

## **Risk and Return Behavior of Shares of Life Insurance Companies Listed in the Chittagong Stock Exchange Limited**

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### **Abstract**

*This paper tries to examine different risk and return models of the life insurance companies listed in Chittagong Stock Exchange (CSE) for sixteen quarters ranging from the time period of 2006 to 2009. The correlation coefficients between the returns on individual shares and the return on market portfolio have been analyzed with the objective of decomposing the total risk into systematic and unsystematic components. The analysis of the individual stock's beta coefficient helps to determine the minimum rate of return required by the investor to compensate for systematic risk. Empirical results suggest that the analyzed shares are not in equilibrium with most of the shares being less risky than the market. Authors' argue that investment in different schemes of life insurance companies ought to be raised through eliminating misrepresentation of the market ; information should be appropriately disseminated; balanced investment is being essential, sound individual and institutional investors ought to approach for personal and personnel interest respectively and rational activities is being obligatory.*

**Key words:** Financial Asset, Investment, Risk and Return JEL classifications:D81,G23,J32.

### **Introduction**

Risk and return is highly associated with investment. Investment is being kept by an individual or institution to get future return so that in time of any need it may be used to mitigate requirement of demand. Through investing in diversified life insurance schemes, a person or institution can transfer financial risks and try to gain in future or compensate losses through investing. Expectation of return is an essential element of investment. However, there is every possibility of variation in between actual return and potential return owing to investment risk and uncertainty. In Bangladesh, life insurance is getting popularity as people are feeling encouraged to transfer financial risks. Currently total thirty one life insurance companies are operating in Bangladesh out of which one company is under public sector and one company is foreign company(Source:<http://www.idra.org.bd/idra-org/Ins-Com.htm>)

Okura(2004) depicts that in reality, to enter the insurance market ,new entrants incur large fixed costs of investment. Agarwal and Ali(2007) comment that insurance can be considered as a type of contractual transfer in which the risk bearer typically relies on pooling and the contract's

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purpose is risk transfer. Charumathi(2013) finds that Indian life insurers would increase their financial performance in terms of operating return on equity by improving their financial strength rating criteria more efficiently than even before.

Real assets are tangible while financial assets involve contracts written on pieces of papers such as common stocks, bonds and debentures (Brealey and Myres, 1996). Jahan and Alam (2010) depict that in Bangladesh various life insurance business are working effectively. Ali(2011) comments that the establishment of a dynamic life insurance sector is the responsibility of the regulator and supervisor. He argues that to be effective in achieving the benefits of compliance i.e. discouraging and punishing abusive conduct without harming legitimate business-we need to ensure market discipline.

According to <http://www.forbes.com/sites/financialfinesse/2011/07/19/should-you-use-life-insurance-as-an-investment-3-things-to-consider/2/> (accessed on 21 May,2013) three points needs to consider to use life insurance as investment: How much life insurance do you actually need?; How long will you need the insurance?; Do the tax benefits outweigh the costs? These are very pertinent questions to do life insurance of a person. Gupta (2013) argues that method of credibility adjustment is intuitive, which is a sort of combination of maximum likelihood estimator concept with the credibility theory concept.

Life-based contracts tend to fall into two major categories: Protection policies – designed to provide a benefit in the event of specified event, typically a lump sum payment. A common form of this design is term insurance; Investment policies – where the main objective is to facilitate the growth of capital by regular or single premiums ([http://en.wikipedia.org/wiki/Life\\_insurance](http://en.wikipedia.org/wiki/Life_insurance) accessed on 21 May ,2013).

Park(2004) argues that there is no doubt that the duty of disclosure in insurance contracts is reciprocal ,imposing it on the insurer as well. This is certainly in line with the original purpose of the duty of disclosure –justice, fairness, equality, mutual trust and confidence. Ashraf (2005) opines that in turbulent environment, the ability to successfully view the current situation through the traditional “good judgment” viewpoint is weakened through increasing external noise ,changing paradigms of how we think about social, cultural, organizational and economic issues ,creating internal noise within our prevailing mental models and the implementation those models. Habib(2006) observes that the life insurance companies need liquid funds when allow loans to the policy holders and to maintain their day-to -day expenses.

## **Literature Review**

An efficient market is one where shares are always correctly priced. In an efficient capital market, current market prices fully reflect available information (Pike and Neale , 1996). According to Elton and Gruber (1994), Market efficiency, as reflected by the Efficient Market Hypothesis (EMH), may exist at three levels - the weak form, the semi-strong form and the strong form: The weak form of EMH states that the current share prices fully reflect all information contained in

the past price movements (Reilly and Brown, 2009); The semi-strong form of the EMH states that the current market prices reflect not only all past price movements, but all publicly available information (Reilly and Brown, 2009); The strong form of the EMH goes beyond the previous two by stating that current market prices will reflect all relevant information, even if privately held (Reilly and Brown, 2009).

Dupernex (2007) comments that a random walk of stock prices does not imply that the stock market is efficient with rational investors. He also argues that the EMH can be used as a benchmark for measuring the efficiency of markets, and from this we have at least a rough idea as to whether the stocks are likely to follow a random walk.

In the real world, the strong form of EMH is very difficult to exist. The stock markets in most of the developed countries appear in the semi-strong form while the stock markets in the developing countries seem to be in the weak form of the EMH. In case of Bangladesh Nguyen and Ali (2011) observed that the Dhaka stock market is not informationally efficient.

Nguyen, Islam, Ali (2012) studied on the weekly movements of equity indices in Malaysia, the Philippines, Taiwan, and Thailand during the 21<sup>st</sup> century, when these countries have recovered from the 1997 world dimension Asian financial crisis. To test for the robustness of the model, the US S&P 500 equity index was also included in the analysis. The empirical findings indicate that equity markets in the three emerging Southeast Asian countries and Taiwan are surprisingly weak-form efficient.

### **The Concept of Stock Valuation**

The concept of value is at the heart of financial management (Horne, 1994). Several analytical techniques are available to assist the financial manager for valuing common stock. The valuation model should account for all these factors. Some of the basic valuation models used to determine the intrinsic value of the stocks are: Net Asset Value (NAV); the Dividend Discount Model (DDM); and Price- Earnings (P/E) model (Horne, 1994). These different models are discussed below:

#### **The NAV Model**

The NAV per share or the book value per share is determined dividing the total NAV by number of outstanding shares.

NAV (Book Value) per share = Net Asset Value/Number of shares outstanding

#### **The DDM Model**

The DDM states that the value of a share today is a function of the cash inflows expected by the investors and the risk associated with the cash inflows

$$V_0 = D_1 / (1+K)^1 + D_2 / (1+K)^2 + D_3 / (1+K)^3 + \dots + D_n / (1+K)^n \text{ or}$$

$$V_0 = \sum D_t / (1+K)^t$$

In the model,  $V_0$  represents the intrinsic or the theoretical value of the stock today,  $D_t$  is the dividend expected in  $n$ th year and the  $K$  is the firm's cost of equity capital. A zero growth stock is a stock from which the investor expects a constant amount of dividend each year and where the dividend is not expected to grow. In such case the price of the stock now  $V_0$ , is calculated by dividing the amount of dividend by the cost of equity.

$$V_0 = D / K$$

Generally, dividend is expected to grow at a given rate ( $g$ ). Myron J. Gordon developed an equation to value the stock price for a growing firm. It is often called the Gordon Model.

$$V_0 = D^1 / (K - g)$$

$D_1$  is the next expected dividend and  $g$  is the growth rates in dividends.

### ***The P/E Model***

This model requires only an estimate of price–earnings ratio. Under this model, the intrinsic value of the stock today is calculated as follows

$$V_0 = M * E$$

$M$  is the estimate of earnings multiplier or P/E ratio and  $E$  is the estimates of earnings.

The theoretical multiplier ( $M$ ) for a company that distributes all earnings as dividends and has no earnings growth equals to:

$$M = D/E / K = 1/K$$

If the company retains parts of its earnings and that result in earnings growth, the theoretical multiplier ( $M$ ) can be calculated as:

$$M = [D/E (1+g)] / [K-g]$$

The growth rate ( $g$ ), being the product of retention ratio ( $b$ ) and return on incremental capital ( $r$ ), will be zero if the company does retain earnings and distributes all its earnings as dividends ( $b=0$ ) or if the company produces no additional earnings on retention ( $r=0$ ).

### **The Expected Rate of Returns**

The expected rate of return is the expected after-tax increase in the value of the initial investment over the holding period (Reilly and Brown, 2009).

#### **Single-Period Return**

Expected or realized or ex-post rate of return is:

$$\frac{\text{Ending price} - \text{Beginning price} + \text{Dividend}}{\text{Beginning price}}$$

Ex-ante rate of return on an investment is also the mean value of the probability distribution of its possible returns. The expected rate of return, in such case, can be calculated as:

$$HPR = \sum_{t=1}^n \frac{HPR_t}{n}$$

In this equation,  $HPR_i$  is the  $i^{\text{th}}$  possible outcome;  $P_i$  is the probability of the  $i^{\text{th}}$  outcome and  $n$  is the number of possible outcome.

### Return over Several Periods

Annualized rate of returns over several periods can be calculated in two ways. The first one is simply to take the average of the annual holding period returns over a given period and the second one, which also takes into account the compounding effects of cash receipts over different time intervals, is the geometric mean rate of return.

The simple arithmetic mean:

$$HPR = \sum_{t=1}^n HPR_t/n$$

The geometric mean rate of return:

$$HPR_g = \prod_{t=1}^n (1 + HPR_t)^{1/n} - 1.0$$

### Measuring Risk of Investment Alternatives

Investors are risk-averse and they select the securities that maximize expected rate of return for any given level of risk or minimize risk for any given level of expected returns. Chenny and Moses (1992) define risk as the variability of possible returns around the expected return of an investment. Brigham (1995) define risk as the chance that some unfavorable event will occur. The real rate of return will provide a rate of return that compensates the investors for deferred consumption. An additional rate of return should be added to the risk-free rate of return that provides premium for additional risk bearing.

$$E(R_j) = RR + RP_j$$

Where,  $E(R_j)$  = Required rate of return for asset  $j$ .

RR = Risk-Free- rate of return.

$RP_j$  = Risk premium for stock  $j$ .

A number of factors may contribute to investment uncertainty. The factors usually mentioned with respect to marketable securities are business risk, financial risk, liquidity risk, default risk, interest rate risk, management risk and purchasing power risk. Some of the statistical methods that can be used to measure risk of an underlying financial asset are discussed below.

### The Range

The range is one of the traditional methods of measuring risk, which simply communicates the difference between the best possible return and the worst possible return.

The range = Best possible rate of returns – Worst possible rate of returns.

The degree of risk of an underlying security is reflected in the magnitude of the difference. The smaller difference the lower will be the degree of risk.

### The Standard Deviation

The standard deviation ( $\sigma$ ) is the other measure of investment risk. The smaller the standard deviation the lower will be the degree of risk of the stock. The formula for calculating the standard deviation is:

$$\text{Standard deviation } (\sigma) = \sqrt{\sum (K - K_{\text{Avg}})^2 / N}$$

In the equation,  $K$  is the possible rates of returns, and  $K_{\text{Avg}}$  is the average mean return and  $N$  is the number of observations. The variance can also be used to measure risk, which is the square of the standard deviation.

Total risk ( $\sigma$ ) can also be defined as the sum of systematic risk plus unsystematic risk. Systematic risk has its source factors that affect all marketable assets and thus cannot be diversified away. Unsystematic risk (or company-specific or unique) can be reduced through diversification. The relationships among total risk, systematic risk and unsystematic risk are shown below.

$$\begin{aligned} \text{Total Risk } (\sigma_j) &= \text{Systematic risk} + \text{Unsystematic risk}; \text{ with Systematic risk} = (\sigma_j)(\rho_{jM}) \text{ and} \\ &\text{Unsystematic risk} = \sigma_j(1 - \rho_{jM}) \end{aligned}$$

In the equations  $\rho_{jM}$  is the correlation coefficient between the returns of a given stock ( $i$ ) and the return on market portfolio.

### The Coefficient of Variation

The coefficient of variation (CV) is the other useful measure of risk. It is the standard deviation divided by the expected return, which measures risk per unit of return.

$$\text{Coefficient of Variation (CV)} = \sigma / K_{\text{Avg}}$$

In general the CAPM indicates that an asset's required return should be related to the risk free rate of return plus a risk-free return based on the beta of the asset.

### The Beta Coefficient

The beta coefficient ( $\beta$ ), a measure of systematic risk, can be calculated by using the following formula.

$$\text{Beta coefficient } (\beta_I) = \text{Cov}_{iM} / \sigma_M^2$$

$\text{Cov}_{iM}$  is the covariance between the return of an individual asset and the returns of the market and  $\sigma_M^2$  is the variance of the market returns. Stocks can be classified as aggressive or defensive or average depending on the value of beta coefficients.

**Table:1 Beta coefficient, Stocks classification and degree of risk**

Beta coefficient ( $\beta$ )	Stocks classification	Degree of risk
Exactly 1	Average stock	Equally risky as the market
Greater than 1	Aggressive stock	More risky than the market
Less than 1	defensive stock	Less risky than the market

Beta coefficient can also be related with the CAPM equation to determine the required rate of return of a given stock. The required rate of return ( $K_i$ ) is the risk free rate of return ( $K_{RF}$ ) plus a risk premium ( $RP_M = K_M - K_{RF}$ ) based on the beta of the stock ( $\beta$ ).

$$K_i = K_{RF} + \beta (K_M - K_{RF}) \text{ or } K_i = K_{RF} + RP_M \beta$$

Kumar (2002) observes that 70% of the stocks selected in Dhaka Stock Exchange have been significantly mispriced due to inadequate knowledge of the investors and other factors like assumptions of the theory of CAPM is not prevalent in Bangladesh.

### **Objectives of the study**

Objectives of the study are given as follows:

- i) To determine whether the shares of Life Insurance companies are correctly priced by analyzing the realized rates of returns and the required rates of return using the Capital Asset Pricing Model (CAPM);
- ii) To explore the future price behaviors of the individual share in the market striving towards equilibrium.
- iii) To determine whether the shares of Life Insurance companies in Bangladesh are overpriced or under-priced by analyzing risk and return characteristics of the individual shares.
- iv) To provide some implications based on findings.

### **Methodology of the Study**

The study uses secondary sources. Out of two stock exchange markets, the study has chosen Chittagong Stock Exchange (CSE). Total Twelve life insurance companies are listed in CSE (Source: [http://www.cse.com.bd/company\\_list\\_inds\\_price.php?industry=18](http://www.cse.com.bd/company_list_inds_price.php?industry=18)). Out of these twelve companies the study has chosen nine companies. To analyze the risk characteristics of the shares the life insurances, the share prices of Delta Life Insurance Company Limited (DLICL), National Life Insurance Company Limited (NLICL), Sandhani Life Insurance Company Limited (SALI), Popular Life Insurance Company Limited (PLICL), Fareast Islami Life Insurance Company Limited (FILICL), Meghna Life Insurance Company Limited (MLICL), Progressive Life Insurance Company Limited (PRLICL) Progoti Life Insurance Company Limited (PLICL) and Prime Islami Life Insurance Company Limited (PILICL) have been analyzed. Data on share price and the CSE index have been collected from the secondary sources, particularly from the publications of Chittagong Stock Exchange Limited (CSE) named "Bazar Porikkroma" and also website. The sample period commenced on January 2006 and ends in October 2009. Rates of returns on shares and on the market have been used on a quarterly basis.

For the purpose of analyzing risk characteristics of the shares of above-mentioned insurance companies, the standard deviation (with systematic and unsystematic parts of total risk), the coefficient of variation, the correlation coefficient between the return on individual bank's share and the return on market portfolio and the beta coefficient have been used. As Chittagong Stock Exchange (CSE) is the one of the organized stock market in the country, quarterly percentage

changes in the CSE index are used as the returns on market portfolio (return on average stock). Average return on the 91-day Treasury bill has been taken as a proxy of the risk-free rate of return from the rate provided by the Bangladesh Bank.

The statistical results of life insurance companies' shares are presented below:

**Table:2 Statistical results**

SI No	Name of the Insurance	Kavg (%)	K (%)	Risk (%)			CV	$\rho_{iM}$	$\beta$
				TR	SR	UR			
1	Delta Life Insurance	11.58	8.70	27.59	9.74	17.85	2.38	0.35	0.46
2	National Life Insurance	8.09	8.51	19.99	8.07	11.92	2.47	0.40	0.38
3	Shandhani Life Insurance	12.76	8.63	37.66	8.77	28.88	2.95	0.23	0.43
4	Popular Life Insurance	16.67	7.53	35.01	8.25	26.76	2.10	0.24	0.39
5	Fareast Islami Life Insurance	12.05	8.76	29.12	10.45	18.67	2.42	0.36	0.49
6	Meghna Life Insurance	14.28	8.70	35.98	9.86	26.12	2.52	0.27	0.46
7	Progressive Life Insurance	14.71	8.18	33.63	4.83	28.81	2.29	0.14	0.23
8	Progoti Life Insurance	18.52	7.92	34.62	2.30	32.32	1.87	0.07	0.11
9	Prime Islami Life Insurance	20.80	7.93	32.78	-1.45	34.23	1.58	-0.04	-0.07
10	CSE index	9.90	9.90	21.40	21.40	0	2.16	1.0	1.00

(Source: Bazar Porikkroma and [http://www.cse.com.bd/company\\_list\\_inde\\_price.php?industry=18](http://www.cse.com.bd/company_list_inde_price.php?industry=18))

Notes:  $K_{Avg}$  = Average mean return;

$K$  = The required rate of return using the Capital Asset Pricing Model

$= K_{RF} + \beta(K_M - K_{RF})$

TR = Total risk as measured by the standard deviation (SR+UR);

SR = Systematic risk;

UR = Unsystematic risk;

CV = The coefficient of Variation;

$\rho_{iM}$  = The correlation coefficient between the returns of an individual bank's share and the return on market (CSE Index); and

$\beta$  = The individual share's beta coefficient.

### Analysis of the findings

The statistical results imply that over the period, the share of Prime Islami Life Insurance offers the highest realized rate of return. The lowest realized rate of return is 8.09 percent, which is observed on the shares of National Life Insurance. The realized rates of returns on different shares do not have the same characteristics, being within the range of 8.09 to 20.80 percent (%). Return on average stock is 9.90 percent some shares generated higher rate of return than the return on market portfolio.

Since all the examined shares' realized rates of return are not equal to the calculated required rates of return, none of the share prices are in the equilibrium. The shares with higher realized returns than the required returns are under-priced and the prices of shares will increase in the market that is striving towards the equilibrium. Therefore, the prices of the shares of Delta Life Insurance,

Shandhani Life Insurance, Popular Life Insurance, Fareast Islami Life Insurance, Meghna Life Insurance, Progressive Life Insurance, Progoti Life Insurance, and Prime Islami Life Insurance are under-priced. Likewise the shares of National Life Insurance have the required rates of return (i.e. the sum of the risk free rate of return plus a risk premium based on individual shares beta coefficients) less than their respective realized rates of return. The market forces will cause the prices of National Life Insurance to fall as the required returns on such shares are less than the realized returns.

Based on the standard deviation of the returns on shares, the shares of Shandhani Life Insurance can be considered as high-risk securities. The standard deviation of the returns on shares of National Life Insurance is the lowest one. However, the realized rates of returns are not the same and in such case the use of standard deviation may not provide a meaningful basis for measuring risk. Looking at the coefficients of variation, the share of Prime Islami Life Insurance has the lowest risk per unit of return, the highest being with the shares of Shandhani Life Insurance. The systematic part of the total risk is due to the individual share's correlation coefficient with the market portfolio and the systematic risk is negative with the shares of Prime Islami Life Insurance. Therefore, the total risk on the returns on shares of Prime Islami Life Insurance is due to company-specific characteristics rather than market pervasive. All the other shares have systematic risk less than total risk. Only a portion of the total risk is rewarded by the individual share's returns and the unrewarded portion of the risk is the unsystematic risk. The unsystematic risk with the shares of Prime Islami Life Insurance is very high and it indicates that the realized return does not compensate the individual investors for company-specific or unique risk.

The negative correlation coefficient observed in the statistical results reveal that if the returns on shares of Prime Islami Life Insurance move above its mean return, the returns on market move below its mean return. Prime Islami Life Insurance is negatively correlated with the return on market portfolio and, therefore, it has negative beta coefficient. As such Prime Islami life insurance has a market manipulation and information is not efficiently disseminated. Returns on all the other shares have positive correlation with the returns on market. However, the correlation coefficients, that ranges from -1 to +1, indicates that return on individual share move less than the proportionate movements of the returns on market portfolio consisting of all shares. By observing the individual share's beta coefficient, most of the shares appear to be defensive as beta coefficients are less than 1. Low-beta shares are less volatile than the market as a whole. No company has beta coefficient of greater than 1, indicating that the share is more risky than the market. Very few stocks in the market may have negative beta coefficient indicating that their returns rise whenever returns on most stocks fall and vice versa. Some of the findings based on individual stock's beta coefficient can be summarized as follows:

**Table:3 Characteristics of Insurance companies**

Insurance	Characteristics		
	Price	Return	Risk
Delta Life Insurance	Under Priced	Lower than the market, attractive	Defensive, moderately volatile with the market
National Life Insurance	Over Priced	Higher than the market, not attractive.	Defensive, moderately volatile with the market
Shandhani Life Insurance	Under Priced	Lower than the market, attractive	Defensive, moderately volatile with the market
Popular Life Insurance	Under Priced	Lower than the market, attractive	Defensive, moderately volatile with the market
Fareast Islami Life Insurance	Under Priced	Lower than the market, attractive	Defensive, moderately volatile with the market
Meghna Life Insurance	Under Priced	Lower than the market, attractive	Defensive, moderately volatile with the market
Progressive Life Insurance	Under Priced	Lower than the market, attractive	Defensive, moderately volatile with the market
Progoti Life Insurance	Under Priced	Lower than the market, attractive	Defensive, moderately volatile with the market
Prime Islami Life Insurance	Under Priced	Lower than the market, attractive	Defensive with high unsystematic risk, less Volatile with the market.

(Source: *ibid*)

The average rate of interest on 91-day Treasury bill is 7.05 percent over the period. The realized return on market is only 9.90 percent. Therefore, the rate of return on an average stock is more than risk free rate of return. In such a case the market risk premium will be positive and happens to be 2.85 in this analysis. The share with negative beta coefficient will require higher rate of return to the investor.

### **Concluding remarks and Implications**

The shares of life insurances in Bangladesh are heavily traded in the stock market and, therefore, these shares play a key role in the determination of stock exchange indicators. The average mean return on market portfolio, as measured by percent changes in the CSE index, was 9.90 percent over the sample period. Most of the shares produced higher rates of return than the return on market portfolio. However, the risk return characteristics do not seem to be the same for all the shares reviewed. We observed that Nguyen and Ali (2011) find that Dhaka stock exchange market is not informational efficient which is also prevailing in CSE. Ashraf's (2005) comments should be considered to improve the managerial skill, efficiency and effectiveness of the life insurance companies which will not improve the organization's ability but raise the customers' services and add value for both demander and supplier of insurance services. Psychology of the individual of the country is that still people do not want to do life insurance with great importance

though gradually individual and institutions are encouraging to do life insurance. This behavioral attitude should be altered among the people of the country through doing more life insurances.

The shares with larger standard deviations seem to be able to produce higher rates of return. The portion of unsystematic risk is very high with the shares having negative beta coefficient. The risk per unit of return, as measured by the coefficient of variation, is less than that of the market as a whole for all the individual shares. Most of the shares fall under the category of defensive stocks, (having beta coefficients less than 1), Prime Islami Life Insurance is negatively correlated with the return on market portfolio and, therefore, it has negative beta coefficient. From the analysis, it appears that none of the shares are correctly priced. Theoretically, the market price of an over-priced (under-priced) share will fall (rise) in order to increase the expected return such that the expected return equals the required return. Therefore, shares of National Life Insurance which is overpriced relative to equilibrium thus market forces will decline. The remaining shares appear to be under-priced indicating a possible positive long term price trend.

Investors and traders ought to eradicate pricing inefficiencies and, financial economists, policy makers have to have ample acquaintance with transmission mechanism of price movements in the equity markets of both DSE and CSE, particularly during the period of high volatility. However, Dupernex's (2007) opinions should be considered by the policy makers and regulators. To increase investment in different schemes of life insurance companies, distortion of the market should be driven out; information should be properly disseminated; unbiased investment is being required, well informed individual and institutional investors should come forward for personal and personnel interest respectively and rational behavior is being required. Side by side rules and regulations and business carry out procedures of the country should be supportive so that risk-return management can be properly done and investment in different life schemes can be encouraged.

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## Appendix

**Table A: Share Prices and the CSE Index**

Period	DLI	NLI	SLI	PLI	FILI	MLICO	PRLI	PRGLI	PRILI	CSE Index
2006 Jan	2910.00	1220.00	460.00	747.50	745.00	409.50	313.00	-	-	3358.33
2006 Apr	2780.00	1075.00	435.00	695.00	672.50	389.00	313.00	370.00	-	1975.35
2006 Jul	2667.50	1150.00	461.50	695.00	672.50	379.50	306.25	370.00	-	2054.20
2006 Oct	3500.00	1150.00	447.50	747.50	710.00	388.00	306.25	373.50	-	2577.59
2007 Jan	3272.50	1131.00	385.00	760.00	707.50	388.00	302.50	425.50	-	2825.00
2007 Apr	3272.50	1320.50	320.00	705.50	691.00	370.00	273.00	402.50	370.00	3238.87
2007 Jul	3272.50	1650.50	335.00	900.50	898.50	332.88	284.00	462.50	370.00	5020.60
2007 Oct	5700.00	1975.50	607.50	1375.50	1191.00	682.50	492.00	767.50	542.00	7054.56
2008 Jan	9825.00	3100.50	1345.00	2678.25	2400.00	1310.50	1050.00	1632.50	1096.50	7448.17
2008 Apr	11750.0	4045.50	1802.00	4091.50	2875.00	1595.50	1245.00	1780.00	1240.00	8366.55
2008 Jul	11750.0	4400.50	2075.00	4091.50	3450.00	2045.50	1225.00	1917.13	1647.50	8870.23
2008 Oct	13403.0	4400.50	2075.00	4091.50	3450.00	2045.50	1424.50	2730.00	1772.00	8749.34
2009 Jan	11005.0	3600.50	1960.50	2580.00	2574.50	1865.00	1400.00	2900.00	1870.00	8386.78
2009 Apr	11945.5	3875.50	1926.00	3200.50	2482.00	2017.50	1555.50	2649.50	1920.00	8043.31
2009 Jul	13084.0	3885.00	2119.00	3200.00	2700.50	2205.00	1555.50	2434.50	1955.00	10274.89
2009 Oct	13084.0	3885.00	2093.00	2542.00	2700.50	2140.00	1562.50	2434.50	1870.00	11171.32

(Source: Bazar Porikkroma and [http://www.cse.com.bd/company\\_list\\_inds\\_price.php?industry=18](http://www.cse.com.bd/company_list_inds_price.php?industry=18))

**Table: B Risk-free rate of return**

Fiscal Year	91-Day Treasury Bill Rate (%)
2005/2006	7.57
2006/2007	7.58
2007/2008	7.63
2008/2009	7.93

(Source: Bangladesh Bank)