


Disclosure Of EVA Use In Corporate Financial Reports: A Descriptive Analysis

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ABSTRACT

This descriptive study examines a sample of 269 firms that mentioned EVA in their public disclosures. The key findings of our study are: (1) the use of EVA is found in a cross-section of the industries; (2) the most commonly used source of disclosure is the proxy statement; (3) a majority of the firms use only EVA rather than EVA in combination with other traditional measures; (4) a majority of the sample firms apply EVA at the corporate level alone; (5) three-fourths of the sample firms use EVA as an incentive compensation tool; (6) most firms apply EVA and other metrics only at the executive level for compensation and performance evaluation; and (7) two common modes of compensation using EVA determination are bonus plans and stock options. The results of our study indicate that firms are steadily adopting EVA as one component of their value management system. In a related decision context, investors estimate the cost of equity capital to arrive at the intrinsic value of the firm. Firms can help investors reduce this estimation error by reporting their own estimate of the cost of equity capital, in turn, reducing the valuation error. Our findings have implications for the Securities and Exchange Commission and the Financial Accounting Standards Board in that they should recognize the need to address this issue thereby enhancing the decision usefulness of public reporting.

INTRODUCTION

 Since the early 1990s the business press has presented an innovative and simple to understand and to apply value metric, Economic Value Added (trade-marked as “EVA”) that could tie managerial motivation and performance to building shareholders’ wealth. Tully (Fortune, 1993) claimed, “It is today’s hottest financial idea and getting hotter.” Fortune magazine, since then, has been publishing a 1000 performance ranking of the America’s “best” or “real” wealth creators using EVA as a wealth predictor (Fortune, December, 1993, December, 1996).¹ Its developers, the consulting firm of Stern Stewart & Co., has managed to repackage a traditional residual income (RI) concept into a measure that purports to minimize the generally accepted accounting principles (GAAP)-based distortions in economic earnings. They argue, “Earnings, earnings per share, and earnings growth are misleading measures of corporate performance” (Stewart, 1991, p. 66).² They define EVA as the difference between the firm’s net operating income after taxes (NOPAT) and the cost of *both* the debt and equity capital employed by the firm to generate NOPAT (Stern Stewart, 1993).

The interest in EVA or EVA-types performance measures is growing and is not limited to the firms in the United States. Quite a few firms across the Atlantic in United Kingdom and in Germany and an increasing number

¹ Copeland et al. (2000) use the term “Economic Profits” instead of Economic Value Added while assigning the same definition, i.e., a short-term financial indicator.

² “Forget EPS, ROE, and ROI. The true measure of your company’s performance is EVA.” (Stern Stewart & Co., magazine advertisements).

in New Zealand are using EVA as an internal performance evaluation and incentive compensation tool. Some financial institutions in the U.S. such as Goldman Sachs and CS First Boston have adopted the use of EVA to train their analysts in security valuation and portfolio management. Fortune, in its December 1996 issue, reports, “More and more mutual fund managers are turning to EVA as the preferred tool for measuring a company’s health.” In its November 10, 1997 issue, Fortune cites Goldman Sachs’ Crack Research chief, Steven Einhorn recent stock report, “he didn’t prattle on about the usual S&P 500 benchmarks – P/E ratios, dividend yields, and the like. Instead, he based his forecast on a single measure: economic value added, or EVA.”

There exists ample anecdotal evidence on the value relevance of EVA reported on firms that replaced, partially or fully, traditional accounting-based measures by EVA-based management systems. Fortune (December, 1996) cites a source from Stern Stewart & Co., “Briggs & Stratton implemented EVA in 1991; its stock has gone up 276 percent. Equifax implemented EVA in 1993; its stock has gone up 237 percent.” It cites another source from Goldman Sachs Small-Cap Equity fund, “It is gotten to the point where all a company has to do is slap ‘EVA’ on its annual report and the stock takes off.”

More and more firms have followed this phenomenon and have formally announced the adoption of EVA in their public disclosures. For example, Standard Motor Products Inc., Proxy statement, April 16, 1999 reads:

Effective January 1, 1998 the company modified its MBO Bonus Program into an Economic Value Added (EVA) based program. This change was made to more closely align executive compensation to continuous improvements in corporate performance and increases in shareholder value.

R R Donnelley & Sons Co., in its 10-Q report, May 7th 1997 states:

Over the past three years, the company has adopted the principles of Economic Value Added (EVA) as its primary financial framework. The objective of this system is to put in place a system of value-based metrics that measures periodic progress toward shareholder value. The EVA framework guided many of the company’s actions in the past 18 months. The company moved to improve its manufacturing efficiencies in 1996 by initiating the restructuring of its U.S. gravure printing platform; the closure of its magazine and catalog print operations in the United Kingdom; and integration of its Digital Division assets into other operations. These actions generate substantial cost savings in the long run.

There is some limited but conflicting empirical evidence on 1) the positive association between EVA and stock returns and, 2) EVA’s superiority over other traditional value metrics.³ The purpose of our descriptive study is to gain insight into the role that the EVA and other value metrics play in the inner workings of 269 U.S. firms that have mentioned EVA as a performance evaluation and compensation tool in their public disclosures for the 1994-1999 period.⁴ Instead of using a survey design (which has its own interpretation problems) or using the internally generated database of Stern Stewart & Co. (which could be perceived as biased), we have relied on the firms’ own disclosures. It is important because the anecdotal evidence, the testimonials and other popular business press write-ups on the EVA have increased in recent years. This, in turn, has led to a significant confusion about the use of the EVA in a firm’s value-based management system.

The key findings of our study are: 1) the use of EVA is found in a cross-section of the industries, 2) the most commonly used source of disclosure is the proxy statement and a majority of the firms use EVA-Only rather than EVA in combination with other traditional measures, 3) a majority of the sample firms apply EVA at the corporate-only level, 4) three-fourth of the sample firms use EVA as an incentive compensation tool and the remaining as a performance evaluation measure, 5) most firms apply EVA and other metrics at the executive-only level for compensation and performance evaluation, and 6) two common modes of compensation using EVA are bonus plans and stock options rather than promotion and merit pay.

³ See O’Byrne (1996), Lehn & Makhija (1996), Biddle et. al (1997), Kramer & Pushner (1997), Bao & Bao (1998) Chen & Dodd (1997), Cordeiro and Kent, Jr. (2001)

⁴ Most of the prior descriptive and empirical research examines periods that end in 1993.

Our findings are of interest to a broad segment of the audience. For example, knowing how firms incorporate in their performance and reward structures EVA and other traditional metrics is of value to shareholders, potential investors, financial analysts, and students of accounting. Because quite a few numbers of firms from various industries use EVA, it is important that the Securities and Exchange Commission and the Financial Accounting Standards Board should, in the interest of improving public disclosures, consider requiring firms to disclose all costs of doing business including the equity cost of capital.

The rest of the paper is organized as follows: In the next section, we present the conceptual framework of EVA followed by the review of prior literature. We, next, develop research questions and describe sample selection and research design of the study. Following that, we report the results and finally, provide summary and conclusion of the study.

CONCEPTUAL FRAMEWORK OF EVA

Simply put, EVA is based on the centuries old financial concept that the true or economic profit of a firm must be based on the difference between all revenues or gains and all expenses or losses that should include all the cost of borrowing from banks and other lenders and all the cost (opportunity cost) of “borrowing” from the owners (equity capital). Currently, firms do not and are not required by accounting rule-makers to deduct the estimated cost of equity from their profits. Why is this issue so important? According to Drucker (1995) “until a business returns a profit that is greater than its cost of capital, it does not create wealth; it destroys it.” Since, a firm does not deduct the estimated cost of equity “borrowing” on its income statement or disclose it in any section of the annual report, the investors and other users have no idea whether, once this estimated cost is deducted, the firm is creating wealth or destroying it. More importantly, the firms in the past have not been explicitly recognizing and accounting for this cost in a significant number of their internal decision making functions such as strategic planning, motivating, performance evaluation, financing, investing and operating. Rather, a case can be made that managers tend to perceive equity capital as free. The Jenkins Committee (American Institute of Certified Financial Accountants (AICPA) Special Committee on Financial Reporting, 1994) recommended EVA-type measures that could enhance a firm’s internal decision-making and external disclosures. A 1995 AICPA workshop debated the future of financial management and predicted that within the next few years EVA will replace earnings per share (EPS) in the regular stock and earnings report section of *The Wall Street Journal* (Zarowin, 1995).

The modern theory of corporate finance postulates that managers’ job is to maximize shareholder value, in turn maximizing in the value of the firm. The value of a firm is a function of its ability to generate future free cash flows. Based on a widely accepted discounted cash flow model (DCF), the discounted value of the expected free cash flows equals the value of the firm. Similarly, based on the EVA model, the value of the firm can also be calculated as the amount of capital invested, plus a premium equal to the present value of the value created each year (Copeland et al. 2000). The two models and their formulations are presented below:

DCF Model vs. EVA Model:

FCF	= NOPAT – Change in capital
EVA	= NOPAT – (WACC x Capital)
Enterprise value (DCF)	= PV of future FCF
Or,	= Beginning book capital + PV of future EVA

EVA Model, in general, is described as follows:

EVA	= NOPAT + AcctAdj – Capital charge (based on AcctAdj. Of capital)
	= NOPAT – (Invested capital x WACC)

EVA can also be defined as:

$$\begin{aligned} \text{EVA} &= \text{Invested capital} \times \text{Spread} \\ &= \text{Invested capital} \times (\text{ROIC} - \text{WACC}) \end{aligned}$$

Where

NOPAT	= Net operating profits after taxes
AcctAdj	= Accounting adjustments
WACC	= Weighted average cost of capital (debt cost + equity cost)
ROIC	= Return on invested capital
Invested capital	= adjusted book value of net capital at the beginning of the period.

Both models arrive at exactly the same firm value. The benefit of using EVA model over DCF model is that EVA model provides a measure of the value added (in dollars) in a single year (Copeland et al. 2000). A firm adds on value if EVA calculation provides a positive dollar value (without a corresponding decline in future EVA's). On the other hand, the company destroys value if the EVA calculation results in a negative dollar value.

Stern Stewart & Co. recommends making 164 accounting adjustments to GAAP-based accounting. Consultants argue for no more than ten to twelve adjustments, in fact, some recommend no more than six as more than adequate (Young, 1999). The most commonly proposed GAAP-based accounting adjustments reported in Young (1999) are:

1. Non-recurring gains and losses.
2. Research and development.
3. Deferred taxes.
4. Provisions for warranties and debts.
5. LIFO reserves.
6. Goodwill.
7. Depreciation.
8. Operating leases

Companies can improve future EVA by taking some of the following actions:

1. Decrease capital to lower the overall capital employed; this will increase ROIC only if NOPAT does not decrease more than the decrease in capital.
2. Increase investment only if the return on new investment is greater than the WACC.
3. Increase NOPAT without increasing capital investments.
4. Reduce WACC cost of capital.

LITERATURE REVIEW

Earlier research, Anthony (1982, 1973), strongly advocated that in reporting to outsiders the earnings for a period, a firm should also deduct the cost of equity interest, so as it does, the cost of debt from operations. This view is not new. The nineteenth century classical economist Alfred Marshall (1890) discussed the concept of an economic or real profit that is calculated after deducting all interest cost on invested capital from net profits. In the 1920s, Alfred Sloan introduced a residual income measure in General Motors and in the 1930s Matsushita also used it (Young, 1999). David Solomon in a 1965 monograph also proposed the use of residual income as an internal measure to structure performance evaluation contracts (Biddle et al, 1999)⁵.

⁵ A related stream of research linked residual income to the value of a firm [Edwards and Bell 1961; Ohlson, 1995]. In academic circles this approach is widely known as Edwards-Bell-Ohlson (EBO) valuation model.

Eva-Based Compensation Plans And Managerial Motivation

Biddle, et. al (1999) intent was to determine if residual income (EVA)-based compensation plans motivate managers to alter their operating, investing, and financing decisions. Their results show that asset turnover experienced a significant increase of 14 percent, asset disposition increased 100 percent, new investment decreased 21, and share repurchase increased 112 percent, for RI-based compensation plan adopter firms as compared to the control group in the post adoption period. Sheikholeslami (2001) has based his study on the Wall Street Journal' Executive Pay Survey (April 10, 1997) data for 350 largest U.S. businesses and on Stern Stewart 1000 database. Sheikholeslami finds EVA and MVA to be positively and significantly related to the compensation components (base salary, cash bonus, and long-term compensation).⁶

RESEARCH QUESTIONS

Managers who expect to benefit from EVA are likely to signal this information so that investors may distinguish their firms from others and revise upward their expectations regarding future cash flows and downward their assessment of risk. Signaling hypothesis suggests that in the presence of asymmetric information between the managers and investors, it is beneficial for managers to voluntarily disclose information that reduces this asymmetry (Ross, 1977; Leland and Pyle, 1977). This reduced information asymmetry leads to decreased investors' uncertainty (risk) regarding future cash flows. Managers are more informed about the firms' expected future cash flows than the outsiders because of their expert involvement in the operating, investing, and financing decisions of the firms. Being economic agents, managers will voluntarily disclose the "good or bad news" only if the benefits of these disclosures far exceed the associated costs. For example, some firms disclosed that adoption of EVA resulted in a subsequent increase in financial and operating efficiencies. In other words, not all firms, which have adopted EVA, are likely to disclose such information immediately in their official releases. Our research attempts to explore EVA in terms of its intended purpose as stipulated by firms in the corporate public disclosures.

Our research is intended to examine EVA in light of the following broad questions:

1. What is the industry composition of firms that formally adopted EVA?
2. What medium of communication the firms have used to convey their EVA adoption decision to the shareholders? Are firms adopting EVA solely or are they combining it with other traditional performance and compensation measures?
3. What is the scope of application of the EVA? Is this metric adopted only at the corporate level or its implementation encompasses lower levels of the firm?
4. In which areas of the corporate decision-making (such as incentive compensation, annual budgeting, long-term planning), that these measures are applied to?
5. For which position on the organizational chart EVA is used, for example, for the executives only or for lower level officers and/or employees of the organization at large?
6. What is relationship between the methods of compensation (e.g., stock options, bonuses, and promotion) and measures of managerial performance (i.e., EVA and other traditional measures)?

SAMPLE SELECTION AND RESEARCH DESIGN

The initial sample was collected from the National Automated Accounting Research Service (NAARS) data tape obtained from the American Institute of Certified Public Accountants (AICPA) and Mead Data Control using the key words "EVA" or "Economic Value Added". We extracted the text from the annual reports, 10-K's, 10-

⁶Another stream of research focuses on industry specific application of EVA. For example, Cleverley (2000) shows that the group of hospitals with the highest EVA/capital values is getting financially better over the years, while the low EVA group is getting worse. Sullivan and Needy (2000) use EVA to estimate the wealth creation potential of capital investments in new manufacturing capacity. Hubbell, Jr. (1996a,b), Roztocki & Needy (1999) advocate firms to integrate their activity-based management system with EVA, in turn, creating shareholder value, and Epstein & Young (1999) argue that improved capital investment decisions based on EVA warrants explicit identification and measurement of environmental costs.

Q's or Proxy Statements in which either of the above key words were mentioned. There were a total of 310 firms, which specifically mentioned EVA (or Economic Value Added) in their 1994-1999 Annual Reports, 10-Ks, 10-Qs, and Proxy statements, either in a single year or in more than one year. The following process was used to arrive at the final sample: 1) Only the earliest date was retained for those firms that mentioned EVA (or Economic Value Added) in more than one year in order to avoid multiple counting error. 2) The firms were dropped if The Standard Industrial Classification (SIC) codes and the ticker symbol were not available on the COMPUSTAT database for the sample period. Information would not be available if, for example, the firms are acquired or have gone bankrupt during the sample period. Our final sample consists of 269 firms. We use these sample firms to identify their industry affiliation, and their application of EVA and other value metrics (e.g., earnings per share, net income, return on investment, return on equity) at various levels of the organization for performance evaluation and compensation purposes. We use these tabulations and classifications as the basis to test the research questions developed in the prior section.

RESULTS

Industry Characteristics Of EVA Disclosure Firms

Table 1 provides the year of the disclosure and the industry distribution of 269 EVA firms based on two-digit Standard Industrial Classification (SIC) code during the years 1994-1999. The adoption (or disclosure) year is the first time that a company mentions EVA in its public reporting medium during the test period. It does not necessarily mean that the firm has also adopted EVA in that particular year. We are certain of the year of the adoption for only those firms that mention EVA in their proxy statements.

TABLE 1
Year of Adoption and Industry Characteristics of EVA Disclosure Firms

<u>2 Digits</u>		<u>Year of Adoption</u>								
<u>SIC</u>	<u>Industry</u>	<u>1999</u>	<u>%</u>	<u>1998</u>	<u>%</u>	<u>1997</u>	<u>%</u>	<u>1996-94</u>	<u>%</u>	<u>Total</u>
10-17	Metals, Mining, Construction	3	27.3%	1	9.1%	6	55%	1	9.1%	11
20-29	Food, Tobacco, Printing, Chem.	8	17.8%	5	11.1%	30	67%	2	4.4%	45
30-34	Steel, Tire Metals	7	26.9%	3	11.5%	12	46%	4	15.4%	26
35	Industrial Equipment	5	23.8%	3	14.3%	13	62%	0	0.0%	21
36-39	Auto, Diversified	8	21.1%	9	23.7%	20	53%	1	2.6%	38
40-49	Transportation, Utilities, Energy	9	25.7%	3	8.6%	19	54%	4	11.4%	35
50-59	Retail	6	20.0%	7	23.3%	16	53%	1	3.3%	30
60-69	Finance, Insurance, Realty	8	23.5%	6	17.6%	18	53%	2	5.9%	34
70-78	Services	11	55.0%	2	10.0%	6	30%	1	5.0%	20
80-87	Health Services	3	33.3%	2	22.2%	4	44%	0	0.0%	9
	Total	68	25.3%	41	15.2%	144	53.5%	16	5.9%	269

As shown in Table 1, firms that have mentioned EVA are not concentrated in one particular industry group. Based on two-digit SIC classification, the largest number of firms (45, 16.7 percent) belong to SIC 20-29 (Food, Tobacco, Printing, Chemicals). The next largest number belongs to SIC 36-39 (Auto, Diversified) followed by SIC 40-49 (Transportation, Utilities, Energy) and SIC 60-69 (Finance, Insurance, Realty), respectively. Within the manufacturing sector, we find that a higher proportion of firms belong to either pharmaceuticals or heavy industrial equipment group. In contrast, only 9 health services (SIC 80-87) firms (a little over 3 percent) have mentioned EVA, all in the last three years (1997-1999) of the sample period. Due to serious concerns, about rising health care costs, recently voiced by the Congress, we expected more health services firms to adopt some form of EVA-based performance and compensation measures. Table 1 also indicates that there is a recent increase in interest in EVA by the services sector. For example, 55 percent of the 20 service firms mention EVA in 1999. This is contrary to the general belief that only firms that have a higher percentage of tangible assets adopt EVA.

Medium Of Disclosures And Scope Of Application Of EVA And Other Metrics

Table 2, Panel A shows the firms’ choice of the medium to communicate their adoption decision to the market participants. All publicly traded firms are required to file on an annual basis with the Securities and Exchange Commission (SEC), a Form 10-K, duly audited and due within 90 days after the fiscal year end. Firms are also required to file an un-audited quarterly report (using Form 10-Q), within 45 days after the end of each quarter. In addition, a firm sends a proxy statement only to the shareholders informing them about firm events and issues, such as management compensation, and management stock options, that the firm wants to be voted upon at the annual shareholders meeting. We highlight five important categories since many firms have used multiple sources to report their EVA adoption decision.⁷

TABLE 2

Panel A: Medium of Disclosures, EVA, and Other Traditional Metrics

Mode Of Disclosure*

	<u>Proxy</u>	<u>10-K</u>	<u>10-Q</u>	<u>Pr.&10-K</u>	<u>Pr.&10-Q</u>	<u>Other</u>	<u>Totals</u>
EVA-Only	107	39	13	30	21	4	214
Column Percentage	(83.6%)	(72.2%)	(86.7%)	(68.2%)	(87.5%)	(100%)	(79.6%)
Multiple**	21	15	2	14	3	-	55
Column Percentage	(16.4%)	(27.8%)	(13.3%)	(31.8%)	(12.5%)	(0%)	(20.4%)
All Groups	128	54	15	44	24	4	269
Row Percentage	(47.6%)	(20.1%)	(5.6%)	(16.4%)	(8.9%)	(1.5%)	(100%)

Panel B: Application of EVA and Other Metrics and Levels of the Organization

Scope of Use

	<u>Corporate</u>	<u>Corp/Div/Dept</u>	<u>Corp/Div</u>	<u>Corp/Dept</u>	<u>No ID</u>	<u>Misc</u>	<u>Totals</u>
EVA-Only	128	30	9	15	16	6	214
Column Percentage	(73.6%)	(93.8%)	(81.8%)	(100%)	(88.9%)	(79.6%)	(79.6%)
Multiple**	46	2	2	0	2	3	55
Column Percentage	(26.4%)	(6.2%)	(18.2%)	(0%)	(11.1%)	(20.4%)	(20.4%)
All Groups	174	32	11	15	18	19	269
Row Percentage	(64.7%)	(11.4%)	(4.1%)	(5.8%)	(7.1%)	(6.7%)	(100%)

*Caterpillar, Inc. used both 10-K and 10-Q, whereas, Lear, Ultrak, and Wolohan employed 10-K, 10-Q, and Proxy statements to announce their EVA adoption decision. Due to a very small sample size, we did not create these two additional categories. **"Multiple" means the use of EVA in combination with other traditional measures, such as, return on equity, earnings per share, annual revenue growth, customer value added, or some form of employee satisfaction index, in developing the value based management system.

As shown in Table 2, Panel A one hundred and twenty eight firms (47.6 percent) discussed their EVA adoption decision in the proxy-statement-only, fifty four (20.1 percent) firms selected 10-K-filings-only, and 15 (5.6 percent) firms used 10-Q-reports-only. The most commonly used source of disclosure is the proxy statement (196 firms: 128+44+24; 72.8 percent) and the next is the 10-K statement (98 firms: 54+44; 36.4 percent). More than three-fourth of the firms have reported the adoption of EVA in their proxy statement indicating that EVA is likely being used for management evaluation and compensation purposes. In nine percent of the cases firms have used quarterly and proxy statements to report EVA adoption decision. Since proxy statements are sent only to existing

⁷ Our intention is not to identify whether the EVA adoption announcement appeared in the President’s letter (Annual Report) or in the Management Discussion and Analysis (Annual Report & 10-K).

shareholders, it appears that firms are also using Form 10-Q to signal potentially value-relevant information about the EVA adoption to prospective investors.

Table 2, Panel A also shows the association between EVA, “Multiple” metrics and the media of public disclosures. Our examination of the disclosures revealed that firms also employ multiple measures. The term “Multiple” (hereon Multiple) means the use of EVA in combination with other traditional measures. For example, American Freightways, Inc. in its 1994 proxy statement provides the following breakdown of factors and (weights): Annual revenue growth (25 percent), Operating Revenue/Operating expenses (15 percent), Net margin (25 percent), EPS (15 percent), EVA (15 percent), and ROE (5 percent) in developing the value based management performance and compensation system. A total of 214 firms (79.6 percent) use EVA-Only while 55 firms (20.4 percent) employ Multiple value metrics. That is, a higher proportion of firms are using EVA-Only and are doing so in their proxy statements.

Table 2, Panel B reports the extent of application of EVA across different levels of the organization. As shown in Table 2, Panel B 174 (64.7 percent) apply EVA at the corporate-level-only, whereas, 32 (11.4 percent) firms apply EVA across all levels of the organization. Only 4.1 percent and 5.8 percent of the firms apply EVA at the divisional and at the departmental level, respectively.

Table 2, Panel B also breakdowns the use of EVA into EVA-Only and Multiple and relate it to the levels of the organization at which these value-based measures are applied. Of the 174 firms that use value metrics at the corporate level, 128 (73.6 percent) are EVA-Only and 46 (26.4 percent) are Multiple measures. Interestingly, of the 32 firms that adopt these measures at all the three levels (Corporate, Division, & Department), 30 firms (93.8 percent) use EVA-Only.

In summary, the results suggest that companies are using EVA for performance evaluation and management compensation purposes since a higher proportion of companies are disclosing the use of EVA in their proxy statement - a medium to communicate to the shareholders only. In addition, the results show that firms are more likely to use EVA-Only, rather than Multiple measures, and that this application appears at the corporate level.

Areas Of EVA Application

The next two tables present evidence of the use of EVA in different facets of the corporate entity. For example, Lyondell Petrochemical Co. in its Form 10-K states that the company has a value share plan for the top executives. The performance indicators it employs are EVA and market-value-added (MVA). Two award pools are: a value award pool (a + b) where a = 4% of average EVA; b = 1.25% of average MVA. Another example is of Premark International Inc. that states in its proxy statement that EVA is used for long-term compensation plan and net income and working capital is used for short-term purposes.

As shown in Table 3, Panel A, two common uses of EVA are performance measurement (64 firms; 23.8 percent) and incentive compensation (205 firms, 76.2 percent). In other words, one fourth of the firms used EVA as a performance evaluation tool. Table 3, Panel A also shows that that firms are more likely to use EVA-Only rather than Multiple measures in structuring their performance measurement and incentive compensation plans. In the interest of simplifying the analysis, we did not separately identify fourteen firms that mentioned EVA application and referred to the terms like long term planning (8 firms), annual budgeting (3 firms) and/or investment decisions (3 firms). These terms generally appeared along with performance measurement and/or incentive compensation discussion.

Table 3, Panel B shows the application of EVA at different levels of the corporate governance. We could only identify 93 firms (64+ 29; 34.6 percent of the total sample) that mentioned the use of EVA at the executive level or at the officers and/or employees level in the incentive and /or compensations plans. Of the 93 firms, 64 firms (23.8 percent) applied EVA and Multiple metrics at the executive-only level. Only 29 firms (10.8 percent) use EVA and other traditional measures at the executive level, officer’s level and/ or at the employees level combined. Firms applied EVA at the officers’ level (12) and employees level (19; the combination of all three levels may not

total 93). The above results suggests that EVA, in roughly three fourth of the cases (64 firms out of 93 firms), is being employed to asses performance of top management and to reward them. That is, a majority of the firms use EVA and traditional measures to compensate their executives more so than their officers or lower level employees.

TABLE 3

Panel A: Use of EVA in Performance Measurement and Incentive Compensation Measurement

<u>MEASURES*</u>	<u>Performance Measurement</u>	<u>Incentive Compensation</u>	<u>Row Totals</u>
EVA-Only	53	161	214
Column Percentage	(82.8%)	(78.6%)	(79.6%)
Multiple**	11	44	55
Column Percentage	(17.2%)	(21.4%)	(20.4%)
All Groups	64	205	269
Row Percentage	(23.8%)	(76.2%)	(100%)

Panel B: Use of EVA and Level of Application

ELIGIBILITY

	<u>Executives Only</u>	<u>Other**</u>	<u>No ID</u>	<u>Totals</u>
EVA	36	19	159	214
Column Percentage	(56.2%)	(65.5%)	(90.3%)	(79.6%)
Multiple***	28	10	17	55
Column Percentage	(43.8%)	(34.5%)	(9.7%)	(20.4%)
All Groups	64	29	176	269
Row Percentage	(23.8%)	(10.8%)	(65.4%)	(100%)

*In the interest of simplifying the analysis, we did not separately identify the fourteen firms that while mentioning the EVA application referred to terms like long term planning (8 firms), annual budgeting (3 firms) and/or investment decisions (3 firms). These terms generally appeared along with performance measurement and/or incentive compensation discussion. **Firms applied EVA at the officers’ level (12) and employees level (19). The combination of all three levels may not total 93. ***”Multiple” means the use of EVA in combination with other traditional measures, such as, return on equity, earnings per share, annual revenue growth, customer value added, or some form of employee satisfaction index, in developing the value based management system.

Methods Of Compensation And EVA Application

Table 4, Panel A, reports the modes of compensation employed in incentive compensation and performance evaluation plans by the sample firms. Two common modes of compensation are bonus plans (60.6 percent) and stock options (37.4 percent). Only 5 firms (1.9 percent) reported promotion and merit as their mode of compensation.⁸

Table 4, Panel B shows the relationship between EVA-Only and Multiple measures and a firm’s bonus structure. As shown in Panel B, a majority of the companies (74.7 percent) use EVA-Only rather than Multiple measures in designing their bonus plans. Similarly, as shown in Table 4, Panel C a higher proportion of firms (85.3 percent) use EVA-Only rather than Multiple measures in structuring their option plans. In summary, a higher proportion of firms use EVA to design their bonus and option plans. More firms use EVA-Only rather than other traditional measures in designing these compensation plans.

⁸ In order to streamline classification, we did not show in Table 4 further levels of bonus and options plans tied to performance and incentive plans. These levels are: bonus+incentive+performance 8; bonus+incentive 145; bonus+performance 0; option+ incentive+performance 1; options+incentive 88; options+performance 3.

TABLE 4

Panel A: Methods of Compensation in Incentive and Performance Plans and EVA Application

<u>Method</u> *	<u>Firm</u>
Bonus	(60.6%)
Stock Option	(37.4%)
Promotion	(00.3%)
Merit	(01.6%)
Not Identified	(00.1%)
Total	(100.0%)

Panel B: Use of EVA in Bonus Plans (related to Incentive and Performance Plans)

<u>Metric</u>	<u>No Bonus</u>	<u>Bonus</u>	<u>Totals</u>
EVA-Only	99	115	214
Column Percentage	(86.1%)	(74.7%)	(79.6%)
Multiple**	16	39	55
Column Percentage	(13.9%)	(25.3%)	(20.4%)
All Groups	115	154	269
Row Percentage	(39.4%)	(60.6%)	(100%)

Panel C: Use of EVA and Option Plans (related to Incentive and Performance Plans)

<u>Metric</u>	<u>OPTION PLANS</u>		<u>Totals</u>
	<u>No Options</u>	<u>Options</u>	
EVA-Only	133	81	214
Column Percentage	(76.4%)	(85.3%)	(79.6%)
Multiple	41	14	55
Column Percentage	(23.6%)	(14.7%)	(21.4%)
All Groups	174	95	269
Row Percentage	(64.7%)	(35.3%)	(100%)

*In order to streamline classification, we did not show above further levels of bonus and options plans tied to performance and incentive plans. These levels are: bonus+incentive+performance 8; bonus+incentive 145; bonus+performance 0; option+incentive+performance 1; options+incentive 88; options+performance 3. ***"Multiple" means the use of EVA in combination with other traditional measures, such as, return on equity, earnings per share, annual revenue growth, customer value added, or some form of employee satisfaction index, in developing the value based management system.

SUMMARY AND CONCLUSION

We conducted this descriptive study to gain an insight into the role the EVA and other value metrics play in the inner workings of the U.S. firms that have mentioned EVA as a performance evaluation and compensation tool in their public disclosures.

There were a total of 269 firms, which specifically mentioned EVA (or Economic Value Added) in their 1994 through 1999 public disclosures (the annual reports, 10-K's, 10-Q's or Proxy Statements) either in a single year or in more than one year. The key findings of our study are: 1) EVA-adopters are not concentrated in one particular industry group. There is a recent surge of interest in EVA by the services sector. It is contrary to the general notion that firms that have a higher percentage of tangible assets adopt EVA, 2) More firms use EVA for performance evaluation and management compensation purposes since a higher proportion of firms disclose the use of EVA in their proxy statement - a medium to communicate to the shareholders only. A majority of the firms use EVA-Only, rather than Multiple measures, and this practice is more prevalent at the corporate level, 3) A majority of the firms use EVA and traditional measures to compensate their executives more so than their officers or lower level

employees. 4) A higher proportion of firms use EVA to design their bonus and option plans. In addition more firms use EVA-Only rather than other traditional measures in designing these compensation plans.

This study presents direct evidence and provides insight on the nature and role of EVA as reported by U.S. firms in their public disclosures. This understanding is important because the market participants use this information to assess a company's future potential. The results of our study indicate that more and more firms are adopting EVA as an integral part of their value management system. This supports the argument presented to regulators and other constituents by Anthony (1982, 1973) and others, that the financial community would be better served if the financial reports it relies upon to assess a company's performance recognize equity capital costs. Our findings have implications for the Securities and Exchange Commission and the Financial Accounting Standards Board in that they should recognize the need to quickly address this issue thereby enhancing the decision usefulness of public reporting.

Limitations and Further Research

Our study has some limitations that we should acknowledge. First, the use of NAARS database resulted in 310 hits. It is likely that some firms were inadvertently excluded when we used the search term EVA or Economic Value added. For instance, some firms might be using the term Controllable Earnings or Economic Profits to mean the same thing. We do not feel that the inclusion of a few more firms could affect the results of our study. Second, we did not include the time period before the year 1994 and after the year 1999. We are confident that a six-year span (especially, the period that combines both slow growth and an economic boom) is sufficient to address the research questions posed in the study. Nevertheless, it would be beneficial to conduct further research that uses the most recent period of economic recession.

The above limitations can be used to identify avenues for further research. Recent research shows a positive relationship between EVA and a firm's stock price. A number of sample firms stated that the recent evidence in the financial press of a positive correlation between changes in EVA and market value of common stock was what motivated them to formally adopt EVA. Since, quite a few firms have also combined the application of EVA with other measures of performance; future research can identify the differential value of these metrics by correlating them to the stock returns. Another interesting future research avenue would be the extension of the EVA focus to multiple measures as advocated by the Balance Score Card proponents. As such one would explore companies' external financial reporting mechanisms to identify future trends in financial and non-financial management in the context of the Balance Score Card.

Data Availability: Please contact the authors. EVA is a trademark of Stern Stewart Management Services.

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