Inspira- Journal of Modern Management & Entrepreneurship
ISSN : 2231–167X, Impact Factor : 2.0778, Volume 06, No. 03, July, 2016, pp. 90-98

AN EMPIRICAL ANALYSIS OF ECONOMIC VALUE ADDED OF INDIAN CORPORATE

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Abstract

In this paper an attempt has been made to study the EVA of selected companies of BSE-30. The study is based on secondary data. The data have been collected from annual reports and capitaline database. The time period for the data was from 2001-02 to 2011-12. The statistical tools like mean, anova, regression and 't" test have been used. Researcher has used regression to examine the impact of capital employed on EVA. The regression result showed that independent variable like capital employed has a very significant impact of the EVA. Therefore capital employed and cost of capital and EVA are very significant aspect to measure financial performance.

Keywords: *WACC, EVA, NOPAT, EVA, ANOVA, Financial Performance.*

Introduction

The economic reforms since 1991 have brought many changes to the environment in which Indian companies previously operated. The principal aim of these reforms was to strengthen Market discipline and promote greater competition by putting an end to the "license raj," namely Through the abolition of the Industries Development and Regulation Act (1951) and amendments to the Companies Act and several other major laws, which had imposed a heavy legal and regulatory burden on the corporate sector . In addition, the foreign trade regime was liberalized through cuts in tariff rates, reductions in nontariff barriers, and a streamlining of import licenses; foreign investment opportunities were increased; and shareholders' rights were improved. Indian companies were allowed to enter into joint ventures with multinational enterprises more freely, import new technologies and capital goods, expand productive capacity, and introduce new products without obtaining industrial licenses.3 more recently; steps have been taken too derisive a number of small-scale industries, particularly those industries with the greatest export potential. A more modern competition law has also been enacted that focuses more on anti-competitive practices, by giving greater consideration to abuse of market dominance rather than through firm size per se. Further

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progress is needed in reforming labor laws to allow flexibility in employment decisions in line with market conditions. The financial sector has also experienced a considerable opening. Recognizing the poor health of the financial sector, a host of reforms were implemented (as laid out by the Narasimham Committee on Financial Sector Reforms), including the deregulation of interest rates, easing of restrictions on private and foreign banks, removal of consortium lending requirements, liberalizing of bank branch licensing, and entry of private sector mutual funds and foreign institutional investors. Financial sector reforms, in particular, have acted to induce firms to improve their cash and debt management during the reform period. India's corporate sector has grown steadily over the past two decades in terms of number of registered companies and amount of paid up capital The corporate sector consists of closely held (private limited) and publicly held (public limited) companies, with approximately 619,000 registered companies as of June 2003, about 40 percent of which are in the manufacturing sector.4 Private limited companies comprise the majority of firms in the corporate sector, but account for less than one–third of total paid up capital Government-owned enterprises (both public and private limited) are comparatively few.

Economic Value Added

Economic Value Added is a measure of economic profit. It is calculated as the difference between the Net Operating Profit after Tax and the opportunity cost of invested Capital. This opportunity cost is determined by the weighted average cost of Debt and Equity Capital ("WACC") and the amount of Capital employed. An equivalent way to calculate EVA® is to multiply Capital by the difference between the Return on Capital and the WACC. If one of the firm's goals is to increase EVA on a sustainable basis, notice from this formula that it can be accomplished in four different ways. First, the firm can grow the business by investing where the returns exceed the WACC. Second, the firm can improve the operating efficiencies on its existing Capital, thereby increasing the return on Capital. Third, a firm can harvest Capital from its losing investments, where the return is less than the WACC and has almost no hope for improving. The funds thus generated by harvesting are disgorged to the shareholders or it is used to make worthwhile investments elsewhere. Fourth, the firm can increase its ratio of debt-to-equity when doing so lowers the WACC and doesn't threaten flexibility or survival. What separates EVA from other performance metrics such as EPS, EBITDA, and ROIC is that it measures all of the costs of running a business-operating and financing. This makes EVA the soundest performance metric, and the one most closely aligned with the creation of shareholder value. In fact, EVA and Net Present Value arithmetically tie, so companies can be assured that increasing EVA is always a good thing for its investors – certainly not the case with EPS (see Enron) or Free Cash Flow. Many even argue that EVA is a better decision tool than NPV because it captures the period-by-period value creation or destruction of a given firm or investment, and makes it easy to audit performance against management projections.

EVA=NOPAT-(WACC*CE)

NOPAT=Net operating profit, WACC= weighted average cost of capital, CE=Capital Employed.

Review of the Literature

Stern (1990) has observed that "as a performance measure EVA comes closer than any other tool to capture the true economic profit of an enterprise. It is directly linked to the creation of the shareholders' wealth over time. EVA based financial management and incentive system gives manager superior information and motivation to make decision that will create the greatest shareholder of a private enterprise". The author also argues that the best way of maximizing for shareholder return is to offer incentives to managers for making

decisions that boost long term value. The managers may be guided by EVA and they can be remunerated a proportion of both the total EVA and the positive change in EVA.

Grant (1996), however, does find that EVA significantly impacts the market value added of a firm. Variations in the EVA-to-capital ratios in his sample accounted for 32% of the changes in MVA-to-capital ratios.

Milunovich and Tsuei (1996) reviewed the correlation between MVA and several conventional performance measures, in the computer industry. They found EVA to correlate somewhat better with MVA, than other measures. They find EVA to correlate somewhat better with MVA than the other measures. R squared for EVA is 0.42, for EPS growth 0.34 and for ROE and EPS it is 0.29.

Uyemura, Kantor and Petit (1996) based on their study on 100 Bank holding companies for a 10 year period find that the correlation of MVA with EVA is significantly higher than that with other measures like EPS, ROE, ROA, and Net Income.

Lehn, Kenneth; Makhija, Anil K. (1996) conducted study on "EVA & MVA as performance measures and signals for strategic change". They have investigated the effectiveness of EVA and MVA as measures of performance, as signals of strategic change, and as metrics relevant to strategic development. The study followed 241 firms over the period of 1987 to 1993. They analyzed the relation between various performance measures and stock returns, which generally are considered to be the best benchmark for a firm's performance; the turnover of chief executives, which is an indicator of strategic change; and the desirable extent of diversification to be pursued by firms, which has been the subject of considerable debate.

O'Byrne (1996) investigated the relationship between EVA, net operating profit after tax (NOPAT), free cash flow (FCF), and market value. In this research the data of years 1983-1992 was used. It was concluded that EVA and NOPAT usually have similar explanatory capability. Also, the changes in EVA explain 31% of changes in market value, while NOPAT explains 17% of such changes.

Biddle and walance (1997), studied the created changes in companies through application of economic value added. They compared the performance of companies which employ economic value added criterion with the performance of a control group. This control group includes companies which do not use the economic value added criterion. The authors believe that application of economic value added criterion causes changes in decisions regarding company's finance, operation and investment. Also, the economic value added criterion increases the RI and shareholders' wealth.

Chen and Dodd (1997) find that improvements in EVA performance are related to higher stock returns although the relationship is not as strong as suggested by some anecdotal evidence. They also find that EVA explains more of the variation in stock returns than traditional measures of accounting profits; however, accounting earnings do provide significant incremental information suggesting EVA should not replace accounting variables as measures of corporate performance. A subsequent study by the same authors employing a different methodology and sample concludes that even though EVA is significantly associated with annual stock returns, it demonstrated very low explanatory power – lower than either residual income or operating income.

Biddle et al. (1997) provided the most comprehensive study of EVA s value relevance to date. In contrast to studies supporting the superiority of EVA, they found that traditional accounting measures, generally, outperformed EVA in explaining stock returns. The same results came from Worthington and West (2001) for the Australian context.

Kramer and Pushner (1997), "An empirical analysis of Economic Value Added as a Proxy for Market Value Added". They tested the hypothesis that EVA is highly correlated with MVA. The study concluded that no clear evidence to support the contention that Eva is the best internal measure of corporate success in adding value to shareholder investments. On the contrary, the market seems more focused on 'Profit' than EVA. The study found that there is no clear advantage to shareholders in looking at EVA, as the accounting return on their investment in NOPAT.

Myers (1997) states that EVA is the most widely used Value-Based performance measure probably just because it happens to be an easier concept compared to the others. In implementing EVA, one of the most important things is to get the people in organizations to commit to EVA and thereby also to understand EVA. Even as easy concept as EVA seems to be quite hard to communicate down the organization. That is why complicated measures do not work very well.

KPMG-BS Study (1998) has selected top100 companies from bs-1000 list of companies and examined their data on EVA, Sales, PAT and MVA criteria for the year 1996-97. From this study it is revealed that sixty two companies have been found to be able to create positive shareholder value where as thirty eight companies have been found to destroy it.

Turvey et al. (2000) studied the relationship between EVA and stock market returns for a sample of 17 publicly traded food companies in Canada. The key finding was that no relationship could be found between the two. Keef and Rush (2003) examined the link between EVA and stock price reaction. They found similar results with Turvey et al. (2000).

N. R. V. Ramana Reddy and M. Rajesh (2005); conducted study on "The relationship between EVA, MVA and Dividend paid – An Empirical Study". He concluded that there is a strong positive association between the variables. Since the year 2005 the positive EVA and MVA values of a company depict that value is being added to the investor. It is also evident that the dividend paid is also moderate during the study period.

Debdas Rakshit (2006) conducted study on "EVA Based Performance Measurement: A Case Study of Dabur India Limited". According to him EVA based performance measurement system is the basis on which the company should take appropriate decisions related to the choice of strategy, capital allocation, merger & acquisitions, divesting business and goal setting. While deciding resource allocation it becomes

Ali M Ghanbari and V S more (2007) conducted study on "the relationship between Economic Value Added and Market Value Added: An Empirical Analysis in Indian Automobile Industry". According to the results of this study, it was found that EVA has the highest significant correlation with MVA, than NOPAT, EPS, ROA and ROCE. So the hypothesis of this study has been accepted and it can be claimed that EVA is more associated with MVA and presents a more transparent and clear picture of firm value in comparison to the other performance measures.

Anil Misra, Kanwal Anil (2007) studied "Economic value added (Eva) as the most significant measure of financial". EVA framework that has overcome the limitations of the accounting based metrics is finding favour with these lead steers and is consequently expected to find a better reflection in the stock prices. The hypothesis of this study is that of the seven chosen independent variables, EVA is the single most significant explanatory variable in explaining the variation in the Market Value Added as it finds a better reflection in the market value of the share.

Choudhary and Sharma (2010), conducted study on EVA discipline getting hotter at Harsco Corporation. The study concluded that the continuing growth at Harsco is guided by its value base management system and economic value added is an integral part of the same. Adoption of Eva has been good for Harsco and Harsco stockholders. EVA has instilled an enhanced global financial discipline within our operations that gives single, common framework for evaluating investments and making critical business decisions, particularly for allocation of capital.

S.K. Khatik(2010), In this research paper he studied on selected sample companies and he measured the total concepts, improvement of EVA and differences of EVA amongst all sample companies and found differences in EVA during the study period with the help of Coefficient of Variation analysis of all sample companies EVA.

Parmar (2011) "Measuring Corporate Success: Stastical Analysis of Financial Performance Indicators" The present paper aims at Measuring Corporate Success through various profitability indicators for selected Indian Corporate. The study empirically evaluates these measures for the 30 selected companies from major industry sectors of India. Statistical Estimation of the relationship between these performance indicators and market price of the shares of this Corporate for the period of five years 2005 to 2009 has been carried out using Correlation and Step-wise Multiple Regression Analysis. A comparative Analysis of the performance indicators for Indian Corporate is conducted by ranking the selected companies as regards various indicators and the variations in the rankings are statistically examined. The results of the stud y contribute in two ways: Firstly, they help to find out the best profitability measure for Indian Industries and secondly, to estimate the financial strength of the companies and its relation to the company share prices for the period under consideration.

Mohamadreza Abdoli (2012) "Economic value Added Vs Accounting Residual Income: Which One is a Better Criterion For Measuring of Shareholders Value" In this paper, the relationship between each independent variable including economic value added and residual income as the representatives of economic models with the shareholders' created wealth is studied. The research is inferential-inductive in terms of methodology and is cross-sectional correlation in terms of test statistical method. The studied statistical population consists of all the companies listed in Tehran Stock Exchange during 2006-2009, except for investment and holding companies. The statistical sample consists of 85 companies. Simple and multi-variable regression methods are used to test the hypothesis. The effect and importance of most independent variables are examined through Forward method. The results indicate that both economic value added and residual income have significant relationship with the shareholders' created wealth. However, the residual income criterion is more significant than the economic value added in relation with the created wealth for shareholders. The difference between the impacts of these two variables is due to accounting adjustments through which the effect of accrual accounting is eliminated, hence it is considered as a better criterion for performance evaluation and increase in shareholders' wealth.

Problem Identification

From the above review of literature it was found that majority of the companies have good PAT but the EVA found low. Generally the financial performance of each and every company is measured through net profit or ROE but the trend of measuring the financial performance in term of EVA has not yet been started. Therefore investors are confused about the manifestation of true and faire financial performance as far as their long term investment is concerned. The researcher has selected this topic to make aware to investors about the true and fair value creation in term of EVA

Objectives of Study

Following objectives were set for the study

- To compare various profitability measures to evaluate Corporate Success of selected companies.
- To give Ranking to Sample companies on the basis of EVA & profitability indicator.
- To measure the effect of Average capital employed on EVA of selected samples.
- To give suggestions to enhance the financial efficiency of selected samples.

Hypothesis of Study

H_o : There is no significance difference in EVA of selected companies of BSE-30

H_1 : There is significance difference in EVA of selected companies of BSE-30

Methodology of the Study

"An Empirical Analysis of Economic value added of Indian Corporate" has been made by using data from financial statements of all five major players of BSE 30 Sensex, they are - Hero Honda, Infosys, HUL, BHEL and DR. REDDY. The period of the study was ten years from 2001-02 to 2011-12.The data was collected from Capitoline database and from the annual reports of the respective companies.

Statistical Tools

In the present research researcher has used various statistical tools to test hypothesis i.e., ANOVA, Regression, Mean, and SD. Financial Ratio is used to compare the performance of selected companies.

Data Analysis and Interpolation

Table 1
EVA Statement of Selected Companies of India

(₹ in Crore)

Year	Hero Honda	Infosys	HUL	BHEL	Dr. Reddy
2003-04	569	689	1429	366	8
2004-05	564	1132	886	504	-240
2005-06	641	1540	1014	1079	-123
2006-07	485	2122	1126	1657	257
2007-08	575	2286	1314	1810	-137
2008-09	835	3379	2154	2008	28
2009-10	1723	2936	1791	2670	40
2010-11	1376	2732	1750	3793	49
2011-12	1677	2906	2250	4032	86
Mean	**938.33**	**2191.33**	**1523.78**	**1991.00**	**-3.56**

(Source-Annual Report of selected companies)

Table No .1 showed calculation of EVA of Hero Honda Ltd. The Eva was Rs. 569 crores in 2003-04 which rose slipped to Rs. 564 crores in 2004-05. The Eva was again lower to Rs.641 Crores in 2005-06 and Rs. 485 crores in 2006-07. The Eva was Rs. 835 crores in 2008-09 which rose to high of Rs. 1723 crores and lowered to Rs. 1376 crores in 2010-11. The Eva was Rs. 1677

crores in the last years of study period. The Eva of Infosys was Rs. 689 crores in 2003-04.This went up to 1132 crores and Rs.1540 crores during 2004-05 and 2005-06. The Eva was Rs. 2122 crores in 2006-07 and Rs. 3379 crores during the years of 2007-08 and 2008-09.The Eva was Rs. 2936 crores in 2009-10 and Rs. 2732 crores in 2010-11. The Eva was Rs. 2906 crores in the year of 2011-12. The Calculation of Eva was Rs. 1429 crores in the year of 2003-04 and Rs.886 crores in the year of 2004-05. The EVA has gone up to Rs. 1014 crores and Rs. 1126 crores. This has been Rs. 2154 crores in the year of 2008-09. The EVA was Rs.1791 crores in the year of 2009-10. The Eva was Rs.2250 crores during the last year of study period. The EVA of BHEL was Rs. 366 crores during the year of 2003-04 and Rs. 504 crores during the year of 2004-05. The EVA was Rs. 1079 crores during the year of 2005-06 and Rs. 1810 crores during the year of 2007-08. The EVA was Rs. 4032 crores during the last year of study period. The average EVA was Rs. 1991 crores with progressive trend during the study period. The EVA of Dr.Reddy was Rs. 8 crores in 2003-04 which negative of Rs. (-240) crores in 2004-05 and (-123) 2005-06. The EVA was of Rs. 257 crores in the year of 2006-07. The EVA was Rs. 40 crores, Rs. 49 crores and Rs. 89 crores respectively in years of 2009-10, 2010-11 and 2011-12. The Trend of EVA was highly fluctuated during the study period. ANOVA test for testing hypothesis

H_o : There is no significant difference in EVA of selected companies of BSE-30

H_1 : There is a significant difference in EVA of selected companies of BSE-30 Level of significance: 5% Critical value: 2.61

Table 2 of ANOVA test

Source of Variation	SS	DF	MS	F-computed	F critical
Between Groups	28333103	4	7083276	11.59	2.61
Within Groups	24448130	40	611203		
Total	52781233	44			

Table 2 indicated the anova test to find out the whether there is any difference in EVA or not. The Calculated value of ANOVA has been 11.59 and critical value is 2.61. The calculated value was more than the critical value. Hence the null hypothesis was rejected and alternative hypothesis was accepted. Therefore it is concluded that the difference is significance.

Figure 1 EVA of Selected Companies

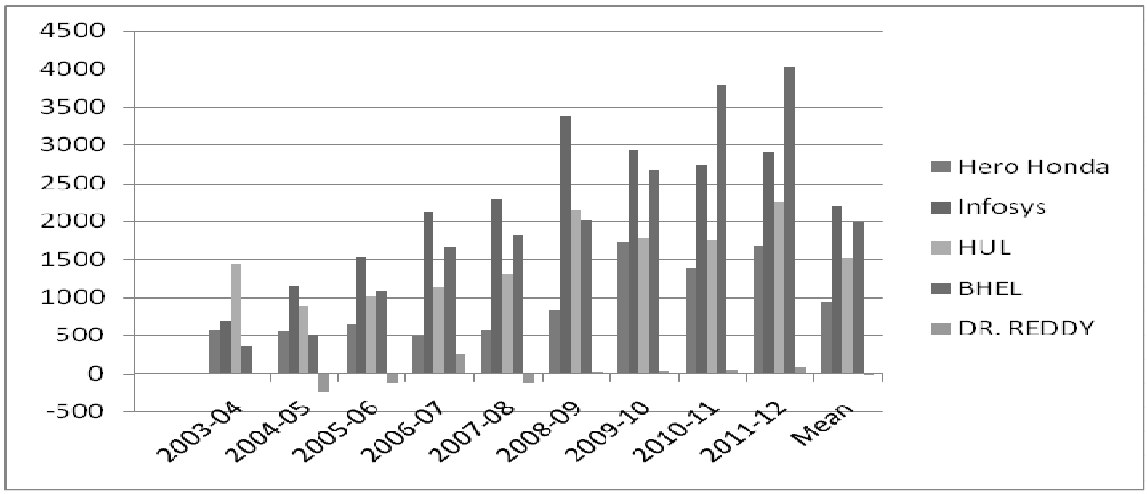

Table 3 Regression Analysis of EVA and AVERAGE CE of Selected Companies

COMPANIES	AVG CE	EVA
HERO	3286.92	938.33
INFOSYS	1410.38	2191.33
HUL	3022.93	1523.78
BHEL	15736.89	1991
DR,REDDY	5095.07	-3.56
Mean	5710.438	1328.176
S.D	6633.79	557.14

Table 4 Coefficient

		Un Standardized Coefficients		Standardized Coefficients	t	Sig.
Model		B	Std. Error	Beta		
1	(Constant)EVA	1148.33	669.78		1.71	0.18
	Average CE	0.03	0.09	0.20	0.36	0.74
	Dependent Variable: EVA					
R	0.204	R Square	0.0417	Adjusted R Square	-0.277	

The table 4 explained the regression model of EVA and average capital employed. The model was constructed to know the effect of Average capital employed on EVA. The average capital employed was effective to impact on EVA. Average capital employed has positive 0.003 percent impact on EVA. The value of adjusted R square is minus (-0.277) and R-square value is 0.0417 and result of 't" test is significant.

Findings

- The table No.1 exhibited the EVA with mean value of selected best five firms of BSE-30
- The average EVA of Infosys was very highest among all selected firms followed by HUL, BHEL, Hero Honda and Dr.Reddy.
- The mean EVA of Dr. Reddy was negative but in some years it was positive. Thus Dr.reddy failed to create the value for shareholders.
- The trend of EVA was progressive in Infosys and HUL which showed its financial strength and efficiency of management.
- The ANOVA test showed the significant difference between the EVA of selected units of BSE-30
- The result of regression was also showing the impact of Capital employed on EVA.

Suggestions to Enhance Performance through EVA

- Dr.Reddy has to increase revenues to enhance the PAT and EVA. This can be done though by introducing new product with lower price
- Dr. Reddy company needs to minimize its operating expenses by introducing new technology or automation
- Company should use the capital with minimum cost of capital.
- Company should grab the opportunities by globalizing its business
- The management should be very efficiency in utilizing skilled human resource.

Conclusion

From the above analysis it concluded that the EVA of all selected firms show true value creation of shareholders. It is also conclude that the EVA has been greatly influenced by the capital employed by firms and its cost of capital. The lower cost of capital has the positive impact on EVA. The result of ANOVA test shows significant difference in EVA of selected companies. The result of regression indicates that EVA was influenced by average capital employed by 0.003 percent. At last it can be concluded that the EVA can be enhanced by generating more revenue and lowering down the operating expenses.

References

1. Ali M Ghanbari and V S More, The Relationship between Economic Value Added and Market Value Added: An Empirical Analysis in Indian Automobile Industry, the ICFAI Journal of Accounting Research, Vol. VI, No. 3, 2007.
2. Biddle, G. C., Bowen, R. M. and Wallace, J. S. (1997), Does EVA Beat Earnings? Evidence on Associations with Stock Returns and Firm Values, Journal of Accounting and Economics, Vol. 24, No. 3, pp. 301-336
3. Chen, S. and Dodd, J. L. (2001). Operating Income, Residual Income and EVAä : Which Metric is More Value Relevant?, Journal of Managerial Issues, Spring 2001, p65
4. Debdas Rakshit (2006), "EVA Based Performance Measurement: A Case Study Of Dabur India Limited", Vidyasagar University Journal of Commerce
5. Grant, J. L. (1996), "Foundations of EVA for Investment Managers", The Journal of Portfolio Management, Vol. 23, No.1, pp. 41-48.
6. Himanshu Choudhary & Vandana Sharma, EVA discipline getting hotter at Harsco Corporation, Indian journal of finance – June 2010
7. Kramer, K. Jonathan and Pushner, George (1997), "An Empirical Analysis of Economic Value Added as a Proxy for Market Value Added", Financial Practice and Education, Spring / Summer 1997, pp. 41-49.
8. KPMG-BS, (1998), "Corporate India: An Economic Value Scoreboard", The Strategy, January-March 1998, pp. 22-25.
9. Lehn, K., & Makhija, A. K. (1996). EVA and MVA: As Performance Measures and Signals for Strategic Change. Strategy and Leadership, 34 - 38.
10. Milunovich, S. and Tsuei A. (1996). EVA in the Computer Industry, Journal of Applied Corporate Finance, 9 (No. 1, Spring), p104
11. Mohamadreza Abdoli (2012) "Economic value Added Vs Accounting Residual Income: Which One is a Better Criterion For Measuring of Shareholders Value"
12. N. R. V. Ramana Reddy and M. Rajesh, The relationship between EVA, MVA and Dividend paid – An Empirical Study, Indian journal of finance –November 2008
13. O'Byrne, S.F., 1996, EVA and Market Value, Journal of Applied Corporate Finance, 9, 1:116-125.
14. Turvey, C. G., L. Lake, E. Van Duren and D. Sparing (2000), The Relationship between Economic Value Added and the Stock Market Performance of Agribusiness Firms , Agribusiness, 16(4), pp. 399-416.
15. S.K. Khatik(2010), "Economic Value (EVA) in Indian Perspective, Journal of Accounting and Finance,"Vol-24,page-76.
16. Stern, J.M., Stewart, G.B., & Chew, D.H., 1995, the EVA Financial Management System, Journal of Applied Corporate Finance, 8, 2: 32-46.
17. Uyemura, D. G., C. C. Kantor and J. M. Pettit (1996), "EVA® for Banks: Value Creation, Risk Management, and Profitability Measurement", Journal of Applied Corporate Finance, Vol. 9, No. 2, pp. 94-113.

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