The Association between Executive Compensation
and Firm Performance:
An Artificial Neural Network Model

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Abstract

This paper investigates the association between executive incentive plans and firm performance by using an artificial neural network. Our results show that, we can accurately associate the executives' incentive plan with the firm's performance more than 70% of the time for the firms with the best and the worst performance. Our findings also suggest that (1) the importance of the components of the incentive plan changes from salary to bonus, stock awards and stock options over time, (2) accounting-based performance measure is associated with EPS while market-based performance measure is associated with the market-to-book ratio, and (3) when firms have higher uncertainty, they rely less on stock/option incentives. Finally, the simplicity of the model can help a firm better design or change the compensation scheme of the executives in order to perform better.

Keywords: Executive compensation, firm performance, neural network.