ENHANCING PROFITABILITY AND SHAREHOLDER VALUE THROUGH MERGER – A CASE STUDY OF ICICI BANK

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ABSTRACT

The study uses one of the high profile mergers of the Indian banking industry to measure the amount of wealth actually created for shareholders by such a merger, using the valuation tools like MVA, EVA, etc. and also the relative profitability measured from variables like Spread and Burden. Attempt has also been made further to find out the relative impact first of variables like EVA, market capitalization, total capital employed, yield, relative profitability, return on net worth, etc. on MVA; secondly of total capital employed, yield, relative profitability, return on net worth, etc. on EVA and finally of variables like EVA, total capital employed, yield, return on net worth, etc. on relative profitability.

Why a Case Study on the Merger of a Banking Institution?

The Indian banking sector is a key constituent of the Indian economic scenario. It is still the major supplier of funds for industrial activities. But this industry itself is in a transition phase. The banking sector is seeing many changes like imposition of international prudential norms, greater competition among banks, entry of new private sector banks, more fee-based services along with diversity in offering of services, among others. So the public sector banks are currently in the process of restructuring while the private sector banks are busy in consolidating themselves through mergers and acquisitions. On the other hand, due to increasing participation in the share capital from outside (other than government), the issues of profitability of operations and shareholder value creation have become more important in case of the nationalized banks. In case of private sector banks, the issues were always important.

This churn in the banking industry has thrown up further a new challenge in the form of measuring profitability and valuation of these banks. The traditional tools like market capitalization and profit margins are supplemented with new measures like Spread, Burden,

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EVA[1] (Economic Value Added) and MVA[2] (Market Value Added). This article attempts to appraise the case of one of the premier banking institutions of the country, ICICI Bank, just before and after merger using a mixture of traditional and non-traditional tools like Spread, Burden, relative profitability, EVA, MVA, etc.. This, at the same time, helps to highlight the amount of profit generated and wealth created for shareholders due to the merger process. Further, attempt has also been made further to find out the relative impact first of variables like EVA, market capitalization, total capital employed, yield, relative profitability, return on net worth, etc. on MVA; secondly of total capital employed, yield, relative profitability, return on net worth, etc. on EVA and finally of variables like EVA, total capital employed, yield, return on net worth, etc. on relative profitability.

ICICI-ICICI Bank Merger – The Story

Industrial Credit and Investment Corporation of India Limited (hereinafter, referred to as ICICI Ltd.)[3] was set up in 1955 as a public limited development financial institution (DFI)[4] to provide foreign currency loans to Indian companies. ICICI Ltd. was able to quickly grasp the emerging opportunities thrown up by the economic liberalisation of India in 1991 and grew to be a formidable force in the Indian financial scene. It expanded its activities into the areas of project finance, underwriting, venture capital, and mutual funds and established various subsidiaries including that of ICICI Bank in 1994. Subsequently ICICI Ltd. closed down many of its subsidiaries. It merged SCICI[5] with itself in 1996, ITC Classic Finance and Anagram Finance in 1998 and Bank of Madura in 2001.

ICICI Banking Corporation Limited (hereinafter, referred to as ICICI Bank) was set up as a scheduled commercial bank in 1994 by ICICI Ltd. as its wholly owned subsidiary. In 1999, the Bank became the first Indian company and the first financial institution from non-Japan Asia to be listed in the New York Stock Exchange (NYSE). ICICI Bank soon diversified its product portfolio. It set up five Strategic Business Units (SBUs), namely, ICICI Prudential Life Insurance, ICICI Lombard General Insurance, ICICI Ventures, ICICI Securities, and Prudential ICICI Asset Management Company.

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[1] EVA is a registered trademark of Stern Stewart Company. It has been referred to as 'economic profit'. A slight variation of the same is known as 'residual income' which is more often used to avoid plenty of adjustments that have been originally advocated.

[2] MVA is a tool to measure shareholder value at a particular moment that was introduced by Stewart in 1991. MVA is the additional market capitalization over and above the book value of equity.

[3] ISIN Code: INE005A01011, Website: www.icicibank.com.

[4] Development banks (also called DFI), an integral part of India's organized financial system, provide finance and related services to domestic industries on lenient terms in line with the planning priorities.

[5] SCICI is Shipping Credit and Investment Corporation of India.

Reserve Bank of India (RBI), India's central bank, first mooted the idea of merging all existing development banks and some weak commercial banks with healthier commercial banks way back in 2000. ICICI Bank was the first to take advantage of this policy and submitted a detailed scheme to reverse merge itself with its development bank counterpart on 1st October, 2001. As both ICICI Bank and ICICI Ltd. were listed in the Indian and US markets, effective communication to a wide range of investors was a critical part of the merger process. The merger was approved by shareholders of both the companies in January 2002, by the High Court of Gujarat in March 2002, and by the High Court of Judicature at Mumbai and ultimately by RBI in April 2002. The ratio for the merger was fixed at one equity share of ICICI Bank of Rs.10 each for two shares of ICICI Ltd. of the face value of Rs.10 each. While the merger became effective on May 2002, in accordance with the Scheme of Amalgamation, the appointed date of merger was 30 March, 2002.

Post-merger, ICICI Bank became India's first 'universal bank' acting as a one-stop supplier for all financial products and activities such as deposits, short-term and long-term loans, insurance, venture capital, and investment banking. It is now the second-largest Indian bank after State Bank of India (India's number one commercial bank) with total assets of about Rs. 3,447 billion (as at 31 March, 2007). It has a network of 755 branches and extension counters and 3,271 Automated Teller Machines (ATMs) across the country. Further, it has taken bold steps towards diversifying its basic banking business into Business Process Outsourcing (through ICICI OneSource – now renamed Firstsource Solutions Ltd.) and international banking operations in various countries around the world.

Profitability and Wealth Creation – Targets set at the time of merger

The compulsions that led ICICI Ltd. to reverse merge with ICICI Bank had much to do with the changing global and national banking environment as with its internal dynamics. Hence the reasons for the reverse merger merely reflect the dilemma faced by the entire Indian banking community in general and the development banking sector in particular.

The reverse merger was expected to enhance profits for the shareholders of ICICI Ltd. and ICICI Bank. This was expected to come from an expanded scale of operations, access to ICICI Ltd.'s strong corporate relationships built up over five decades, entry into new business segments, higher market share in various business segments, growth in fee-based services, and access to the vast talent pool of ICICI Ltd. and its subsidiaries.

Once profitability improves, the market is then expected to give a higher discounting (in terms of higher P/E ratio) to its share price and substantially increase its market capitalisation.

Objectives of the Study

The principal objective of the study is to use one of the high profile mergers of the Indian banking industry to measure the profitability actually generated and wealth created for the shareholders by such a merger, using the tools like Spread, Burden, EVA, and MVA.

The secondary objective is to find out the relative importance of the selected explanatory variables that include EVA as the most representative non-traditional measure and some

other conventional performance measures which may help to measure the change in MVA. The importance of non-market linked variables like total capital employed, yield, return on net worth, etc. first on EVA and then on relative profitability have also been examined into to find out the relative impact of these variables over economic profit and profitability respectively.

Literature Survey

There are a large number of studies concerning shareholder value creation. But for the purpose of this paper, only those articles focusing on the application of new market-oriented techniques to generate shareholder wealth have been looked into.

Kohli and Chawla (2006) have used the concepts of burden, spread, apart from some selected ratios to study the trends in profitability of selected Indian banks. While income, spread and net profit grew for all the banks, the private sector banks reported diminishing burden but increasing spread and non-interest income as compared to the public sector banks.

The study conducted by **Stewart (1991)** on the statistical association between MVA and EVA was based on a sample of 613 US companies over the period from 1984 to 1985 in relation to the period from 1987 to 1988. The author reports strong positive relation between the average standardized values of EVA and MVA. However the results do not seem to support the relation between negative EVA and negative MVA.

O'Byrne (1996) regresses firm value on EVA and earnings measured in the form of NOPAT (net operating profit after tax). The study considers a total of 6651 firm-years over the period from 1985 to 1993. Two types of regressions are used where the market value divided by the capital is the dependent variable. After a series of adjustments to the EVA regression, the author reports the robustness of EVA in explaining firm values.

Grant (1996) identifies the 'wealth-creators' and the 'wealth-destroyers' among a set of firms with the help of EVA/Capital employed and MVA/Capital employed measurements. The findings indicate that the ratio, EVA/Capital employed can explain approximately 32% of the variation in MVA/Capital employed.

Dodd and Chen (1996) in their paper have studied the correlation between stock returns and EVA, residual income, RoA, RoE and EPS. It is based on a sample of 566 US companies over the period from 1983 to 1992. The adjusted EVA was found to offer few advantages over unadjusted EVA or residual income. The incremental tests also suggested that the components of EVA only add marginal information to earnings. The results hence do not support the notion that EVA dominates earnings in relative information content.

A case study on the relative statistical significance of market capitalization and EVA as an effective valuation tool conducted by **Chattopadhyay and Gupta (2001)** found that EVA did not prove to be a better tool than the traditional measure like market capitalization. The study used correlation analysis, Runs test and simple regression on EVA and market capitalization of Hindustan Lever Limited over a nine-year period from 1991 to 1999.

In another Indian study, **Prakash Singh (2005)** first tests the robustness of the new tools of shareholder wealth measurement – EVA and MVA. He then goes on to test the efficacy of

these two techniques on 28 Indian banks over a five-year period from 1999 to 2003. He finds that in India, EVA does not happen to be a better wealth measurement tool as compared to traditional performance measures. But he finds significant statistical relationship between EVA and MVA.

Methodology

The study is composed of three parts. The first part measures the profitability of operations of ICICI Bank through Spread and Burden over the seven-year period.

The second part computes the EVA and MVA over a seven-year period from 2001 to 2007.

The third part carries out correlations, Runs tests and a series of regressions.

Key variables

MVA is the difference between the Firm Value [total market value of the firm's capital (both debt and equity)] and the total capital employed by it.

$$\text{MVA} = \text{Firm Value} - \text{Capital Employed}$$

EVA is the amount of economic value (or profits) generated by a company over a specific period in excess of its cost of capital. It is calculated as the difference between NOPAT (net operating profit after tax) and the product of weighted average cost of capital (WACC) with total capital employed.

$$\text{EVA} = \text{NOPAT} - (\text{WACC} \times \text{Capital Employed})$$

It can also be defined as the excess returns (*i.e.,* RoCE – WACC) generated from operations multiplied with the quantum of capital employed.

$$\text{EVA} = (\text{RoCE} - \text{WACC}) \times \text{Capital Employed}$$
$$[\text{where, RoCE} = \text{return on capital employed}]$$

In case of the first formula, NOPAT and Capital Employed may have to be adjusted with about 150 reverse journal entries. However, in practice, about 5-10 adjustments are done for the calculation in case of a company.

Market capitalization (MCap) indicates the total market value of the equity shares of a company (bank).

Total capital employed (CapEmp) by company considers both its Tier-I and Tier-II capital as at the end of the year. Tier 1 capital, as the core measure of a bank's financial strength, comprises of equity capital, irredeemable and non-cumulative preference capital, and retained earnings. Tier II capital comprises of undisclosed reserves, revaluation reserves, general provisions, hybrid instruments and subordinated debt.

Relative Profitability (Rel. Pr.) is 'profitability' in absolute amount divided by total income. This is similar to the margin ratios as calculated for a company. 'Profitability' is the difference between Spread and Burden. Spread is the excess of interest earned from lending operations by the bank over the interest paid on borrowing funds. It may be indicated either in absolute amount or in percentage.

$$\text{Spread} = \text{Interest Income} - \text{Interest Expense}$$

Burden, on the other hand, is the difference between non-interest expense (summation of establishment expenditure, other current and non-current expenditure) and non-interest income (summation of commission, exchange, brokerage, and such other income). It can also be indicated either in absolute amount or in percentage.

$$\text{Burden} = \text{Non-Interest Expense} - \text{Non-Interest Income}$$

Interest yield (Yield) indicates the total earnings of the bank from advances expressed in the form of percentage.

Return on Net Worth (RONW) is a profitability measure obtained by dividing net profit after tax (with adjustment of tax savings on interest) by tangible net worth.

Scheme of Investigation

All the variables have been either directly obtained or calculated using their standard formula since 2001, the year just prior to the merger. The year-end share price has been sourced from National Stock Exchange (NSE) and has been used to calculate the year-end market capitalization.

The first part of the study highlights the effect on profitability of the company due to changes in Spread and Burden over the years. The figures are indicated in absolute amount with the growth in percentage form. The actual difference between Spread and Burden indicates the profitability of the Bank.

In the second part, the percentage change from year to year in MVA and EVA highlights respectively the quantum of shareholder wealth and 'economic' profits created through the reverse merger process. It thus points to the extent of success of the merger from the viewpoint of the shareholder.

The third part examines the degree of association between MVA with each of the other variables with the help of correlation coefficients. Pearson's (to find the magnitude of correlation), Spearman's (to find the ranking of the magnitudes) and Kendall's (to find the nature of the associated changes) correlation coefficients and their appropriate statistical tests are used for this purpose.

The result of these correlations may be due to simply the chance factor. In order to test for this chance factor, Runs test are performed on each of the variables. If the Runs tests prove to be significant in one-tail (since the variables are supposed to be directly related) even at 5% level of significance, it indicates that the series is non-random and contains a systematic part. The systematic part may come from respective trend effects that can be eliminated with the help of a trend equation. The trend equation is fitted first with the help of three alternative trend equations, *viz.*, linear ($y = a + bt + ut$), log-linear ($\ln y = a + bt + ut$) and log-quadratic ($\ln y = a + bt + ct^2 + ut$) [where, Y is the dependent variable and t is time]. A particular form is chosen on the basis of adjusted R^2 and the Durbin-Watson (D-W) statistic. Then the residual values of the concerned variables are calculated by deducting the expected values as per the best-fitted trend equation from the actual observed values.

Now, the variables with their residual values are taken into multiple regression with other variables with their original values. Incremental regression analyses are carried out by increasing one independent variable at every stage. At first, MVA is taken as the dependent

variable as its value is expected to depend on the other performance measures like EVA, total capital employed, market capitalization, relative profitability, interest yield, and return on net worth (RoNW). The final multiple regression analysis contains all the independent variables regressed on the single dependent variable, MVA.

In the next two cases of multiple regression, the effect of some non-market variables on EVA and relative profitability has been looked into. Hence the effect of residual market capitalization and residual MVA have not been considered. So, variables like total capital employed, yield, relative profitability, and return on net worth have been regressed on EVA and finally the variables like EVA, total capital employed, yield, and return on net worth have been regressed on relative profitability.

All the equations are followed by its adjusted coefficient of determination (R^2), F-value, and student's t-value apart from the coefficients of each of the variables. Statistical significance up to 10% level has been considered for all the tests. The statistically significant cases are indicated with star mark/s.

Post-Merger – Findings

The analysis of profitability from the trends of Spread and Burden over the years (from the pre-merger period to the post-merger one) does point to a successful merger, but not an exciting one. Financial year 2002-03, the year just after the merger, reported the most encouraging outcome of the merger – a massive rise in Spread with a fall in Burden. However, the next four years saw a modest growth in Spread but a highly erratic change in Burden. This has put pressure on profitability leading to an average growth rate of around 26% annually over this period.

One of the reasons behind the merger was to increase shareholder wealth. ICICI Bank submitted its proposal for reverse merger on 1/10/2001 to Reserve Bank of India. Its share price has risen from Rs. 72.00 as on that date to Rs. 124.00 as on 29/3/2002, just prior to the merger. This 76% gain appeared to take place just from the news of the merger. This trend continued even after the merger. The price of one ICICI Bank share (as on 31/03/2007) is Rs. 853.10. This translates to a gain of another 588% over these five years. (Source: Capitaline Plus database, Capital Market Publishers Pvt. Ltd., Mumbai.)

Table 2 also highlights the EVA and MVA generated by the company over a seven-year period from 2001 to 2007. The reverse merger actually took place on March 30, 2002. ICICI Bank reported positive growth in EVA since 2001 except during 2002 and 2004. The same growth pattern was witnessed in case of MVA except in 2002 and 2007. The Bank reported a modest growth in its net operating profit after tax (NOPAT) in 2002, which was overshadowed by the rise in its cost of capital causing a drop in its EVA. In 2004 there was a decline in its NOPAT and hence the decline in EVA. MVA declined in 2002 and again in 2007 due to a greater increase in capital employed as opposed to the growth in its Firm Value.

The correlation analyses using all the three tests of Pearson's, Spearman's and Kendall's indicate statistically significant relation between MVA with EVA, market capitalization, relative profitability, total capital employed and interest yield. The only other variable of RoNW does not exhibit similar statistically significant relation with MVA (Table 3). This

study thus supports the findings of most of the earlier studies that EVA is very closely related to MVA.

Incremental regression analyses are carried out next taking into account one additional independent variable at each next stage. This has just been presented to compare the results between two sets of variables, the present set having their original values with no exercise of making them trend-free and the other set with some variables likely with their residual values after eliminating the trend effect along with the other variables with their original values. After this analysis being undertaken, it is observed that EVA does not appear to be significant in all cases of inclusion yet in most cases. (Tables 4 and 7)

The results of the Runs tests at the 5% level of significance indicate that four variables, viz., MVA, Market Capitalization, Capital Employed and Yield have significant runs in their series of values. Hence these variables are interpreted to be non-random in nature with significant influence of time. (Table 5)

At the next stage, log-linear trend was found to be best-fitted for MVA and Market Capitalization whereas ordinary least square (OLS) trend was found to be best-fitted for Capital Employed and Yield on the basis of a mutual judgment of the Adj. R^2 and D-W statistic values of the three alternative trend equations for all the four non-random variables. (Table 6)

After considering therefrom the residual values of the four non-random variables and the original values of the other remaining random variables, as described in an earlier paragraph as the other set, incremental regression analyses are carried out taking into account one additional independent variable at each next stage. Residual value of Market Capitalization appears to be the most significant variable in all the stages. (Table 7)

In both sets of variables, due to insufficient data of a case study like work, the final regression results do not give a clear picture when all the explanatory variables are taken into consideration. (Tables 4 and 7)

Since EVA is known to depend on variables like capital employed, yield, relative profitability etc., the next table (Table 8) regresses those variables on EVA. Residual yield is found to have the only statistically significant effect on EVA among all the other variables. However, in the next multiple regression, (Table 9), none of the explanatory variables turn out to be statistically significant.

Conclusion

The above findings point out the success of the merger both for the Bank and also for its shareholders. The five completed years since the merger shows that though ICICI Bank was able to successfully consummate the first reverse merger of India, its effect on profitability was not much to talk about. But for the shareholders, the story was a bit different.

Both EVA and MVA – the new generation wealth measurement tools – have shown robust growth over the 7-year period. The brief anomaly in a single year was merely due to the adjustment process the Bank was going through. On the question of profitability in its absolute term, the bank has shown satisfactory result in the post-merger time period. Hence it can be safely concluded that the reverse merger of ICICI Ltd. with ICICI Bank was able to

generate wealth for its shareholders both from an economic as well as from market perspective.

MVA and EVA are seen to have a negative relationship, though not significant in most of the cases. Yield, contrary to the expectation, has shown negative significant relationships to MVA, EVA, and also to relative profitability. This suggests that the interest rate hike in bank advances create a negative impact on bank business resulting in poor market reaction, profitability (in absolute amount), and economic profit. Economic profit and profitability, separately as dependent variables, do not have any significant influencing variable.

EVA does not prove to be a better performance measure so far as its significant correlations are observed with MVA. Though it requires more data even for a case study for making a safe conclusion like this. It is again always better to go through a cross section of companies for finding out the true predictive value of EVA. This has been earlier attempted and also is going to be attempted in many other studies by various researchers. This had not been, however, the main objective of the present study.

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Table-1: Trends in Spread, Burden and Profitability of ICICI Bank

Year	Spread		Burden		Profitability		Relative Profitability
	Amount (Rs. bn.)	Change in percent	Amount (Rs. bn.)	Change in percent	Amount (Rs. bn.)	Change in Percent	In Percent
2000-01	4.04	-	2.43	-	1.61	-	0.11
2001-02	5.93	46.62	3.35	37.54	2.58	60.34	0.09
2002-03	14.24	140.14	2.18	-34.90	12.06	366.97	0.10
2003-04	18.79	31.93	2.42	10.92	16.37	35.73	0.14
2004-05	28.39	51.11	8.34	253.28	20.05	21.26	0.15
2005-06	41.87	47.48	16.47	92.90	25.40	27.95	0.14
2006-07	66.36	58.48	35.26	114.06	31.10	22.45	0.11

Table-2: Calculating EVA and MVA

Particulars	2001	2002	2003	2004	2005	2006	2007
Average cost of funds (%)	8.03	7.52	8.91	7.10	5.80	5.80	6.60
Interest yield (%)	10.91	9.68	10.21	9.00	8.10	8.00	8.30
NOPAT (Rs. bn.)	2.58	4.80	29.97	21.12	24.34	41.34	93.92
Yield spread (%)	2.88	2.16	1.30	1.90	2.30	2.50	2.3
Total capital employed (Rs. bn.) (both Tier I and Tier II capital)	14.47	90.12	91.46	94.01	159.03	278.43	338.96
Cost of capital (Rs. bn.)	1.16	6.77	8.15	6.67	9.22	16.15	22.37
No. of shares (in bn.)	0.22	0.22	0.61	0.61	0.74	0.89	0.89
Equity share capital (Rs. bn.)	2.20	2.20	6.13	6.13	7.37	8.90	8.99
Closing market price (Rs.)	165.50	123.90	133.75	296.30	392.80	589.03	853.1

Closing market capitalization (Rs. bn.)	36.41	27.26	81.59	180.74	290.67	524.24	759.26
Firm Value (Rs. bn.)	48.68	115.18	166.92	268.62	442.33	793.77	759.26
EVA (Rs. bn.)	1.42	-1.97	21.82	14.45	15.12	25.19	71.55
Change in EVA (%)	-	-238.73	-1207.61	-33.78	4.64	66.61	184.02
MVA (Rs. bn.)	34.21	25.06	75.46	174.61	283.30	515.34	420.30
Change in MVA (%)	-	-26.75	201.13	131.41	62.25	81.90	-18.44

Table-3: Results from Bi-variate Correlations

Pearson's	MVA	EVA	MCap	CapEmp	Rel. Pr.	Yield	RoNW
MVA	1.000	0.679	0.916	0.918	0.575	-0.874	0.307
Sig. Level (1-tailed)	.	0.047**	0.002*	0.002*	0.088	0.005*	0.252
Kendall's							
MVA	1.000	0.714**	0.905*	0.810*	0.551**	-0.714**	0.048
Sig. Level (1-tailed)	.	0.012	0.002	0.005	0.045	0.012	0.440
Spearman's							
MVA	1.000	0.857*	0.964*	0.929*	0.673**	-0.857*	0.143
Sig. Level (1-tailed)	.	0.007	0.000	0.001	0.049	0.007	0.380
N	7	7	7	7	7	7	7

* Correlation is significant at the 0.01 level (1-tailed).
** Correlation is significant at the 0.05 level (1-tailed).
*** Correlation is significant at the 0.10 level (1-tailed).

Table-4: Coefficients of Regression equations

	Constant	EVA	MCap	CapEmp	Rel. Pr.	Yield	Ro NW	Adj. R^2	F
MVA	104.18 (1.29)	5.41*** (2.07)						0.35	4.27***
	42.54 (1.31)	-5.62 (-2.55)	1.08** (5.60)					0.91	30.71*
	25.18 (0.46)	-5.42 (-2.15)	0.90 (1.82)	0.41 (0.42)				0.88	16.30**
	-254.04 (-1.44)	-2.47 (-0.91)	0.34 (0.65)	1.08 (1.20)	2237.3 (1.64)			0.93	19.76**
	-1761.61 (-7.21)	-2.25 (-3.72)	-0.15 (-1.09)	2.88 (8.21)	5302.15 (9.18)	108.32 (6.25)		1.00	324.69**
	-2528.55 (-)	-0.62 (-)	-0.67 (-)	4.10 (-)	6800.75 (-)	160.59 (-)	2.47 (-)	1.00	-

(t-values are provided in parenthesis)
* value is significant at 0.01 level
** value is significant at 0.05 level
*** value is significant at 0.10 level

Table-5: Results from Runs Test

	MVA	EVA	MCap	CapEmp	Rel. Pr.	Yield	RoNW
Total Cases	7	7	7	7	7	7	7
Number of Runs	2	4	2	2	3	2	5
Z (test statistic)	-1.637***	.000	-1.637***	-1.637***	-0.380	-1.637***	0.06
Monte Carlo Sig. (2-tailed) 10% level	0.102	1.000	0.102	0.102	0.704	0.102	0.952

[*** significant at 10% level]

Table-6: Estimated trend equations of non-random variables

Trend	MVA			Mcap		
Equation	Adj.R^2	D-W	Estimated trend	Adj.R^2	D-W	Estimated trend
Linear	0.84	2.14	$Yt = -116.91 + 83.81\,t$	0.86	0.86	$Yt = -210.20 + 20.41\,t$
Log-linear	0.89	2.01	$\ln Yt = 2.75 + 0.53\,t$	0.94	2.41	$\ln Yt = 2.68 + 0.58\,t$
Log-quadratic	0.87	2.23	$\ln Yt = 2.37 + 0.79\,t - 0.0032\,t^2$	0.93	2.40	$\ln Yt = 2.69 + 0.57\,t + 0.001\,t^2$
Trend	CapEmp			Yield		
Equation	Adj.R^2	D-W	Estimated trend	Adj.R^2	D-W	Estimated trend
Linear	0.87	1.16	$Yt = -50.17 + 50.63\,t$	0.79	2.25	$Yt = 11.07 - 0.48t$
Log-linear	0.80	2.15	$\ln Yt = 2.92 + 0.44\,t$	0.79	2.25	$\ln Yt = 11.07 - 0.48\,t$
Log-quadratic	0.80	2.22	$\ln Yt = 2.29 + 0.86\,t - 0.0053\,t^2$	0.80	2.47	$\ln Yt = 11.80 - 0.96\,t + 0.006t^2$

Table-7: Coefficients of Regression equations [Dependent variable: Residual MVA]
(considering trend effect in selected variables)

	Constant	EVA	Res. MCap	Res. CapEmp	Rel. Pr.	Res. Yield	RoNW	Adj. R²	F
Res. MVA	0.09 (0.48)	-0.004 (-0.63)						-0.11	0.39
	0.08 (0.88)	-0.004 (-1.29)	1.19* (4.73)					0.79	12.20**
	0.06 (0.64)	-0.003 (-0.94)	1.08** (3.18)	-0.001 (-0.58)				0.75	6.90***
	-0.69 (-1.69)	-0.004 (-1.7)	0.91*** (3.40)	-0.0005 (0.24)	6.55 (1.88)			0.86	10.41***
	1.73 (4.62)	-0.03*** (-7.79)	1.73** (12.73)	-0.003 (-4.37)	-18.82 (-4.85)	-0.0001*** (-6.65)		0.99	197.19**
	1.06 (-)	-0.02 (-)	1.50 (-)	-0.002 (-)	-11.61 (-)	-0.0001 (-)	-0.003 (-)	1.00	-

[Res. = residual]
(t-values are provided in parenthesis)
*significant at 1% level   **significant at 5% level   ***significant at 10% level

Table-8: Coefficients of Regression equation [Dependent variable: EVA]
(considering trend effect in selected variables)

	Constant	Res. CapEmp	Rel. Pr.	Res. Yield	RoNW	Adj. R²	F
EVA	73.55 (1.43)	-0.18 (-0.73)	-791.84 (-1.50)	-0.005*** (-3.67)	0.004 (1.00)	0.69	4.26

[Res. = residual]
(t-values are provided in parenthesis)
***significant at 10% level

Table-9: Coefficients of Regression equation [Dependent variable: Rel. Pr.]
(considering trend effect in selected variables)

	Constant	EVA	Res. CapEmp	Res. Yield	RoNW	Adj. R²	F
Rel. Pr.	0.09* (9.53)	-0.0007 (-1.50)	-0.0003 (-2.00)	-0.00005 (-2.29)	0.0004 (0.58)	0.70	4.57

[Res. = residual]
(t-values are provided in parenthesis)
*significant at 1% level