM Bank 1st Mutual Fund	*19,088,412*	*17,804,292*	*17,335,094*	*17,029,001*	*16,190,325*
Vanguard AML Rupali Bank Balanced Fund	*22,874,781*	*21,493,699*	-	-	-
SEML Lecture Equity Management Fund	*9,755,000*	*9,370,000*	*9,575,000*	*9,420,000*	*9,335,000*
Vanguard AML BD Finance Mutual Fund One	*16,174,144*	*15,214,400*	*15,652,544*	*15,308,288*	*15,099,648*
SEML IBBL Shariah Fund	*14,230,000*	-	-	-	-

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