Risk Adjusted Performance Analysis of NBFIs in Dhaka Stock Exchange

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Abstract

Non-Bank Financial Institutions (NBFIs) are emerging day by day as an integral part of the Bangladesh economy. For establishing a vibrant capital market along with the BFIs, existence and involvement of NBFIs have immense importance in a growing economy like Bangladesh. So the performance of NBFI is becoming a focal point for this developing economy. This paper aimed at measuring risk-adjusted performance of 19 NBFIs listed in Dhaka Stock Exchange (DSE) based on their month-end closing price. For this purpose various risk measuring tools have been used. Return of about 53% selected NBFIs found superior as compared to benchmark, DSI (DSE all Share Index). It is found that despite some constraints, the industry as a whole is performing reasonably better. NBFIs can be the key player of financial intermediation if they are provided with adequate assistance.

Keyword: NBFIs, Performance, Risk Adjusted, Stock Exchange

1. Introduction

NBFIs represent one of the most important parts of a financial system. In Bangladesh, NBFIs are new in the financial system as compared to banking financial institutions (BFIs). Starting from the IPDC in 1981, a total of 22 NBFIs are listed in DSE. The NBFIs industry in Bangladesh consists of primarily the development financial institutions, leasing companies, investment companies and merchant banks. At this backdrop, in order to ensure flow of term loans and to meet the credit gap, NBFIs can play an important role. This paper attempts to depict a present scenario of NBFIs in Bangladesh, its market performance, and assessment of risk and return elements. To analyze the industry scenario some traditional techniques are used here to measure the performance of the share of NBFIs, the risk-return relation models given by Sharpe (1966), Treynor (1965) and Jensen (1968) have been applied in which return is measured in terms of risk taken or absorbed. Therefore in this paper we have used traditional and risk adjusted performance measuring tools to measure the performance of selected NBFIs by decomposing systematic and unsystematic risks.

2. Literature Review

Though Extensive research has been conducted on NBFIs in Bangladesh, but most of them are focused on the role of NBFIs in Bangladesh economy. For instance Ahmed, N. Chowdhury, M. I. (2007) did an analytical review of NBFIs and Hossain, M., Shahiduzzaman (2003) conducted a study on "Development of Non Bank Financial Institution to strengthen the financial system of Bangladesh". However, very limited studies have been conducted to evaluate the performance which reflects the risk return characteristics of NBSIs of Bangladesh and compare them to the market benchmark.

3. Methodology of the study

3.1. Sample selection:

This study is mainly consisted of secondary data such as websites of DSE, SEC and respective NBFIs. We used convenient sampling technique and analyzed the selected NBFIs over the closest period of time. The sample is collected from population having at least three years of operation starting from 2009 to 2011. Thereby, 19 companies were selected out of 22 listed NBFIs, whereas there 31 NBFIs are in operation. On the basis of regular data availability for past 36 months NBFIs were selected for the study (appendix 1).

3.2. Selection of Index

DSE has three indices namely DSI (DSE all Share Index), DSE 20 (include top 20 share or blue chips), DSE general (except Z category) index. As the DSI is served as a benchmark and barometer for all shares category, it is being used in this study.

3.3. Analysis of data

The following tools and techniques used to measure the Risk, Return and performance of NBFIs:

Table 1: Tools used in the paper

Performance Measure	Tools	Equation					
	Return	$R_{st} = \frac{CL.P_t - CL.P_{t-1} + D}{CL.P_{t-1}}$					
	Return (Ignoring Dividend Yield)	$R_{st} = \frac{CL.P_t - CL.P_{t-1}}{CL.P_{t-1}}$					
Traditional Return	Mean Return	$R_s = \sum_{t=1}^n \frac{R_{St}}{n}$					
Measure	Market Return	$R_{mt} = \frac{I_t - I_{t-1}}{I_{t-1}}$					
	Mean Return of market portfolio	$R_{m} = \sum_{t=1}^{n} \frac{R_{mt}}{n}$					
	Annualized rate of return	$(1 + \text{Average Monthly Return})^{12} - 1$					
	Expected return	$K_{i} = K_{rf} + \beta (K_{m} - K_{rf})$					
	Standard deviation	$\sigma = \sqrt{\frac{\Sigma(R_{st} - R_s)^2}{N - 1}}$					
	Systematic risk	$(\sigma_j)(\rho_{jM})$					
	Unsystematic risk	σ _j (1-ρ _{jM})					
	Variance	$\sigma^2 = \frac{\Sigma(R_{st} - R_s)^2}{N - 1}$					
Traditional Risk Measure	Coefficient of variation	$CV = \frac{\sigma}{R_s}$					
	Covariance	$COV_{ij} = \frac{\Sigma(R_i - \overline{R_i})(R_j - \overline{R_j})}{N - 1}$					
	Coefficient of correlation	$r_{ij} = \frac{COV_{ij}}{\sigma_i \times \sigma_j}$					
	Beta Coefficient	$\beta_{im} = \frac{COV_{im}}{\sigma_m^2}$					
	Sharpe Ratio	$\frac{AR_{P} - AR_{F}}{\sigma_{P}}$					
Risk Adjusted Performance Measure	Treynor Ratio	$\frac{AR_{P} - AR_{F}}{\beta_{P}}$					
	Jensen Alpha	$\alpha_{\rm p} = R_{\rm p} - E(R_{\rm p})$					
	Fama's net selectivity	$R_{n} - [R_{f} + (\sigma_{i}/\sigma_{m})(R_{m} - R_{f})]$					

4. Results and Discussion

4.1. Return earned by the NBFIs in Bangladesh

In table 2, we have calculated the return earned by the NBFIs as against the return on the stock market index for the period from January 2009 to December 2011. Using traditional return measurement tools, return for the individual NBFI and the market has been calculated based on monthly average and monthly index value (DSI), respectively (Table 1).

NBFIs	Annualized Return	Return below market	Return above market
DSI	29.80%		
IDLC	12.62%		
ULC	29.79%		
MIDASFIN	35.30%		
FLEASEINT	92.40%		
PRFIN	41.26%		
PRMLEA	63.19%		
ISLFIN	15.82%		
ILFSL	34.55%		
ICB	27.92%		
BDFIN	-9.39%		
UTTFIN	41.40%		
LBFIN	16.45%		
BIFC	31.17%		
IPDC	0.39%		
UNICAP	5.95%		
PHNXFIN	50.73%		
FASFIN	41.29%		
DBH	38.34%		
NHFIL	16.88%		
Percentage	-	9/19=47.36%	10/19= 52.64%

It is observed that FLEASEINT has the highest return followed by PRMLEA, PHNXFIN, PRFIN, UTTFIN, and FASFIN. The top four returns are ranging from 92.4% to 41.4%. Out of 19 companies 10 companies (52.64%) have mean return above their corresponding market return which is fairly a good indicator. However, returns of 9 shares are below the market. Among which, IPDC has very low return in comparison with others. The worst performer is BDFIN which has negative return. Except IPDC, UNICAP and BDFIN have usual and moderate return. The comparative scenario of return among the selected NBFIs and DSI give an idea that the industry is performing well on an average.

4.2. Risk associated with the NBFIs

Absolute measure of risk:

Standard deviation measures the total risk of a security in absolute term. The higher the standard deviation is, the higher the risk inherent in the security. In Figure 2 the corresponding standard deviation of the NBFIs are plotted. The market has the standard deviation of 7.65% (**Appendix 2**). All the selected NBFIs are bearing higher risk than the market. BDFIN represents the highest variability. PRFIN has the standard deviation of 17.77% followed by ULC which has 15.73% and other shares are either equal or below 15%.

Relative measure of risk:

Co-efficient of variation is a relative measure of risk which is depicted in Figure 1. In our study, the IPDC shows the maximum risk per unit of return of 26.39% (**Appendix 2**). Among others UNICAP (1.90) and IDLC (1.04) have CVs greater than 1 and ISLFIN (0.83), NHFIL (0.79) and LBFIN (0.68) also exhibit higher CV.



Figure 1: Co-efficient of variation of the NBFIs

The negative CV -2.37% is attributed to BDFIN. FLEASEINT (0.17) has the lowest positive Co-efficient of

variation. Except these other NBFIs have the Co-efficient of variation in the range of 0.19 to 0.53. The Coefficient of variation exhibits that the selected NBFIs have moderate risk per unit of return. Figure 1 excludes the CV of IPDC (26.39%) for illustrating the disparity among CVs of other NBFIs and the market distinctly. Interactive Risk Measure

Covariance is the statistical measure that indicates the interactive risk of a security relative to others in a portfolio of securities. The Coefficient of correlation, measures the strength and the direction of a linear relationship between two variables. The Coefficient of determination is a measure used in statistical model analysis to assess how well a model explains and predicts future outcomes. **Appendix 2** summarizes the Coefficient of correlation, Coefficient of determination and Covariance respectively which are the interactive risk measures of the selected NBFIs for this study.

None of the selected NBFIs have resulted any negative covariance and correlation coefficient, which indicates that all these shares moves in same direction consistently with market portfolio. Among the entire sample, FLEASEINT results the highest covariance which express the co-movement corresponding to market. ICB yields the lowest covariance that means its poor performance relative to the market index. All the rests are moderately correlated with the market.

The standardized measure i.e. correlation coefficient represent a bit different idea than the covariance. In this case, UTTFIN shows the highest (0.7355) positive correlation, followed by ILFSL (0.7123). ICB and BDFIN have the lowest correlation with the market.

High value of the R^2 shows higher diversification of the portfolio that can easily contain the market variability. It is found from in Appendix 2 that the ILFSL has the highest R^2 value, followed by UTTFIN and IPDC which indicates that these shares have reasonably exploited the diversification strategy for forming their portfolio. Lower values of R^2 as found for ICB and BDFIN suggest that they are inadequately diversified. Measuring systematic risk

Standard deviation and variance both measure the risk of a security in absolute term. Again, the coefficient of variation expresses the riskiness in terms of per unit of return. Furthermore, Beta signifies the sensitivity of the return on the shares of NBFIs in comparison to the movement of the market index.

Figure 3 exhibits that out of the 19 NBFIs the FLEASEINT shows the highest β , which is 1.41 i.e. FLEASEINT's volatility is almost one and half times than the market. Subsequent higher β is found in case of PHNXFIN followed by UTTFIN. The β of IDLC, ULC, MIDASFIN, PRFIN, ISLFIN, and BIFC are almost equally risky to market. ICB has lowest β that indicates its lower volatility. It is notable that all other securities of NBFIs are below 1.00 but not less than 0.5. Therefore, we can conclude that, the shares of NBFIs in Bangladesh are moderately responsive to the volatility of the market.

Decomposing systematic and unsystematic risk

Standard deviation is the measure of total risk of a particular security which need to be decomposed into systematic and unsystematic by the following equation.

Total Risk (σ_j) = Systematic risk [(σ_j) (ρ_{jM})] + Unsystematic risk [$\sigma_j(1-\rho_{jM})$]

In the equations ρ_{jM} is the correlation coefficient between the returns of a given stock and the return on market portfolio.



Figure 2: Systematic, Unsystematic and Total risk of the NBFIs

In Appendix 2, the sums of the systematic and unsystematic agree with the standard deviation of respective NBFI derived earlier, and verify the precision of the analysis. it is apparent that, UTTFIN has the highest

systematic risk (0.09627) followed by ULC (0.09097), FLEASEINT (0.08903), PRFIN (0.08839) and PHNXFIN (0.08463) also shows higher systematic risk as found in the graph of systematic risk (β). Likewise, ICB and BDFIN exhibit lowest systematic risk. All other securities' systematic risk also agrees with the prior risk measured by beta.

The highest unsystematic risk attributed to BDFIN is 0.16241 and followed by ICB is 0.10541. So the company should focus more on the managerial efficiency and different strategic level to reduce the unsystematic risk and diversify it away. The lower unsystematic risk observed in case of ILFSL is 0.03100, IPDC is 0.03442, UTTFIN is 0.03462, and LBFIN is 0.0405. To perpetuate the risk level, company must strive to retain the current performance. The rest of the securities have shown a moderate level of risk ranging from 0.08933(PRFIN) to 0.04273 (BIFC).



Figure 3: Beta coefficient and Systematic risk of the NBFIs

From Table 3 of expected return versus actual or estimated return (which is annualized return that derived at Table 2). It is found that 8 out of 19 shares are overvalued i.e. about 42% selected NBFIs are overvalued. One share (BIFC) is almost equally priced at its expectation. All other shares i.e. 10 out of 19 are undervalued and approximately 58% of the selected NBFIs are attractive to invest. Hence it can conclude that, the market for NBFIs in DSE, Bangladesh is moderately efficient. This comparative study can also guide us about the investing decision regarding selected NBFIs of the Dhaka stock exchange. Among the undervalued NBFIs FLEASEINT, PRMLEA, PHNXFIN are more attractive to invest, as these companies are significantly undervalued. On the other hand BDFIN, IPDC, and UNICAP are significantly overvalued. However, we know that the expected return vary with the level of systematic risk (β). Hence, the FLEASEINT, PHNXFIN, UTTFIN, and ULC offer higher rate of expected return.

^{4.3.} Determining Undervalued and Overvalued securities

Table 3: Comparison of actual and expected return

NBFIs	Annualized Average	Expected return	Overvalued	Undervalued
R(IDLC)	12.62	30.98	\checkmark	
R(ULC)	29.79	32.58	\checkmark	
R(MIDASFIN)	35.30	30.04		\checkmark
R(FLEASEINT)	92.40	37.11		\checkmark
R(PRFIN)	41.26	31.99		\checkmark
R(PRMLEA)	63.19	28.29		\checkmark
R(ISLFIN)	15.82	31.11	\checkmark	
R(ILFSL)	34.55	29.36		\checkmark
R(ICB)	27.92	20.91		\checkmark
R(BDFIN)	-9.39	29.76	\checkmark	
R(UTTFIN)	41.40	33.77		\checkmark
R(LBFIN)	16.45	28.07	\checkmark	
R(BIFC)	31.17	31.09		\checkmark
R(IPDC)	0.39	27.58	\checkmark	
R(UNICAP)	5.95	27.51	\checkmark	
R(PHNXFIN)	50.73	36.30		
R(FASFIN)	41.29	28.03		
R(DBH)	38.34	26.82		
R(NHFIL)	16.88	26.00		
Percentage	-	-	$\frac{8}{19} \approx 42\%$	$\frac{11}{19} \approx 58\%$

4.4. Risk Adjusted Performance Measure:

Sharpe Ratio - Reward to Variability

Sharpe ratio is excess returns earned over risk-free return (R_f) per unit of risk i.e., per unit of standard deviation (Appendix 2). Positive value of Sharpe ratio indicates better performance. In case of the selected 19 NBFIs, FLEASEINT and PRMLEA have higher value of Sharpe Ratio (Appendix 2). PRMLEA, PHNXFIN, FASFIN, and DBH have shown their existence of adequate return as against the level of risk involved. Thus, the investors of these shares have been rewarded well on their invested money. Three companies explicitly, BDFIN, IPDC, and UNICAP have failed to beat the market and possess the negative Sharpe ratio. Again, 5 out of 19 NBFIs contain positive Sharpe ratio greater than the market.

Treynor Ratio – Reward to Volatility

Treynor ratio measures the excess return earned over risk-free return per unit of systematic risk i.e., beta. Figure 4 depicts the value of Treynor ratio for the individual NBFIs and the market portfolio. And the values of the Treynor ratio are given in column 15 Appendix 2. Figure 4 is exhibiting that the major observations reflect the similar findings regarding Sharpe and Treynor ratio. FLEASEINT, PRMLEA, FASFIN, ICB, DBH and others are showing the value of superior performance and BDFIN, IPDC, and UNICAP are the worst performers according to this measure. 11 out of 19 NBFIs have higher Treynor Ratio than the market benchmark, DSI. Jensen Alpha (α): Differential Return

In this study, 11 out of 19 NBFIs i.e. almost 58% NBFIs have positive α presumably indicates the superior management skill of the selected NBFIs. Among them FASFIN, FLEASEINT, PRMLEA, PHNXFIN, are representing superior performance (Table 4 & Appendix 2). These NBFIs are able to 'beat the market' and are able to generate abnormal return over their theoretical return. On the other hand 8 out of 19 NBFIs i.e. almost 42% NBFIs have negative alpha. The expected returns of these NBFIs are higher than actual return. The negative value of these NBFIs indicates that their management is failed to increase actual returns above those that are purely a reward for bearing market risk. Securities of these NBFIs are overpriced and not preferable to invest. However, Jensen measure also supports the conclusion drawn in previous performance parameter. The values of the Jensen Alpha are found in column 16 Appendix 2.

Fama's net selectivity

Selectivity is the skill of the fund manager to select undervalued securities. Except FLEASEINT, PRMLEA, PHNXFIN, FASFIN, and DBH all other selectivity measures are negative (Table 4& Appendix 2). So, investors are benefited out of the selectivity of these securities.



Figure 4: Sharpe and Treynor Ratio

4.5. Synopsis of Risk adjusted performance measures

According to Table 4& Appendix 2, 16 NBFIs have positive Sharpe ratio, and 3 out of 19 NBFIs has negative Sharpe ratio. BDFIN, IPDC and UNICAP have negative Sharpe ratio. Treynor ratio has also produced identical results to Sharpe ratio. Both Sharpe and Treynor ratio have 3 NBFIs resulting negative ratio and 16 NBFIs have positive ratio i.e. 16 percent and 84 percent of selected NBFIs has negative and positive ratio respectively regarding these ratios (Table 4& Appendix 2). According to Jensen alpha, 8 NBFIs have negative alpha and 11 out of 19 have positive alpha (Table 4). Jensen alpha tells that around 58 percent of the selected NBFIs is able to 'beat the market' i.e. producing positive abnormal return over the theoretical return. Out of the 19 NBFIs 14 have negative net selectivity. Results produced by Fama's net selectivity model support the results produced under Jensen model. Summary of Risk Adjusted performance measuring tools present in the Table 4. Table 4: Synopsis of Risk adjusted performance measures

NBFIs	BFIs Sharpe Ratio Treynor Ratio		Jensen α	Fama's Net Selectivity
IDLC	+ve; under performer	+ve; under performer	Negative	Negative
ULC	+ve; under performer	+ve; under performer	Negative	Negative
MIDASFIN	+ve; under performer	+ve; over performer	Positive	Negative
FLEASEINT	+ve; over performer	+ve; over performer	Positive	Positive
PRFIN	+ve; under performer	+ve; over performer	Positive	Negative
PRMLEA	+ve; over performer	+ve; over performer	Positive	Positive
ISLFIN	+ve; under performer	+ve; under performer	Negative	Negative
ILFSL	+ve; under performer	+ve; over performer	Positive	Negative
ICB	+ve; under performer	+ve; over performer	Positive	Negative
BDFIN	-ve; under performer	-ve; under performer	Negative	Negative
UTTFIN	+ve; under performer	+ve; over performer	Positive	Negative
LBFIN	+ve; under performer	+ve; under performer	Negative	Negative
BIFC	+ve; under performer	+ve; under performer	Positive	Negative
IPDC	-ve; under performer	-ve; under performer	Negative	Negative
UNICAP	-ve; under performer	-ve; under performer	Negative	Negative
PHNXFIN	+ve; over performer	+ve; over performer	Positive	Positive
FASFIN	+ve; over performer	+ve; over performer	Positive	Positive
DBH	+ve; over performer	+ve; over performer	Positive	Positive
NHFIL	+ve; under performer	+ve; under performer	Negative	Negative
Positive% and	84.2%,	84.2%,	57.8%,	26.3%,
(Negative)%	(15.8%)	(15.8%)	(42.2%)	(73.7%)

[Note: Under-performer denotes situation where the Specific Share Performance is BELOW than the Market; Over-Performer situation where the Specific Share Performance is ABOVE than the Market.]

4.6. Overall Performance of the NBFIs

Actually the study covers a limited time horizon, so the findings are not so consistent to reflect the genuine trend of the NBFIs. However results as obtained by using different statistical tools presented in earlier paragraph can be summarized below:

- Out of 19 companies 10 companies (52.64%) have mean return above corresponding market return. However, returns of 9 shares are below the market.
- The standard deviation of the market during the studied period is 7.65%. All 19 NBFIs have higher standard deviation than the market.
- The shares of NBFIs are moderately responsive to the volatility of the market.
- 8 out of 19 shares are overvalued i.e. about 42% selected NBFIs are overvalued and 10 out of 19 are undervalued and approximately 58% of the selected NBFIs are attractive to invest.
- 8 out of 19 NBFIs i.e. almost 42% NBFIs have negative alpha. 11 out of 19 NBFIs i.e. almost 58% NBFIs have positive α presumably indicates the superior management skill of the selected NBFIs.
- On the basis of realized rate of return FLEASEINT, PRFIN, PRMLEA, UTTFIN, PHNXFIN, FASFIN and DBH perform excellently. The BDFIN showed the negative return as well as negative co-efficient of variation. Again, it has the highest variability in case of absolute measure of risk.
- In our study, the IPDC has highest Co-efficient of variation i.e. the maximum risk per unit of return (317.20). FLEASEINT and ICB have the highest and lowest covariance respectively. Observing the result of co-efficient of correlation, we can say that ILFSL, UTTFIN, and IPDC have reasonably exploited the diversification strategy and opposite state is prevailing in case of ICB and BDFIN.
- The volatility measure tells that FLEASEINT, PHNXFIN, UTTFIN, and ULC are highly volatile to the market. All other are less volatile but none of the shares' beta is less than 0.5.
- FLEASEINT and PRMLEA have higher value of Sharpe Ratio. PRMLEA, PHNXFIN, FASFIN, and DBH have shown their existence of adequate return as against the level of risk involved. Three companies explicitly, BDFIN, IPDC, and UNICAP have failed to beat the market and possess the negative Sharpe ratio.
- Observing the result of different ratio (SR, TR, DR), we can say that BDFIN, IPDC, and UNICAP results negative performance. In all most everywhere, FLEASEINT, PRMLEA UTTFIN, ILFSL, PHNXFIN, FASFIN, and DBH produce higher ratio. The results of Fama's Net Selectivity highlight the grandeur of these institutions.
- The overall analysis suggests that, FLEASEINT, PRMLEA are the best performer. After that UTTFIN, ILFSL, PHNXFIN, FASFIN and DBH can be placed respectively. The poorest performers are the BDFIN and IPDC. Furthermore, the performance of ICB, ISLFIN, LBFIN, and NHFIL is not satisfactory.

5. Conclusion

The main objective of this paper was to measure the risk adjusted performance of NBFIs based on monthly average price. The existing 31 NBFIs attained a great collective growth over the past years, but individually some of them are struggling yet to improve. Bangladesh is in stiff short-term liquidity crunch due to unavailability of funds from the banking system which has its pervasive impact on the performance of the selected NBFIs. From the result of analysis it is evident that overall performance of the NBFIs are moderately superior to benchmark market index return. But, interference of banking institutions in non-bank activities is not desirable. Basically, banks are doing some business that they are not supposed to do. Borrowing short and lending long creates a mismatch in financial system and hampers the growth of NBFIs. Moreover, recent instability in stock market, lack of confidence of investor, volatile margin rule and regulatory indecision are causing a very tough time for this industry. Government along with all related parties should come forward to direct this sector to right way.

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Appendix1: Name of the selected sample and their trading code to the Dhaka Stock Exchange

Name o	Trading Code			
i.	Bangladesh Industrial Finance Company Limited	BIFC		
ii.	Bangladesh Finance and Investment Co. Ltd.	BDFIN		
iii.	Delta BRAC Housing Finance Corporation Limited	DBH		
iv.	FAS Finance and Investment Limited	FASFIN		
v.	First Lease Finance and Investment Limited	FLEASEINT		
vi.	Industrial Development Leasing Company	IDLC		
vii.	International Leasing and Financial Services Limited	ILFSL		
viii.	Islamic Finance and Investment Limited	ISLFIN		
ix.	Lanka Bangla Finance Limited	LBFIN		
Χ.	MIDAS Financing Limited	MIDASFIN		
xi.	National Housing Finance And Investments Limited	NHFIL		
xii.	Phoenix Finance and Investments Limited	PHNXFIN		
xiii.	Premier Leasing and Finance Limited	PRMLEA		
xiv.	Prime Finance and Investment Ltd	PRFIN		
XV.	Union Capital Limited	UNICAP		
xvi.	United Leasing Company Limited	ULC		
xvii.	Uttara Finance and Investments Limited	UTTFIN		
xviii.	Investment Corporation of Bangladesh	ICB		
xix.	Industrial Promotion and Development Company of Bangladesh Limited	IPDC		

Appendix 2: Statistical results at a g	glance
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NBFIs	Average Return	Annualized Average	Standard Deviation	Varia-nce	CV	r	\mathbb{R}^2	Covariance	ß	Systema-	Unsystem-	Expected	S R	ΤR	a	Net
110115	riveruge reeturn	r tillituuli2eu 7 tveruge	Standard Deviation	varia nec		•	IX.	covariance	Р	tic Risk	atic Risk	Return	5.K	1.10	u.	Selectivity
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
DSI	2.20	29.80	7.65	0.01	3.48				1.0				2.33	0.18		
IDLC	1.00	12.62	13.16	0.02	13.22	0.64	40.66	0.00624	1.1	0.08	0.05	30.98	0.05	0.01	-0.18	-0.30
ULC	2.20	29.79	15.73	0.02	7.16	0.58	33.45	0.00677	1.2	0.09	0.07	32.58	1.13	0.15	-0.03	-0.19
MIDASFIN	2.55	35.30	15.44	0.02	6.05	0.52	26.67	0.00593	1.0	0.08	0.07	30.04	1.51	0.23	0.05	-0.13
FLEASEINT	5.60	92.40	15.39	0.02	2.75	0.58	33.45	0.00826	1.4	0.09	0.06	37.11	5.22	0.57	0.55	0.45
PRFIN	2.92	41.26	17.77	0.03	6.09	0.50	24.74	0.00658	1.1	0.09	0.09	31.99	1.65	0.26	0.09	-0.12
PRMLEA	4.17	63.19	11.87	0.01	2.85	0.61	36.83	0.00536	0.9	0.07	0.05	28.29	4.31	0.56	0.35	0.24
ISLFIN	1.23	15.82	13.13	0.02	10.66	0.61	36.83	0.00628	1.1	0.08	0.05	31.11	0.29	0.04	-0.15	-0.27
ILFSL	2.50	34.55	10.77	0.01	4.30	0.71	50.74	0.00571	1.0	0.08	0.03	29.36	2.09	0.23	0.05	-0.03
ICB	2.07	27.92	14.48	0.02	6.98	0.27	7.40	0.00293	0.5	0.04	0.11	20.91	1.10	0.32	0.07	-0.18
BDFIN	-0.82	-9.39	22.31	0.05	-27.25	0.27	7.40	0.00584	1.0	0.06	0.16	29.76	- 0.96	- 0.21	-0.39	-0.73
UTTFIN	2.93	41.40	13.09	0.02	4.47	0.74	54.09	0.00716	1.2	0.10	0.03	33.77	2.25	0.24	0.08	-0.01
LBFIN	1.28	16.45	11.16	0.01	8.73	0.64	40.58	0.00529	0.9	0.07	0.04	28.07	0.40	0.05	-0.12	-0.22
BIFC	2.29	31.17	11.77	0.01	5.15	0.64	40.58	0.00628	1.1	0.07	0.04	31.09	1.63	0.18	0.00	-0.08
IPDC	0.03	0.39	10.33	0.01	317.20	0.67	44.47	0.00512	0.9	0.07	0.03	27.58	- 1.12	- 0.13	-0.27	-0.36
UNICAP	0.48	5.95	11.33	0.01	23.45	0.61	36.65	0.00510	0.9	0.07	0.04	27.51	- 0.53	- 0.07	-0.22	-0.32
PHNXFIN	3.48	50.73	13.98	0.02	4.02	0.61	36.65	0.00799	1.4	0.08	0.06	36.30	2.77	0.28	0.14	0.06
FASFIN	2.92	41.29	12.15	0.01	4.16	0.58	34.02	0.00527	0.9	0.07	0.05	28.03	2.41	0.33	0.13	0.01
DBH	2.74	38.34	11.15	0.01	4.07	0.59	34.50	0.00487	0.8	0.07	0.05	26.82	2.36	0.32	0.12	0.00
NHFIL	1.31	16.88	13.31	0.02	10.18	0.59	34.50	0.00460	0.8	0.06	0.07	26.00	0.37	0.0ϵ	-0.09	-0.26

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