DOES EVA REALLY HELP LONG TERM STOCK PERFORMANCE?

Wesley M. Jones, Jr. The Citadel wes.jones@citadel.edu
George Lowry, Randolph Macon College glowry@rmc.edu

ABSTRACT

Economic Value Added (EVA) as a philosophy is not new. Many economics students have studied it as "economic profit" or the excess return to capital over a fair, required return for taking risk. Its use as a managerial performance measure, however, is relatively new. Industrial companies began adopting the method in the early 1980's. The purpose of the proposed study is to examine the long-term effects of adopting EVA as a performance metric by empirically examining the "long term" stock performance of adopter's of the practice relative to their performance prior to adopting the system. The results suggest that firms adopting EVA as a performance measure realize positive cumulative excess returns over the three-year period subsequent to adoption.

INTRODUCTION

Shareholders monitor managerial behavior so that managers act in a manner consistent with maximizing shareholder wealth. To that end, companies put into place systems of managerial performance incentives that help to better align the interests of managers with the interests of shareholders. These have generally taken the form of incentive compensations tied to an accounting measure for which a minimum acceptable standard is established. An incentive system of this type may be manipulated by managers acting on the goal of maximizing their incentive compensation to the exclusion of shareholder's value. The search for an effective, performance metric against which to judge management performance is one that should be of interest for shareholders and managers alike. To that end, Stern, Stewart and Company

developed a managerial performance incentive system that it markets as Economic Value Added or EVA[1] for short.

BRIEF DISCUSSION OF EVA LITERATURE

Economic Value Added is defined as the value generated by a company's operations net of the cost of the capital employed in generating that value. The mathematical definition of Economic Value Added according to Stewart (1994) is

$$EVA = NOPAT - k_a C \qquad (1)$$

NOPAT is the firm's net operating profit after taxes calculated as EBIT(1-T), k_a is the firm's overall cost of capital, and C is the dollar value of the capital employed by the company.

Since its introduction in the early 1980's as a performance metric, EVA has been praised, dissected, and challenged. [See Grant (1996), Dierks and Patel (1997), Lehn and Makhija (1996), and Ferguson and Leistikow (1998) for examples of articles supporting EVA as a performance measure and Dodd and Johns (1999), Kramer and Pushner (1997), Chen and Dodd (1998) and Jones and Lowry (2005, 2006, 2006(1)) for examples of articles challenging EVA's usefulness as a performance metric]

The purpose of this study is to examine the long-term performance of a company's stock subsequent to adopting EVA as a performance metric. If the assertion about EVA being a superior performance measure and contributing more to the creation of value for shareholders is true, then one would expect that the long term trend in adopter's stock returns would be positive.

DATA AND METHODOLOGY

The Stern Stewart website lists approximately 80 "EVA companies," but, as noted in Dodd and Johns (1999), "the population of U. S. EVA adopters is unknown and not publicly

---

[1]EVA is a registered trademark of the Stern Stewart Company, a New York based consulting firm.

disclosed." To obtain a listing of EVA adopters and their adoption dates, Stern Stewart was contacted and they provided a listing of 27 EVA adopters along with their EVA start dates. The Compustat database was accessed to obtain for each company data on month end stock price and the value of the S&P 500 for the period beginning 37 months prior to the firm's EVA start date and ending 37 months after the start date. Prices were used to calculate monthly returns, and a portfolio of the EVA companies was constructed. Using a methodology similar to Brown and Warner (1980), the cumulative average abnormal return of the EVA portfolio was estimated.

The model for estimating expected returns subsequent to adoption was found by regressing the returns of the companies on the returns of the market for the 26 month period beginning at t=-36 and continuing to t = -11 prior to the adoption month of the EVA standard. The estimated equation was then used to predict the expected return for the 46 months period beginning at t = -10 and continuing to t = +36 subsequent to adoption of the standard. The difference between the actual and predicted return was then calculated as the abnormal return (AR) for each period according to equation 2 below.

$$AR_{it} = R_{it} - E(R_{it}) \qquad (2)$$

The abnormal returns were then averaged across all securities for each month to formulate the monthly average abnormal return (AAR) as noted in equation 3 below..

$$AAR_t = \frac{\sum_{i=1}^{N} AR_{it}}{N} \qquad (3)$$

The average abnormal returns were then accumulated over the event period from t = -10 to t = +36 to formulate a series of cumulative average abnormal returns (CAAR) as noted in equation 4 below.

$$CAAR_t = CAAR_{t-1} + AAR_t \qquad (4)$$

This series of cumulative abnormal returns is then tested for significance during the event period; the results of the significance test graphically presented in Figure 1.

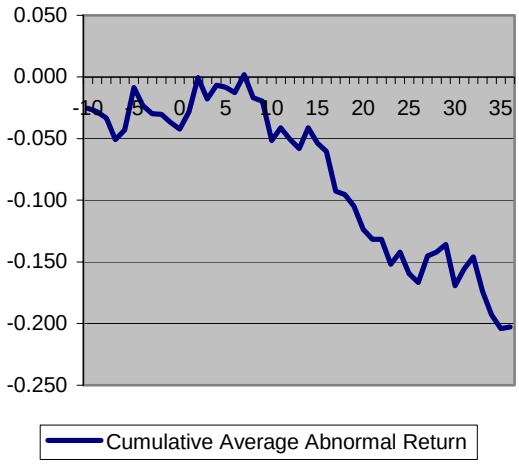

Figure 1

The graph illustrates that the firm's adopting EVA as a performance metric appear to experience a long-term negative impact subsequent to adoption. The negative cumulative abnormal returns become significant after approximately 21 months subsequent to adoption of EVA as a performance metric.

CONCLUSIONS AND IMPLICATIONS

Economic Value Added has been presented as one of the most important performance measures that a company can implement. While the measure does have some intuitive appeal in that is seems to suggest that managers should act more entrepreneurial, the evidence of its effectiveness in actually positively impacting share prices remains mixed. This study has indicated that firms adopting EVA actually experience negative cumulative abnormal returns over time subsequent to adoption. Perhaps, as suggested by Chen and Dodd (1998), the market prefers a performance measure that is independently "audited" to a performance measure that is

both somewhat difficult to understand and unaudited. If firms choose to adopt the EVA metric, they should be aware that it may not be as beneficial as perhaps it appears on first glance, and perhaps they would be well counseled to use it in conjunction with some other accepted and independently audited performance metric or metrics

REFERENCES

1. Brown, Stephen J. and Jerold B. Warner. "Measuring Security Price Performance." **Journal of Financial Economics**. V.8 (1980) p. 205-258.
2. Chen, Shimin and James L. Dodd. "Usefulness of Operating Income, Residual Income and EVA®: A Value-Relevance Perspective." Working Paper presented at 1998 MBAA Conference, Chicago, IL, 3/28/98. Abstract published in conference proceedings.
3. Dierks, Paul A., and Ajay Patel. "What is EVA, and How Can It Help Your Company?" **Management Accounting**. November 1997. 52-58.
4. Dodd, James L., and Jason Johns. "EVA Reconsidered." **Business and Economic Review**. V45.N3. April/June 1999. 13-18.
5. Ferguson, Robern and Dean Leistikow. "Search for the Best Financial Performance Measure: Basics are Better." **Financial Analysts Journal**. V54. N1. Jan/Feb 1998. 81-85.
6. Grant, James L., "Foundations of EVA™ for Investment Managers." **The Journal of Portfolio Management**. Fall 1996. 41-48.
7. Jones, W.M., and G. Lowry, "An Examination of the Effect of Size on Differences Between Historical Measures of Risk and The Risk Implied by Economic Value Added®" Virginia Economic Journal, V. 11, 2006, pp. 41-47.
8. Jones, W.M., and G. Lowry, "An Examination of the Business Sector Differentials Between Historical Measures of Risk and the Risk Implied by Economic Value Added," Journal of Business and Economic Research, V.4, N.12, December 2006, pp. 61 - 68.
9. Jones, W.M., and G. Lowry, "An Examination of the Consistency of Risk Differentials Between Historical Measures of Risk and The Risk Implied by Economic Value Added," Journal of Business & Economics Research, V. 3, N. 12, December 2005, pp. 25-30.
10. Kramer, Jonathan K., and George Pushner. "An Empirical Analysis of Economic Value Added as a Proxy for Market Value Added." **Financial Practice and Education**. Spring/ Summer 1997. 41-49.
11. Lehn, Kenneth, and Anil Makhija. "EVA & MVA as Performance Measures and Signals for Strategic Change." **Strategy and Leadership**. Many/June 1996. 34-38.
12. Stewart, G. Bennett, III. "EVA™: Fact and Fantasy." **Journal of Applied Corporate Finance**. V.7. N.2. (1994). 71-84.