

9 Discussion

The basic discussion of results including a comparison with previous research was conducted in the results chapter, which also includes a sensitivity analysis. This chapter discusses additional topics in a more detailed manner.

9.1 Complexity and executive pay

This work has attempted to provide a formal test of the complexity-pay hypothesis allowing for a more definitive statement about the effects of complexity on executive compensation. Factor analyzed results suggest that the objective complexity construct helps explain more than 50% of the variation in total CEO compensation and about a fourth of CEO equity-pay mix. The results further show that there are multiple facets of complexity with firm size just being one such facet. In addition to size, internationalization and diversification, this paper introduces two additional dimensions of complexity. These are market uncertainty and a politicized environment. Despite strong theoretical ground I find no evidence that market uncertainty, measured as the volatility of sales revenues, helps explain compensation levels, when regressing executive pay on individual complexity variables. This may be due to high collinearity of complexity variables. Indeed, as the correlation matrix indicated, volatility of sales revenues is highly correlated with the other measures of complexity. Using factor analysis results, the market uncertainty variable loads very high on the one principal component retained to build the complexity construct.

The other new dimension of complexity is politicized environment. The measure used, the number of newspaper articles published about the focal firm, is a highly significant determinant of executive compensation level and structure. This suggests that compensation committees take into account the extent to which a firm's environment is politicized when making compensation decisions.

The results confirm that multidimensional constructs also need to be tested on a multidimensional basis and that the application of individual variables will not suffice. Indeed, all five variables of complexity score relatively high on the principal component retained for complexity.

9.2 The incremental contribution of firm size

Firm size has been established as the major determinant of executive pay levels, accounting for about 50% of the variation in pay levels (Tosi et al., 2000). However, as argued in this paper, the contribution of firm size to explain executive pay may be overestimated and suffer from an omitted variable problem. Other measures beyond firm size, which have often been omitted in prior studies, contribute to the complexity of the CEO's job and are therefore a relevant predictor of pay levels. Some of these other dimensions of complexity help explain executive pay even after controlling for firm size. Due to the high correlation between firm size and the other complexity measures, it is difficult to estimate the true contribution of size to explain compensation levels. However, as the factor scores indicate internationalization and a politicized environment almost equally contribute to the complexity construct. And market uncertainty and diversification do not score much lower either.

Two investigations help to qualify the unique contribution of firm size in explaining executive pay. First, this study reports an elasticity of CEO cash and total pay to firm size of 0.17 and 0.27 respectively after including other complexity variables. Before the inclusion of the other complexity variables the corresponding elasticities are 0.32 and 0.39 respectively. Second, I run additional regressions with the complexity variables. In the first regression, I exclude the firm size variable, in the second regression, I include all complexity variables. By including firm size, the adjusted R-squared increases from 0.486 to 0.531. In other words, the inclusion of size in explaining pay levels increases the explained variance by 4.5 percentage points.

9.3 Technological complexity and executive pay

In addition to the dimensions studied in this paper, firm complexity may also arise from high reliance on research and technology (Henderson and Fredrickson, 1996; Balkin et al., 2000). Increased R&D activity is typically associated with higher levels of technological uncertainty, more sophisticated and differentiated products, more specialized personnel and higher levels of intra-firm technology pooling. This argument suggests that if executives are paid for the technological complexity of the firm they run, executive pay will be positively related to R&D activity. And as high complexity associated with R&D activity is also decreases monitoring-ability, this may lead to an increased reliance on equity-based compensation.