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**EMPLOYMENT HORIZON AND THE CHOICE
OF PERFORMANCE MEASURES:
EMPIRICAL EVIDENCE FROM ANNUAL
BONUS PLANS OF LOSS-MAKING ENTITIES**

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Employment Horizon and the Choice of Performance Measures: Empirical Evidence from Annual Bonus Plans of Loss-Making Entities

Abstract

We examine the extent to which the presence of employment horizon issues affects the relative emphasis on financial versus nonfinancial performance measures in annual bonus plans. We argue that managers of loss-making firms are likely to voluntarily or forcibly depart in the near future and consequently have a shorter employment horizon. Loss-making firms then need to increase the emphasis on forward-looking nonfinancial performance measures to motivate long-term effort of their managers. Thus, we hypothesize that the emphasis on nonfinancial performance measures is greater in loss-making than in profitable firms even after controlling for the informativeness of earnings. We find consistent support for our hypothesis using different (archival, survey, and field) data sources and various proxies for short employment horizon and the emphasis on nonfinancial performance measures.

Keywords: employment horizon problem; performance measurement; losses; bonus plans

1. Introduction

A fundamental question in accounting research concerns the choice of performance measures for evaluating firm executives. While firms have traditionally relied on financial metrics to evaluate performance, there has been an increase in the use of nonfinancial performance measures (Ittner et al. 1997). Prior literature shows that nonfinancial performance can compensate for “noise” in, or “goal incongruence” of, financial performance metrics (e.g., Datar et al. 2001, Feltham and Xie 1994, Banker and Datar 1989). There is also a stream of work examining the choice of performance measures in multi-period agency settings (Şabac 2007, Dutta and Reichelstein 2005, 2002, Sliwka 2002). This literature points out that another desirable contracting attribute of nonfinancial measures is their ability to predict future performance and to facilitate intertemporal matching between current investments and future returns. If managers have a short employment horizon, particularly, it is difficult to motivate long-term effort without the reliance on some forward-looking performance measures (Dutta and Reichelstein 2003, Dikolli 2001).

Despite the extensive theoretical work in this area, there is hardly any empirical evidence on the contracting value of forward-looking performance measures in the presence of employment horizon issues. There is evidence that CEOs spend less on R&D during their final years in office (Dechow and Sloan 1991) and that the choice of performance measures affects managers’ incentives to invest (Balachandran 2006), but there is no prior evidence that we are aware of on the choice of performance measures when employment horizons are short.

The employment horizon problem, however, presents an important empirical issue. During 1997–2005, between 35% and 50% of the firms listed on Compustat reported negative earnings. It is also increasingly common to find firms with several consecutive losses which are characterized by short-lived contracts and high management turnover (Joos and Plesko 2005, Skinner 2004). We exploit this particular phenomenon of consecutive losses when selecting our sample of firms that suffer to a varying extent from the employment horizon problem. Specifically, we compare the choice of performance measures in firms with one to five consecutive loss years (and a high likelihood of CEO turnover) to a control group of

highly profitable firms where employment horizon issues are less severe. We predict that the emphasis on nonfinancial performance measures is greater in settings where the employment horizon is shorter.

We first estimate an empirical model of the likelihood of CEO turnover as a function of prior profit/loss history and other proxies for employment horizon such as proximity to normal retirement, stock ownership, and the CEO being the chairman/founder of the firm. We find that the probability of CEO departure increases in the number of consecutive loss years, decreases with CEO stock ownership, and is lower when the CEO has been the chairman for 10 or more years. Predicted values from this model reflect the ex ante probability of CEO turnover that we then use as an aggregate proxy for short employment horizon. Consistently with our main hypothesis, we find a highly significant positive association between this proxy and the use of nonfinancial performance measures even after controlling for differences in informativeness of financial performance measures and other factors. As an illustration, our analysis suggests that the predicted likelihood of using nonfinancial performance measures is 29% in highly profitable firms, while it is 42%, 43%, 63%, 69%, and 61% in firms with one to five consecutive loss years, respectively (financial distress reduces this proportion by about 20%).

To address the limitations of our archival data solely based on firms' proxy statement disclosures of their use of nonfinancial measures, we collect additional field and survey data containing detailed information on how different entities weigh the importance of nonfinancial measures for performance evaluation purposes. Based on our field study insights, we construct three different proxies for emphasis on nonfinancial performance measures (emphasis on nonfinancial measures in overall evaluations, in bonus plan formulas, and the extent to which performance evaluations are subjective). Again, we find robust support for our main hypothesis using a sample of 141 profitable and loss-making entities participating in our survey. Specifically, loss-making entities expecting losses to persist and entities concerned about managerial retention (i.e., entities where employment horizon is likely to be short) are significantly more likely to emphasize nonfinancial performance measures than other entities.

Our findings contribute to the literature as follows. First, to our knowledge, our study is the first empirical examination of the choice of performance measures in the presence of employment horizon issues.

We find evidence consistent with the theory that forward-looking performance measures reduce agency costs in dynamic settings and facilitate motivation of long-term effort when agents have short employment horizons (Dikolli 2001). Second, we replicate several findings of Ittner et al. (1997) regarding the choice of performance measures and their relative informativeness. In contrast to Ittner et al., we also find that profit urgency and financial distress (which make financial performance measures more congruent with firm goals) are associated with a lower emphasis on nonfinancial performance measures. At the same time, we show that informativeness of earnings is unlikely to account for all the difference in the emphasis on nonfinancial performance measures between loss-making and profitable entities since the difference persists even after including common controls for noise and congruence of earnings. Finally, our findings help explain why the close link between earnings and cash compensation disappears when earnings are negative (Leone et al. 2006, Gaver and Gaver 1998, Sloan 1993, Lambert and Larcker 1987). To the extent that nonfinancial performance measures are contemporaneously uncorrelated with earnings, our finding of a greater emphasis on nonfinancial measures in loss-making entities implies a weaker link between earnings and cash compensation.

The next section reviews the prior literature. Section 3 describes our archival data and discusses the main results, additional evidence, and various robustness tests. Section 4 presents additional insights based on our field and survey data. The last section summarizes and concludes.

2. Theory

It is well established that the emphasis placed on a performance measure for performance evaluation purposes should be greater when other measures are relatively more noisy (Banker and Datar 1989). The emphasis on a measure should also be greater if it increases the degree of congruence between firm value and the overall performance indicator of its manager (Datar et al. 2001, Lambert 2001, Baker 2000, Feltham and Xie 1994). Ittner et al. (1997) provide empirical evidence on the relative weights placed on financial and nonfinancial performance measures in CEO bonus contracts that is largely consistent with these theoretical predictions.

However, this literature, which is largely based on single-period agency models, does not deal with dynamic issues arising when managerial effort has both short- and long-term consequences. An important issue not addressed is that a manager with a short employment horizon may have weak incentives to invest in long-term projects. For example, there is evidence that CEOs spend less on R&D during their final years in office (Dechow and Sloan 1991). We also know that performance rewards tend to be more explicit and immediate when CEOs are close to retirement (Cheng 2004, Gibbons and Murphy 1992). Thus, employment horizon issues may change how managers allocate their effort and consequently have implications for the choice of performance measures in incentive contracts.

Dynamic contracting issues (such as the employment horizon problem) have been examined with multi-period agency models. This theoretical literature finds that there is a demand for intertemporal matching between first period investment and future returns; i.e., a demand for forward-looking measures capturing how managers' current actions affect future value of the firm (Şabac 2007, Dutta and Reichelstein 2005, 2002). In the absence of a long-term commitment, it is crucial for employment contracts to include some forward-looking measures to generate investment incentives in the first period (Dutta and Reichelstein 2003). Consistent with this, Dikolli (2001) shows that the relative emphasis placed on forward-looking performance measures increases as the agent's employment horizon decreases. The intuition is that an agent who is likely to leave in the next period has weak incentives to exert long-term effort (which is costly now and generates benefits in the future) unless this effort can be rewarded with same-period compensation based on forward-looking measures. Combined with the literature suggesting that financial measures are typically backward-looking indicators of performance, whereas nonfinancial measures tend to be forward-looking (Nagar and Rajan 2005, Sliwka 2002, Banker et al. 2000), this theory leads us to predict that:

HYPOTHESIS 1: The emphasis on nonfinancial performance measures is greater in settings where the employment horizon is shorter.

3. Archival Data

3.1 Sample Selection

When testing Hypothesis 1, it is important to separate firms where the executive employment horizon is likely to be short from firms that suffer less from employment horizon issues. To achieve such separation, we need to select firms with an ex ante high likelihood of a voluntary or forced departure of a key executive (CEO). This is because employment horizon issues arise whenever a CEO's prospects for employment with the firm in the near future are uncertain. We argue that the likelihood of a voluntary or forced CEO departure is increasing in the number of consecutive loss years (Joos and Plesko 2005). Specifically, the failure to achieve long-term sustainable results can be either due to poor management or due to adverse environmental factors uncontrollable by management. In the former case, the board of directors is likely to replace the CEO, while in the latter case, the CEO is likely to search for an alternative (more rewarding) employment opportunity. Thus, regardless of the cause, firms with consecutive losses are more likely to suffer from employment horizon issues than firms which deliver sufficiently large returns.¹

To select firms with a clear pattern of losses/profits, we proceed in three stages. First, we select loss-making firms with one to five consecutive loss years. These firms repeatedly failed to deliver long-term sustainable returns and to an increasing extent suffer from the employment horizon problem. Second, we match these loss-making firms with a sample of clearly profitable firms (with average return on equity greater than 10%). We use highly profitable firms as the control group to maximize the power of our tests because firms with positive but low returns may face similar employment horizon issues as loss-making firms. Third, for completeness, we also separately consider profitable firms excluded from our control group; i.e., firms where earnings are greater than zero but possibly below satisfactory levels.

¹ As an alternative to the number of consecutive loss years, the literature often uses proximity to normal retirement age as a proxy for short employment horizon. However, the evidence in Brickley et al. (1999) suggest that it may be a weaker proxy than previously thought since concerns about post-retirement board service are an important source of CEO performance incentives in the final years before retirement.

Specifically, in the first stage, we sample from the population of firms with negative earnings per share (EPS) in 2001, sales over \$10 million, and a loss pattern falling into one of the following: (i) a loss in 2001 and profits in each year 1997–2000 (LOSS1: 405 firms in the population); (ii) losses in 2000–2001 and profits in 1997–1999 (LOSS2: 228 firms); (iii) losses in 1999–2001 and profits in 1997–1998 (LOSS3: 151 firms); (iv) losses in 1998–2001 and a profit in 1997 (LOSS4: 142 firms); and (v) losses in 1997–2001 (LOSS5: 420 firms). We retain all firms in the LOSS3 and LOSS4 groups (151 and 142 firms, respectively) and randomly select firms in the other groups. After excluding firms with missing 2001 proxy statement information, we obtain a sample of 500 loss-making firms: 92, 93, 100, 85, and 99 firms in the LOSS1–5 groups, respectively. We find that 469 (94%) of the 500 loss-making firms have annual bonus plans. The remaining 6% of firms offer only salary and long-term (typically equity-based) compensation to their CEOs.

In the second stage, we obtain a sample of highly profitable firms (PROF_H) defined as firms with sales over \$10 million, positive EPS in each year, and an average ratio of earnings (as in EPS) to shareholder equity during 1997–2001 exceeding 10% (a population of 1,707 firms). We select a random sample of these firms stratified by 3-digit SIC codes to match the industry composition of the loss-making sample of 500 firms. After excluding firms with missing proxy statement information, we obtain a sample of 307 profitable firms out of which 295 (96%) offer their CEOs annual bonuses.

Finally, in the third stage, we sample from the population of firms with low profitability (PROF_L) defined as the profitable group above except that the average return on equity during 1997–2001 is below 10% (615 firms). We select a random sample of 140 firms stratified by industry. After excluding firms with missing information, we obtain 109 firms with low profitability out of which 105 (96%) offer their CEOs annual bonuses. Thus, the total combined sample consists of 869 firms with annual bonus plans (469 loss-making, 295 highly profitable firms, and 105 firms with low profits).

We collect data on CEO turnover to verify that loss-making firms with a higher number of consecutive loss years are more likely to experience voluntary or forced departure of executives; i.e., suffer more from the employment horizon problem. As expected, we find that the proportion of firms that experienced CEO

turnover at least once during the 1997–2001 period is increasing in the number of consecutive loss years. The proportion is 39% in PROF_H firms, 35% in PROF_L firms, 34% in LOSS1 firms, 49% in LOSS2 firms, 53% in LOSS3 firms, 55% in LOSS4 firms, and 57% in LOSS5 firms.

3.2 Variable Measurement

We construct a proxy for the emphasis on nonfinancial performance measures using public data from firms' proxy statement disclosures.

Emphasis placed on nonfinancial performance measures (NONFIN). We code a dummy variable NONFIN that equals one if the 2001 proxy statement disclosure pertaining to the CEO's annual bonus explicitly mentions at least one of the following: (i) 'nonfinancial' or 'qualitative' measures; (ii) financial and other performance measures (e.g., financial and operational performance); (iii) nonfinancial and 'hard-to-quantify' performance dimensions (such as leadership, recruiting of employees, vision, or work ethic); or (iv) individual performance measures as determinants of CEO compensation. Section 3.6 shows that alternative coding choices do not materially affect our conclusions.

Next, we capture differences in employment horizon by comparing firms with consecutive loss years to a control group of highly profitable firms as described in the previous section. However, we also include three additional variables that are likely to correlate with the likelihood of CEO departure in the near future (and thus proxy for employment horizon issues):

CEO age (AGE). Prior literature commonly uses proximity to normal retirement at age 65 as a proxy for short employment horizon (Brickley et al. 1999, Gibbons and Murphy 1992, Dechow and Sloan 1991). Following this literature, we define AGE as a dummy variable equal to one if the CEO is 60 years of age or older (using 62, 65, or 70 as alternative cut-off points yields similar results).

CEO stock ownership (PSHO). Prior studies (Cheng et al. 2005, Chen 2004, Morck et al. 1988) argue that ownership stakes disproportionately increase managerial influence and yield substantial benefits of entrenchment (such as a reduced likelihood of a dismissal). Entrenchment benefits also reduce the likelihood of a voluntary departure because they make an alternative offer from a firm where the CEO does not own stock less attractive (moreover, high ownership stake may proxy for accumulated non-vested equity

grants the CEO would forgo by leaving the firm). Thus, we expect that higher share ownership by the CEO reduces the likelihood of both voluntary and forced CEO departure. We define PSHO as the log of the percentage shares owned by the CEO (to reduce deviations from normality).

CEO as the chairman/founder (CHAIR). Some CEOs have a prominent position within their firms as founders and/or long-time chairmen of the board of directors. These CEOs are more likely than others to stay in their jobs either due to entrenchment or because their talent and expertise are indispensable to the firm. We reflect that in our analysis by including a dummy variable, CHAIR, which equals one if the CEO has been a chairman for 10 or more years.

When testing our hypothesis, it is important to control for determinants of performance measurement practices unrelated to employment horizon issues. Ittner et al. (1997) predict and find that several proxies for informativeness of financial performance measures are negatively related to the emphasis on non-financial performance measures. We follow Ittner et al. when constructing the following informativeness proxies: (i) *financial distress* (FSTRESS) is a dummy variable equal to one if the bankruptcy proxy of Ohlson (1980) exceeds its critical value in at least one of the years 1997–2001,² (ii) *market-to-book ratio* (MTB) is the average of market-to-book ratio during 1997–2001, (iii) *value relevance of earnings* (CORR) is the firm-level correlation between current stock market returns and accounting returns in the previous quarter (changes in EPS scaled by beginning-of-period stock price) estimated using quarterly data from 1997–2001, (iv) *volatility in industry profitability* (STDM) is a factor score reflecting standard deviation in median industry (defined by 3-digit SIC codes) accounting returns (return on assets, equity, and sales) during 1997–2001.

Finally, we control for *size* (MSIZE) by taking the log of market value at the end of 2001. We also col-

² We set FSTRESS to zero by default for highly profitable firms and for firms with five consecutive loss years because the Ohlson model does not fully incorporate all past profits/losses. The latter group (LOSS5) largely consists of start-up firms with no or negligible profits since inception and substantial R&D expenses (the median ratio of R&D-to-sales is 0.39 as compared to 0.03 in PROF_H or 0.08 in LOSS4 firms).

lect data on *CEO turnover* (TURN) which we use to validate our proxies for short employment horizon. TURN equals one if a firm had a new CEO for most of the year 2001 or 2002.

3.3 Descriptive Statistics

We selectively report relevant descriptive data specific to each of the different groups in our sample. (The tables are shown in Appendix A of the e-companion to this paper.) We find that 37% (32%) of the firms with high (low) profitability use some type of nonfinancial performance measures in annual CEO bonus plans. For loss-making entities, this percentage increases monotonically with the number of consecutive loss-years: 30%, 31%, 42%, 44%, and 61% in LOSS1–5 firms. Consistent with the evidence presented earlier, the likelihood of CEO turnover in 2001 or 2002 is also much higher in loss-making (26%, 28%, 30%, 24%, 31% in LOSS1–5 firms) than in profitable (15% in PROF_H and 20% in PROF_L) firms.

Not surprisingly, loss-making firms are more likely to experience financial distress and operate in industries with higher volatility of earnings than profitable firms. Also, our profitable firms are larger than the loss-making firms. The median market value (MSIZE) in firms with high (low) profitability is \$950 (\$382) million, while the median market value of our groups of loss-making entities ranges from \$29 to \$133 million. The difference in size arises because we match profitable entities to our sample of loss-making entities only based on industry classification. Many industries (at the SIC-3 code level) do not have a sufficient number of firms to allow matching on both industry and size. Therefore, we control for differences in size by including MSIZE (log of market value of equity) in our regressions.

3.4 Predicting CEO Turnover

Our main hypothesis predicts that firms are more likely to use nonfinancial performance measures when their CEO's employment horizon is shorter. As discussed earlier, we use several proxies for short employment horizon: the number of consecutive loss years (LOSS1–5), a dummy variable equal to one for firms where the CEO is 60 or older (AGE), the percentage shares owned by the CEO (PSHO), and a dummy variable equal to one if the CEO has been chairman for 10 or more years (CHAIR). Ultimately, however, the validity of these proxies hinges on their ability to predict CEO turnover. We expect that

LOSS1–5 and AGE increase the probability of CEO turnover, while PSHO and CHAIR reduce this probability. Therefore, in what follows, we first estimate a logit model of the probability of CEO turnover in 2001 or 2002 conditional on our proxies for short employment horizon:

$$TURN = \gamma_{00} + \gamma_{01}PROF_L + \sum_{j=1}^5 \gamma_j LOSS_j + \gamma_6 AGE + \gamma_7 PSHO + \gamma_8 CHAIR + \omega. \quad (1)$$

We include group-specific intercepts for LOSS1–5 firms and for PROF_L firms (with low profits during 1997–2001). Thus, γ_{00} represents the group-specific intercept for highly profitable firms. Table 1 presents the results of estimating equation (1) after excluding firms with CEO turnover in 2000 since a model of the likelihood of CEO departure within a year of being appointed is likely to be different from the general model.

[Insert Table 1]

We find evidence that the probability of CEO turnover is increasing in the number of consecutive loss years. Specifically, the predicted probability of turnover in PROF_L firms is not significantly different from highly profitable firms ($p = 0.27$), while all groups of loss-making firms are significantly more likely to experience turnover than highly profitable firms. The estimated coefficients increase monotonically with the number of consecutive loss years (except for LOSS4 firms). Also, other proxies for short employment horizon have a significant effect in the predicted direction, except AGE ($p = 0.66$). A greater percentage shares owned by a CEO decreases the probability of turnover ($p < 0.01$) and so does the fact that a CEO has been the chairman for 10 or more years ($p < 0.01$).

We use these estimation results to calculate the predicted probability of CEO turnover (PR_TURN), which we then use as an aggregate proxy for short employment horizon. High PR_TURN implies a greater concern about the CEO leaving the firm in the near future, which gives rise to horizon issues. Hypothesis 1 predicts that PR_TURN is positively associated with the use of nonfinancial performance measures.

3.5 The Use of Nonfinancial Performance Measures

We specify a logit model of the probability that a firm uses nonfinancial performance measures in 2001 (NONFIN) as a function of the probability that the CEO leaves the firm in the near future (PR_TURN) and several proxies for informativeness of financial performance measures described earlier. We also control for size using the log of the market value at the end of 2001 (MSIZE):

$$NONFIN = \beta_0 + \beta_1 PR_TURN + \beta_2 FSTRESS + \beta_3 MTB + \beta_4 CORR + \beta_5 STD M + \beta_6 MSIZE + \varepsilon. \quad (2)$$

Table 2 presents the results of estimating equation (2) after excluding firms with CEO turnover in 2000 or 2001 because performance measures and incentive arrangements for CEOs in the first or last year on the job are unlikely to be representative.

[Insert Table 2]

We find strong support for our hypothesis since the probability of CEO departure in the near future is a highly significant predictor of the use of nonfinancial performance measures in annual bonus plans ($p < 0.01$). Specifically, firms with a higher predicted probability of CEO turnover (PR_TURN) due to several consecutive years of losses and/or the CEO having less power over the board are more likely to disclose in their proxy statements that their CEO's short-term incentive plan includes some nonfinancial measures of performance.

Consistent with Ittner et al. (1997), three of the four proxies for informativeness of financial performance measures also have significant predictive power. Specifically, we find that nonfinancial performance measures are more prevalent when the correlation between stock returns and EPS (CORR) is low ($p = 0.04$) or when volatility in median industry profitability (STD M) is high ($p < 0.01$). We do not find a significant effect of the market-to-book ratio, a proxy for growth opportunities, which may be due to the difficulty of calculating MTB in loss-making firms (some of which have negative book values). However, we do find that firms in financial distress are less likely to use nonfinancial performance measures

($p = 0.02$).³ This result is consistent with a hypothesis of Ittner et al. for which they, however, did not find empirical support.

An alternative way to specify a model of the probability of using nonfinancial performance measures is to directly include all of our proxies for short employment horizon (instead of aggregating them in *PR_TURN*). This approach exploits all the variation in the proxies regardless of whether they are related to future CEO turnover. Although it likely reduces the power of our hypothesis test, it may be of interest descriptively as a less restricted model of the probability of using nonfinancial performance measures. In this spirit, we include not only group-specific intercepts for different groups of profitable and loss-making firms but also allow the slope coefficients of our employment horizon proxies to be different in highly profitable firms. Otherwise, our specification is similar to equation (2):

$$\begin{aligned}
 \text{NONFIN} = & \lambda_0 + \lambda_{01} \text{PROF_L} + \sum_{j=1}^5 \lambda_j \text{LOSS}_j + \lambda_6 \text{AGE} + \lambda_7 \text{AGE} \cdot \text{PROF_H} + \\
 & + \lambda_8 \text{PSHO} + \lambda_9 \text{PSHO} \cdot \text{PROF_H} + \lambda_{10} \text{CHAIR} + \lambda_{11} \text{CHAIR} \cdot \text{PROF_H} + \\
 & + \lambda_{11} \text{FSTRESS} + \lambda_{12} \text{CORR} + \lambda_{13} \text{STDM} + \lambda_{14} \text{MSIZE} + \psi
 \end{aligned} \tag{3}$$

[Insert Table 3]

Table 3 shows that the coefficient estimates in the above equation are largely consistent with those in Table 2. Relative to highly profitable firms, all groups of loss-making firms are more likely to use nonfinancial performance measures. This increase is most pronounced in firms with three or more consecutive loss years. The probability of using nonfinancial performance measures is also higher in loss-making firms where the CEO has a low ownership stake. Interestingly, this result does not hold in highly profitable firms. Other major determinants of *NONFIN* in equation (3) are informativeness of financial performance measures (financial distress and low volatility of earnings are associated with a lower reliance

³ This result is sensitive to the type of proxy we use for financial distress. The result in Table 2 relies on the Ohlson (1980) measure of bankruptcy as used in Ittner et al. (1997). We do not find a significant result when using proxies based on Altman (1968), revised Altman scores as in Begley et al. (1996), or market-based measures as in Hillegeist et al. (2004). Nevertheless, the evidence in Begley et al. supports the use of the Ohlson's model as the preferred measure of bankruptcy.

on nonfinancial measures) and firm size (larger firms being more likely to use nonfinancial measures).

To assess economic significance and to facilitate interpretation of the coefficients from equation (3), we use the coefficient estimates in Table 3 to calculate predicted probabilities of using nonfinancial performance measures across different types of loss-making and profitable firms (controlling for all other effects). These predicted probabilities suggest that 29% of highly profitable firms and 28% of firms with low profitability report in their proxy statements the use of some nonfinancial performance measures. This proportion is 42%, 43%, 63%, 69%, and 61% in LOSS1–5 firms, respectively, and it is lower by about 20% when these firms experience financial distress.

3.6 Additional Evidence and Robustness Tests

Our analysis has focused so far on the choice of performance measures in short-term incentive plans. The results suggest that firms where the CEO is likely to depart in the near future are also more likely to rely on nonfinancial performance measures when determining the CEO's annual bonus. However, these firms can address employment horizon issues and motivate long-term effort not only by increasing the emphasis on nonfinancial performance measures but also by increasing the relative proportion of equity in CEOs' total compensation. Both of these compensation design choices shift CEOs' incentives away from myopically maximizing short-term financial results. It is therefore of interest to examine whether they are complements or substitutes in designing compensation packages. To this end, we specify a Tobit model of the proportion of equity in total compensation (EQUITY).⁴ Our specification parallels equation (2) because

⁴ In particular, we define EQUITY as the sum of restricted stock granted and the aggregate value of all options granted during 2001 as valued by the company divided by the sum of total compensation including (in addition to equity compensation in the numerator) salary, bonus, long-term incentives, other annual compensation, and the amount under "all other compensation" in firms' proxy statements. An alternative definition eliminating long-term incentives and "all other compensation" from the denominator yields qualitatively similar results. Given that it is a proportion with values between 0 and 1, we specify a Tobit model of EQUITY as a doubly-censored dependent variable (censored below at 0 and above at 1).

both EQUITY and NONFIN are instrumental in motivating long-term effort. Consistent with the estimation of (2), we exclude firms with CEO turnover in 2000 or 2001:

$$EQUITY = \delta_0 + \delta_1 PR_TURN + \delta_2 FSTRESS + \delta_3 MTB + \delta_4 CORR + \delta_5 STD M + \delta_6 LMSIZE + \delta_7 NONFIN + \varepsilon. \quad (4)$$

[Insert Table 4]

To the extent that our explanatory variables in equation (4) represent most of the variation in exogenous determinants of EQUITY and NONFIN, the sign of δ_7 reflects whether they are complements or substitutes in compensation design. The weakly positive ($p = 0.09$) estimate of δ_7 in Table 4 provides some evidence that EQUITY and NONFIN are complementary—firms that report the use of nonfinancial performance measures in their annual bonus plans also tend to rely more on equity relative to cash compensation. Consistent with our expectations, Table 4 also shows that employment horizon issues ($p < 0.01$), low informativeness of financial performance measures (high MTB, $p = 0.04$; low CORR, $p = 0.07$; high STD M, $p < 0.01$), and firm size ($p < 0.01$) are all positively associated with the proportion of equity in total compensation.

Finally, we acknowledge that NONFIN is a noisy measure due to disclosure limitations of firms' proxy statements, and hence, we provide additional evidence on the sensitivity of our results to alternative ways of measuring this variable. The evidence suggests that our results do not depend on some of the coding choices relating to NONFIN, as follows. We consider two narrower definitions of the use of nonfinancial performance measures and re-estimate the results in Table 2. First, we exclude all firms where NONFIN equals one because they use individual performance measures. Second, we exclude all firms where NONFIN equals one unless they explicitly report the use of “nonfinancial” or “qualitative” measures or give an example of a performance measure that can unambiguously be classified as nonfinancial. Our main finding that short employment horizon is associated with a greater use of nonfinancial performance measures continues to hold when using these alternative measures. In addition to this robustness check,

the next section presents the results of tests using more detailed measures of the emphasis on nonfinancial performance measures albeit in a smaller sample.

4. Field and Survey Data

Our analysis in the previous section relies on publicly-available data. Its main advantage is the large random sample of firms with different patterns of losses (profits). Inevitably, this comes at a cost of a less comprehensive measurement of the extent to which different firms rely on nonfinancial measures for performance evaluation. We examine to what extent this potential shortcoming affects our conclusions by collecting additional field- and survey-based data. Even though this additional data sample is small and non-random, it allows us to triangulate the main findings by employing different data collection methods.

4.1 Data Collection

4.1.1 Field Data

We started by conducting field interviews in 12 loss-making entities purposely chosen to be highly diverse.⁵ The aim of these exploratory interviews was to improve our understanding of performance measurement issues in loss-making entities and to facilitate the design of a questionnaire instrument for the survey stage of our research. We relied on the following insights from the field when constructing our measures for the main variables of interest:

First, we found that loss-making entities can emphasize nonfinancial performance measures in three different ways: (i) by placing more weight on nonfinancial measures in overall evaluations; (ii) by placing more weight on nonfinancial measures in bonus plan formulas; and (iii) by evaluating performance subjectively. This distinction reflects that annual bonuses are not the only performance-dependent rewards given, and the weights on performance measures included in annual bonus plan formulas are sometimes quite different from those used in the overall evaluation of managers' performances and in the assign-

⁵ Seven of these entities were loss-making firms and five were loss-making divisions. They varied significantly in size, age, ownership (public versus private), and industry. Appendix B in the e-companion to this paper contains additional information and detailed descriptions of eight of the most interesting loss situations.

ments of other forms of rewards. The distinction also reflects that managers can leave the weights in performance evaluation formulas unchanged but increase the emphasis on subjective evaluation which typically implies consideration of a wide range of factors (Gibbs et al. 2004).

Second, our field interviews helped us identify entities where managers' employment horizon is likely to be short. In particular, we found that loss-making entities *expecting losses* (i.e., entities where losses are likely to persist) tend to rely on nonfinancial performance measures more than loss-making entities *expecting profits* (i.e., entities that have been loss-making but expect to turn profitable in the foreseeable future). This is consistent with our theory since returning to profitability should reduce the likelihood of managerial turnover and alleviate the employment horizon problem. In the words of a Director of Compensation we interviewed: "When a loss is more 'structural,' as opposed to 'transitory,' I would reverse the order of incentive system priority; that is, I would place retention before motivation, and I would be sure to find ways to keep the long-term focus." At least two loss-making entities we visited (*Sites 5 and 6*) were very concerned about managerial retention and assigned incentives subjectively or linked them to (forward-looking) nonfinancial performance measures "to keep the long-term focus." This suggests that the importance of retention concerns could serve as another proxy for the severity of employment horizon issues.

Third, we identified several empirical proxies for informativeness of earnings and verify that they relate to the emphasis on nonfinancial performance measures as expected. In particular, we found that the emphasis on nonfinancial measures is higher when earnings are more noisy; that is, when they are adversely affected by uncontrollable events (*Site 3* in Appendix B), when performance targets are inaccurate (*Site 6*), or when poor information systems produce unreliable measures (*Site 8*). On the other hand, earnings are emphasized in entities where profit urgency is high (e.g., due to a struggle to survive or the need to finance long-term growth) and, thus, where earnings are viewed as informative of the needed profit-enhancing actions by management (*Sites 2 and 7*).

4.1.2 Survey Data

In March 2005, we invited business school graduates of the University of Michigan and the University of Southern California with a minimum of five years experience to participate in an online survey. Our initial email message stated that we sought participants informed about performance measurement and incentives of CEOs/managers of entities reporting losses in the prior three years. To have a control group, we also invited those informed about performance measurement and incentives of CEOs/managers in profitable entities to participate. We excluded respondents from (i) small entities defined as entities with sales lower than \$10 million and fewer than 50 employees, and (ii) owner-managed or professional firms (e.g., accounting or consulting firms). After further excluding responses with missing values, we obtained our final sample of 141 entities, which is 33% of the number of respondents who were sent a link to our online survey. Our final sample consists of 74 loss-making and 67 profitable entities. About 60% of our sample consists of firm-level entities; the other 40% are divisions within firms. About 23% of the respondents are CEOs or general managers, whereas the remaining 77% are mostly CFOs or controllers.

4.2 Variable Measurement

4.2.1 Emphasis on Nonfinancial Performance Measures

Our field study suggests that loss-making entities can emphasize nonfinancial performance measures in at least three different ways (i) by placing more weight on nonfinancial measures in overall evaluations; (ii) by placing more weight on nonfinancial measures in bonus plan formulas; and (iii) by evaluating performance subjectively. Below, we describe how we measure each of these different manifestations of the emphasis on nonfinancial performance measures:

Weight on nonfinancial measures in overall evaluations (NONFIN_OV). We asked the respondents to ascribe relative weights (0–100%) to the following performance measures in overall performance evaluations (Question 1 in Appendix C of the e-companion): bottom-line financial; other financial; nonfinancial; individual (e.g., leadership skills, ability to attract and retain key personnel); and other performance measures. NONFIN_OV is the weight on nonfinancial and individual performance measures.

Weight on nonfinancial measures in bonus plan formulas (NONFIN_B). Question 2 lists the same performance measures as in NONFIN_OV; however, it specifically asks about 2004 bonuses as a percentage of salary earned for performance as measured by each of the items. NONFIN_B is the weight on nonfinancial and individual performance measures in bonus plans.⁶

Extent to which performance is evaluated subjectively (SUBJECT). Question 3 measures SUBJECT from the respondents' indication of the extent to which the evaluators relied on subjective evaluations as opposed to a formulaic performance evaluation approach (0–100%).

4.2.2 Employment Horizon

Our field study observation also helped us to identify entities where managers' employment horizon is likely to be short: (i) loss-making entities expecting losses to persist; and (ii) entities concerned about retention of their managers. Thus, we use the following empirical measures as proxies for short employment horizon:

Types of loss-making entities. Questions 4 asked respondents to classify their entity as either a loss-making start-up entity, other loss-making entity, or a profitable entity.⁷ In addition, respondents indicated using dummy variables whether their entity reported profits/losses in each of the years 2001–2004 and whether they expected a profit or loss in 2005. They also reported actual and budgeted earnings for 2004 and budgeted earnings for 2005.

⁶ NONFIN_B includes higher-level performance measures as an additional item because bonus plan formulas of division managers sometimes include measures of business group or firm performance. These are not included in NONFIN_OV which relates to executive rather than firm performance. To allow for comparability of firm-level and division entities, we recalculate the relative weights in divisions so that they sum up to 100% when higher-level measures are excluded. NONFIN_B is the (recalculated) weight on nonfinancial and individual performance measures in bonus plans.

⁷ Question 4 includes six categories, two for each of the three main groups. Due to limited sample size, however, we classify our sample entities into four groups only (start-up entities, loss-making entities expecting losses, loss-making entities expecting profits, and profitable entities).

If respondents describe their entity as a loss-making start-up business, we code a dummy variable LOSS_ST equal to one. If they describe their entity as a non-start-up loss-making business, we code LOSS_EL or LOSS_EP dummy variables equal to one depending on expectations about future earnings at the beginning of 2004 (that is, at the time when entities designed their incentive schemes as measured in Questions 1–3). Loss-making entities expecting profits (LOSS_EP) had at least two losses during 2001–2003 but turned profitable after that (actual and budgeted earnings in 2004 and budgeted earnings in 2005 were all positive). In contrast, loss-making entities expecting losses (LOSS_EL) reported actual or budgeted losses in 2004 and 2005. Finally, our control group (PROF equals one) includes entities described as profitable with actual and budgeted profits both in 2004 and 2005. Thus, we categorize our sample entities into mutually-exclusive categories represented by the dummy variables LOSS_ST, LOSS_EL, LOSS_EP, and PROF.

Retention concerns (RETAIN). Respondents estimated the relative importance (0–100%) of motivation and retention in the design of CEO’s or general manager’s incentive compensation for 2004 (Question 5). RETAIN is the weight on retention.

4.2.3 Control Variables

When testing Hypothesis 1, we need to control for congruence and noise in earnings and for other potentially confounding factors. Based on prior literature and our field observations, we control for congruence of earnings using a proxy for profit urgency which reflects the perceived pressure within an entity to deliver short-term profits (Ittner et al. 1997, Gilson and Vetsuypens 1993). Further, we use multiple measures to proxy for noise in earnings—the presence of adverse uncontrollable factors, ex ante environmental uncertainty, and quality of the information systems (inversely related to noise), all of which we identified as important factors in the field phase of our study.

Profit urgency (URGENT). Respondents indicated on two 1–5 Likert scales the extent to which they agreed that “the entity has adequate (access to) capital for the near term” and “the entity faces strong pressures to earn short-term profits” (Question 6). URGENT is a dummy variable equal to 1 if respondents “strongly disagree” with the former statement or “strongly agree” with the latter.

Adverse uncontrollable factors (UNCONTR). We measure the presence of adverse uncontrollable factors in an entity's environment as a dummy variable based on comparing self-reported (0–100%) executive performance and entity performance (Question 7). UNCONTR equals 1 if executive performance is greater than entity performance by 40% or more (other cut-off points yield similar results).

Environmental uncertainty. We measure ex ante environmental uncertainty with six 1–5 Likert scales (Question 8). Exploratory factor analysis of the six items revealed three underlying factors with the highest loadings on: (i) ETARGET, two items about accuracy of demand forecasts and ability to set meaningful annual performance targets; (ii) ECOMP, two items about competition for main products and predictability of competitors' actions; and (iii) ETECH, two items about the frequency of new product introductions and the degree of technological change.

Quality of information systems (ISYS). Respondents indicated on a 1–5 Likert scale the extent to which they agreed that “the entity's information systems are effective” (Question 9). High ISYS scores indicate agreement.

Finally, we also use two other variables to control for other potentially confounding factors: the natural logarithm of the number of employees (SIZE) and a dummy variable (PUBLIC) indicating whether an entity (or the firm the entity belongs to) is publicly listed.

4.3 Descriptive Statistics

The final sample of entities participating in our survey consists of 74 loss-making and 67 profitable entities. Among the loss-making entities, there are 48 loss-making entities expecting losses, 13 loss-making entities expecting profits, and 13 loss-making start-up entities. The performance measurement and evaluation practices in our sample entities are highly varied. In loss-making entities, the average weight on non-financial performance measures is 38% in overall evaluations and 28% in bonus plan formulas; the average extent to which performance evaluation is subjective is 58% (see Appendix A of the e-companion). The averages in profitable entities are lower: 29% on nonfinancial performance measures in overall

evaluations, 21% in bonus plan formulas, and 37% of performance evaluation is subjective.⁸

The median number of employees ranges from 80 in start-up entities to 400, 450, and 600 in profitable, LOSS_EL, and LOSS_EL entities, respectively. Some of the most salient differences pertain to profit urgency, the presence of adverse uncontrollable factors, and the importance of retention concerns, all of which are considerably lower in profitable entities.

4.4 Results

As discussed before, firms dealing with employment horizon issues can motivate long-term effort and emphasize nonfinancial aspects of performance in different ways. Our questionnaire survey takes that into consideration and collects detailed information on performance measurement practices in profitable and loss-making entities. Specifically, we examine how much weight our sample entities put on (i) nonfinancial performance measures in overall evaluations (NONFIN_OV), (ii) nonfinancial performance measures in annual bonus plans (NONFIN_B), and (iii) subjective (not formula-based) evaluations (SUBJECT). We regress these three dependent variables on our proxies for short employment horizon, proxies for informativeness of financial performance measures, and controls for size and public listing:

$$\begin{aligned} \text{NONFIN}_i = & \theta_0 + \theta_1 \text{LOSS_EP} + \theta_2 \text{LOSS_EL} + \theta_3 \text{LOSS_ST} + \theta_4 \text{RETAIN} \\ & + \theta_5 \text{URGENT} + \theta_6 \text{UNCONTROL} + \theta_7 \text{ETARGET} + \theta_8 \text{ECOMP} + \theta_9 \text{ETECH} + \theta_{10} \text{ISYS} \quad (5) \\ & + \theta_{11} \text{PUBLIC} + \theta_{12} \text{SIZE} + \zeta. \end{aligned}$$

where NONFIN_i stands for NONFIN_OV, NONFIN_B, or SUBJECT. θ_0 (θ_1) represents the intercept for entities expecting to be profitable in the future that are currently profitable (loss-making). θ_2 and θ_3 are intercepts specific to loss-making entities expecting losses to persist and to start-up entities, where we expect greater CEO turnover and shorter employment horizons (based on our findings in Table 1; our sur-

⁸ Untabulated correlations calculated for the total sample of 141 entities show that the weight on nonfinancial performance measures in overall evaluations is positively correlated with the weight on these measures in bonus plan formulas ($r = 0.69$; $p < 0.01$) and with the extent to which performance evaluation is subjective ($r = 0.36$; $p < 0.01$). The latter two variables are also significantly correlated ($r = 0.26$; $p = 0.01$).

vey dataset does not contain turnover data to directly validate this). RETAIN reflects the relative importance of retention in the design of incentive compensation and serves as another proxy for short employment horizon. Thus, our main hypothesis predicts that θ_2 , θ_3 , and θ_4 are significantly greater than zero.

[Insert Table 5]

Table 5 presents the results of estimating equation (5). Overall, we find support for our main hypothesis. In most cases, our proxies for short employment are positively associated with the reliance on nonfinancial measures and subjectivity in performance evaluations. Specifically, the weight on nonfinancial performance measures in overall evaluations in loss-making entities expecting losses and in start-up entities is greater than in profitable entities ($p = 0.02$ and $p = 0.03$, respectively). The weight is also increasing in the importance of retention concerns ($p = 0.01$). We obtain similar results for the weight on nonfinancial performance measures in annual bonus plans and for subjectivity in performance evaluations (except that start-up entities are not significantly different from profitable entities regarding subjectivity). Finally, we note that loss-making entities that expect to turn profitable are not significantly different from profitable entities in any of the three regressions. This is consistent with our field study observation that the emphasis on nonfinancial performance measures is driven more by expected rather than actual earnings.

We also find partial support for the standard hypothesis that informativeness of financial performance measures is inversely proportional to the weight on other measures. Profit urgency, the absence of adverse uncontrollable factors, and target accuracy (all of which proxy for informativeness of financial performance measures) are negatively associated with the weight on nonfinancial performance measures in at least one of the regressions. Other results worth noting include the positive association between the weight on nonfinancial performance measures and the quality of information systems and the negative association between reliance on subjective evaluations and competitive business environment.

5. Summary and Conclusions

Our study collects field, survey, and archival data to examine how employment horizon issues affect the choice of performance measures in incentive contracts. We focus in particular on entities with persistent losses where managers are likely to voluntarily or forcibly depart in the near future. Relying on prior theoretical literature, we predict that entities where managerial employment horizon is short are more likely to emphasize forward-looking performance indicators such as nonfinancial and individual performance measures. This is because an increased emphasis on nonfinancial performance measures encourages long-term effort and reduces the incentive of managers to myopically maximize short-term financial results before leaving the firm.

Our data from different sources consistently support the main hypothesis. First, we find that our aggregate proxy for short employment horizon (based on an empirical model of the likelihood of CEO departure) is strongly positively associated with the use of nonfinancial performance measures in annual bonus plans of 562 firms (Table 2). Further results in Table 3 show that nonfinancial performance measures are particularly common in loss-making firms with more than two consecutive losses where the CEO owns little stock (making turnover more likely). Second, we find that short employment horizon is significantly positively associated with three different proxies for high emphasis on nonfinancial performance measures in our survey sample of 141 loss-making and profitable entities. In particular, loss-making entities expecting losses to persist and entities concerned about retention of their executives put greater weight on nonfinancial performance measures in overall evaluations, in bonus plan formulas, and also tend to evaluate performance in a more subjective manner. Overall, these findings provide robust support for the theory that the contracting value of forward-looking measures increases as managers' employment horizon becomes shorter.

Our analysis also adds to the discussion of how informativeness of earnings affects the choice of performance measures. Although it has been well-established theoretically that the emphasis on forward-looking performance measures should be low when maximizing short-term financial goals is congruent with firm value, there is little empirical evidence to support this prediction. We find that profit urgency

(e.g., due to financial distress) is associated with a substantially lower emphasis on nonfinancial performance measures both in our archival and survey data (Table 3, Table 5). Similarly, we find that the emphasis on nonfinancial performance measures is greater when earnings are noisier indicators of performance. Firms that have low time-series correlation between accounting and stock returns and/or firms that are in industries with high profit volatility are more likely to report the use of nonfinancial performance measures in their proxy statements (Table 2, Table 3). Although parallel results in our survey sample are weaker, we nevertheless find that the emphasis on nonfinancial performance measures is higher (on at least one of our proxies) in situations when profits are adversely affected by uncontrollable events or when it is hard to accurately set targets.

Our findings are subject to some caveats. The archival dataset relies on proxy statement disclosures as the only source of information on the choice of performance measures in annual bonus plans. Some firms using nonfinancial performance measures may not disclose sufficient information in their proxy statements for us to categorize them correctly. The implication for our results is that the difference between profitable and loss-making firms is likely to be underestimated. Also, studying loss-making firms, many of which are in a pre-profit stage or in financial distress, inevitably raises the issue of a survivorship bias. We acknowledge that our results, in particular those concerning our LOSS4 and LOSS5 groups, may only generalize to the population of loss-making firms that survive.

As for our additional data collection, we employed an anonymous online survey designed to be convenient for respondents in order to gain access to potentially sensitive information on performance measurement and evaluation practices in loss-making entities. This implies that our survey results are based on a relatively small non-random sample of entities. Also, space constraints on the online questionnaire did not allow us to fully establish reliability and validity of some of our empirical measures.

Notwithstanding these caveats, we find support for our predictions in different samples relying on different data collection methods. This provides reassurance that our results are not driven by any of the above data limitations discussed above.

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Table 1 Logit Estimation of the Likelihood of CEO Turnover

	TURN	
	Coefficient	p-value
Intercept	-1.638 ***	.000
PROF_L	0.368	.271
LOSS1	0.631 *	.060
LOSS2	0.742 **	.032
LOSS3	1.170 ***	.001
LOSS4	0.759 **	.037
LOSS5	1.221 ***	.000
AGE	0.100	.660
PSHO	-0.200 ***	.001
CHAIR	-1.162 ***	.006
Pseudo R ²		.06
Correctly classified		79%
N		691

***, **, * indicates significance at the 0.01, 0.05, and 0.10 level (two-tailed).

TURN—CEO turnover in 2001 or 2002; PROF_L—firms profitable during 1997–2001 with average return on equity lower than 10%; LOSS1–5—loss-making firms with one to five consecutive loss years; AGE—dummy variable for firms where CEO’s age is 60 years or greater; PSHO—log of the percentage of shares owned by the CEO at the beginning of 2001; CHAIR—dummy variable for firms where the CEO has also been a chairman for 10 or more years.

Table 2 Logit Estimation of the Likelihood of Using Nonfinancial Performance Measures in Annual Bonus Plans

	NONFIN	
	Coefficient	p-value
Intercept	-1.407 ***	.000
PR_TURN	4.223 ***	.000
FSTRESS	-0.563 **	.024
MTB	0.020	.452
CORR	-1.155 **	.037
STDM	0.284 ***	.004
MSIZE	0.034	.449
Pseudo R ²		.07
Correctly classified		65%
N		562

***, **, * indicates significance at the 0.01, 0.05, and 0.10 level (two-tailed). Industry dummies (2-digit SIC codes) used in a stepwise estimation procedure; SIC-38 (Instruments and related products) retained as the only significant effect but not reported above.

NONFIN—dummy variable for the use of nonfinancial performance measures in CEO 2001 bonus plan; PR_TURN—predicted values (probabilities) of CEO turnover based on coefficients in Table 1; FSTRESS—dummy variable for financial-distress entities; MTB—average market-to-book ratio during 1997–2001; CORR—correlation between stock returns and prior quarter accounting returns; STDM—volatility in median industry profitability (factor score); MSIZE—log of the market value of the firm (\$ millions).

**Table 3 Logit Estimation of the Likelihood of Using
Nonfinancial Performance Measures in Annual Bonus Plans**

	NONFIN Coefficient	p-value
Intercept	-1.471 ***	.001
PROF_L	0.035	.921
LOSS1	0.662 *	.099
LOSS2	0.698 *	.093
LOSS3	1.507 ***	.001
LOSS4	1.791 ***	.000
LOSS5	1.417 ***	.000
AGE	0.105	.725
AGE · PROF_H	-0.325	.454
PSHO	-0.158 **	.049
PSHO · PROF_H	0.072	.530
CHAIR	-0.357	.319
CHAIR · PROF_H	0.860	.155
FSTRESS	-0.802 **	.013
MTB	0.010	.739
CORR	-0.910	.107
STDM	0.235 **	.020
MSIZE	0.136 **	.017
Pseudo R ²		.09
Correctly classified		67%
N		569

***, **, * indicates significance at the 0.01, 0.05, and 0.10 level (two-tailed). Industry dummies (2-digit SIC codes) used in a stepwise estimation procedure; SIC-38 retained as the only significant effect but not reported above.

PROF_L—highly profitable firms. Other variables defined as in prior tables.

Table 4 Tobit Model of the Proportion of Equity in Total Compensation

	EQUITY	
	Coefficient	p-value
Intercept	-0.452 ***	.000
PR_TURN	0.620 ***	.001
FSTRESS	-0.069	.157
MTB	0.008	.111
CORR	-0.185 *	.078
STDM	0.052 ***	.005
MSIZE	0.098 ***	.000
NONFIN	0.062 *	.093
σ	0.375	.000
Pseudo R ²		.27
N		523

***, **, * indicates significance at the 0.01, 0.05, and 0.10 level (two-tailed). Our Tobit estimation constrains predicted values to lie between 0 and 1.

EQUITY—proportion of equity compensation in total CEO compensation. Other variables defined as in prior tables.

Table 5 Tobit Models of the Weight on Nonfinancial Performance Measures as Reflected in Different Performance Evaluation Practices

	NONFIN_OV		NONFIN_B		SUBJECT	
	Coefficient	p-value	Coefficient	p-value	Coefficient	p-value
Intercept	9.997	.386	-34.754	.186	67.829 ***	.000
LOSS_EP	6.147	.247	-1.003	.930	-3.786	.671
LOSS_EL	10.295 **	.023	22.358 **	.046	15.144 *	.053
LOSS_ST	16.355 **	.028	29.383 *	.100	10.103	.381
RETAIN	0.212 ***	.008	0.317 *	.070	0.222 *	.092
URGENT	-11.295 ***	.005	-33.993 ***	.002	7.993	.259
UNCONTROL	11.734 **	.038	27.861 *	.084	7.909	.457
ETARGET	0.851	.652	2.474	.558	-7.433 **	.022
ECOMP	-1.629	.287	-1.623	.618	-5.441 *	.068
ETECH	0.328	.857	-2.787	.507	1.594	.639
ISYS	3.257 *	.080	8.054 **	.028	-3.419	.293
PUBLIC	2.017	.599	15.568 *	.082	-23.275 ***	.000
SIZE	-0.063	.947	0.238	.921	-1.833	.213
σ	19.648	.000	32.780	.000	30.805	.000
Pseudo R ²		.03		.05		.04
N		122		89		122

***, **, * denote significance at the 0.01, 0.05, and 0.10 level (two-tailed), respectively.

NONFIN_OV—weight on nonfinancial performance measures in overall evaluations; NONFIN_B—weight on nonfinancial performance measures in bonus plan formulas; SUBJECT—the extent to which performance is evaluated subjectively; LOSS_EP—dummy variable for loss-making entities expecting profits both in 2004 and 2005; LOSS_EL—dummy variable for entities expecting losses in 2004 or 2005; LOSS_ST—dummy variable for loss-making start-up entities. Other variables defined in section 4.2.

E-Companion

to

**Employment Horizon and the Choice of Performance Measures:
Empirical Evidence from Annual Bonus Plans of Loss-Making Entities**

Appendix A. Descriptive Statistics

Table A1 Archival Data

Panel A: Highly profitable firms (PROF_H)						
	N	Mean	Median	Std.Dev.	Min	Max
NONFIN	295	0.37	0.00	0.48	0.00	1.00
TURN	291	0.15	0.00	0.36	0.00	1.00
AGE	295	0.29	0.00	0.46	0.00	1.00
PSHO ^a	290	6.09	1.20	12.12	0.00	72.89
CHAIR	293	0.11	0.00	0.31	0.00	1.00
FSTRESS	295	0.00	0.00	0.00	0.00	0.00
MTB ^b	295	4.20	3.15	3.39	0.57	20.00
CORR ^c	295	0.13	0.05	0.16	0.00	0.66
STDM	295	0.02	-0.40	1.02	-1.21	2.65
MSIZE	295	6,846	950	29,785	3.24	392,959
Panel B: Firms with low profits (PROF_L)						
	N	Mean	Median	Std.Dev.	Min	Max
NONFIN	105	0.32	0.00	0.47	0.00	1.00
TURN	101	0.20	0.00	0.40	0.00	1.00
AGE	103	0.26	0.00	0.44	0.00	1.00
PSHO ^a	105	9.17	1.90	15.50	0.00	69.00
CHAIR	98	0.13	0.00	0.34	0.00	1.00
FSTRESS	93	0.24	0.00	0.43	0.00	1.00
MTB ^b	103	2.00	1.57	1.32	0.51	9.99
CORR ^c	104	0.14	0.07	0.18	0.00	1.00
STDM	105	-0.44	-0.72	0.77	-1.21	2.27
MSIZE	103	1,546	382	4,504	3.41	37,426

Table A1 Archival Data (Cont'd)

Panel C: Firms with loss in 2001 and profits 1997–2000 (LOSS1)						
	N	Mean	Median	Std.Dev.	Min	Max
NONFIN	92	0.30	0.00	0.46	0.00	1.00
TURN	90	0.26	0.00	0.44	0.00	1.00
AGE	92	0.40	0.00	0.49	0.00	1.00
PSHO ^a	90	11.23	4.35	17.04	0.00	74.76
CHAIR	89	0.16	0.00	0.37	0.00	1.00
FSTRESS	80	0.45	0.00	0.50	0.00	1.00
MTB ^b	90	2.36	1.66	2.08	0.48	15.75
CORR ^c	90	0.15	0.08	0.19	0.00	0.75
STDM	92	-0.29	-0.46	0.75	-1.21	1.91
MSIZE	90	2,180	133	8,565	2.42	64,259
Panel D: Firms with losses in 2000–2001 and profits 1997–1999 (LOSS2)						
	N	Mean	Median	Std.Dev.	Min	Max
NONFIN	93	0.31	0.00	0.47	0.00	1.00
TURN	93	0.28	0.00	0.45	0.00	1.00
AGE	93	0.24	0.00	0.43	0.00	1.00
PSHO ^a	90	7.68	2.26	12.53	0.00	68.30
CHAIR	92	0.15	0.00	0.36	0.00	1.00
FSTRESS	85	0.55	1.00	0.50	0.00	1.00
MTB ^b	92	3.12	1.88	3.13	0.49	20.00
CORR ^c	92	0.15	0.05	0.18	0.00	0.67
STDM	93	0.09	-0.30	0.96	-1.15	1.91
MSIZE	92	834	105	2,771	0.83	23,506

Table A1 Archival Data (Cont'd)

Panel E: Firms with losses in 1999–2001 and profits 1997–1998 (LOSS3)						
	N	Mean	Median	Std.Dev.	Min	Max
NONFIN	100	0.42	0.00	0.50	0.00	1.00
TURN	96	0.30	0.00	0.46	0.00	1.00
AGE	100	0.26	0.00	0.44	0.00	1.00
PSHO ^a	99	8.26	3.00	12.68	0.00	68.70
CHAIR	99	0.14	0.00	0.35	0.00	1.00
FSTRESS	93	0.69	1.00	0.47	0.00	1.00
MTB ^b	100	3.23	1.68	3.51	0.35	20.00
CORR ^c	100	0.12	0.01	0.17	0.00	0.59
STDM	100	0.23	-0.19	1.07	-1.15	2.36
MSIZE	100	580	39	2,705	0.67	20,085
Panel F: Firms with losses in 1998–2001 and profit in 1997 (LOSS4)						
	N	Mean	Median	Std.Dev.	Min	Max
NONFIN	85	0.44	0.00	0.50	0.00	1.00
TURN	84	0.24	0.00	0.43	0.00	1.00
AGE	85	0.20	0.00	0.40	0.00	1.00
PSHO ^a	85	8.01	2.90	13.45	0.00	77.20
CHAIR	84	0.14	0.00	0.35	0.00	1.00
FSTRESS	80	0.79	1.00	0.41	0.00	1.00
MTB ^b	85	4.32	2.56	4.71	0.44	20.00
CORR ^c	85	0.12	0.01	0.16	0.00	0.58
STDM	85	0.24	-0.14	1.02	-1.14	2.37
MSIZE	85	545	29	2,648	0.19	23,975

Table A1 Archival Data (Cont'd)

Panel G: Firms with five consecutive losses years in 2001 (LOSS5)

	N	Mean	Median	Std.Dev.	Min	Max
NONFIN	99	0.61	1.00	0.49	0.00	1.00
TURN	97	0.31	0.00	0.46	0.00	1.00
AGE	99	0.09	0.00	0.29	0.00	1.00
PSHO ^a	98	7.10	2.50	12.88	0.00	68.30
CHAIR	96	0.05	0.00	0.22	0.00	1.00
FSTRESS	99	0.00	0.00	0.00	0.00	0.00
MTB ^b	99	6.73	5.57	4.96	0.37	20.00
CORR ^c	99	0.15	0.04	0.20	0.00	0.75
STDM	99	0.15	-0.32	1.11	-1.14	2.65
MSIZE	99	612	112	1,946	0.76	16,478

NONFIN—dummy variable for the use of nonfinancial performance measures in CEO 2001 bonus plan; TURN—CEO turnover in 2001 or 2002; AGE—dummy variable for firms where CEO’s age is 60 years or greater; PSHO—percentage of shares owned by the CEO at the beginning of 2001 (before the log transformation); CHAIR—dummy variable for firms where the CEO has also been a chairman for 10 or more years; FSTRESS—dummy variable for financial-distress entities; MTB—average market-to-book ratio during 1997–2001; CORR—correlation between stock returns and prior quarter accounting returns; STDM—volatility in median industry profitability (factor score); MSIZE—the market value of the firm (\$ millions; before the log transformation).

^a If CEO ownership is smaller than 0.1%, we replace its value with 0.1% before the log transformation.

^b If book values in a particular year are close to zero (small positive or negative) we set annual market-to-book ratios to 20 (using other maximum values does not materially affect our results).

^c We set the value of CORR to zero if the correlation between stock market and accounting returns is negative due to estimation errors.

Table A2 Survey Data

Panel A: Loss-making entities expecting profits (LOSS_EP)

	N	Mean	Median	Std.Dev.	Min	Max
NONFIN_OV	13	30.38	30.00	14.06	10.00	60
NONFIN_B ^a	13	13.45	10.00	15.77	0.00	47
SUBJECT	13	38.85	30.00	27.78	0.00	100
RETAIN	13	35.00	25.00	17.91	15.00	60
URGENT	13	0.38	0.00	0.51	0.00	1.00
UNCONTROL	13	0.15	0.00	0.38	0.00	1.00
ETARGET	13	0.47	0.68	0.66	-0.62	1.50
ECOMP	13	0.00	-0.04	1.07	-2.12	1.47
ETECH	13	-0.25	-0.16	0.93	-1.88	1.32
ISYS	13	2.92	3.00	1.04	1.00	4.00
PUBLIC	13	0.62	1.00	0.51	0.00	1.00
SIZE	13	11,260	600	31,896	61	115,000

Table A2 Survey Data (Cont'd)

Panel B: Loss-making entities expecting losses (LOSS_EL)

	N	Mean	Median	Std.Dev.	Min	Max
NONFIN_OV	38	38.29	40.00	22.26	0.00	75
NONFIN_B ^a	24	30.44	17.50	34.70	0.00	100
SUBJECT	37	61.92	70.00	32.03	0.00	100
RETAIN	41	45.54	50.00	25.14	0.00	100
URGENT	48	0.42	0.00	0.50	0.00	1.00
UNCONTROL	48	0.23	0.00	0.42	0.00	1.00
ETARGET	48	0.24	0.24	0.67	-1.67	1.50
ECOMP	48	-0.30	-0.26	0.95	-2.24	1.86
ETECH	48	-0.30	-0.18	0.96	-2.01	2.52
ISYS	48	3.10	3.50	1.04	1.00	4.00
PUBLIC	48	0.48	0.00	0.50	0.00	1.00
SIZE	48	6,316	450	23,635	12	150,000

Table A2 Survey Data (Cont'd)

Panel C: Start-up entities (LOSS_ST)

	N	Mean	Median	Std.Dev.	Min	Max
NONFIN_OV	13	44.46	40.00	24.80	10.00	80
NONFIN_B ^a	7	44.29	50.00	38.67	0.00	100
SUBJECT	13	65.38	70.00	28.83	10.00	100
RETAIN	13	50.00	50.00	28.80	0.00	80
URGENT	13	0.31	0.00	0.48	0.00	1.00
UNCONTROL	13	0.00	0.00	0.00	0.00	0.00
ETARGET	13	-0.26	-0.13	0.56	-1.15	0.64
ECOMP	13	0.50	0.59	0.71	-0.74	1.45
ETECH	13	-0.59	-0.51	0.75	-1.98	0.85
ISYS	13	3.15	4.00	1.07	1.00	4.00
PUBLIC	13	0.46	0.00	0.52	0.00	1.00
SIZE	13	170	80	173	45	600

Table A2 Survey Data (Cont'd)

Panel D: Profitable entities						
	N	Mean	Median	Std.Dev.	Min	Max
NONFIN_OV	62	29.24	30.00	19.87	0.00	73
NONFIN_B ^a	52	21.22	16.67	22.54	0.00	80
SUBJECT	61	37.31	25.00	30.26	0.00	100
RETAIN	61	32.62	30.00	22.13	0.00	80
URGENT	67	0.21	0.00	0.41	0.00	1.00
UNCONTROL	67	0.03	0.00	0.17	0.00	1.00
ETARGET	67	-0.18	0.12	1.26	-4.64	1.57
ECOMP	67	0.09	0.15	0.97	-1.79	2.33
ETECH	67	0.44	0.44	0.95	-2.60	2.82
ISYS	67	3.42	4.00	1.05	1.00	5.00
PUBLIC	67	0.61	1.00	0.49	0.00	1.00
SIZE	67	4,959	400	12,715	14	55,000

NONFIN_OV—weight on nonfinancial performance measures in overall evaluations; NONFIN_B—weight on nonfinancial performance measures in bonus plan formulas; SUBJECT—the extent to which performance is evaluated subjectively; RETAIN—importance of retention concerns; URGENT—dummy variable for profit urgency (entity is under pressure to earn short-term profits or has limited access to capital); UNCONTROL—dummy variable for adverse uncontrollable factors in an entity's environment (executive performance is deemed better than overall entity performance); ETARGET—factor scores, higher values reflect target accuracy; ECOMP—factor scores, higher values reflect greater competition; ETECH—factor scores, higher values reflect faster technological change; ISYS—quality of information systems; PUBLIC—dummy variable for publicly-listed firms; SIZE—number of employees (before log transformation).

^a Missing values in NONFIN_B are due to entities that report that they do not have annual bonus plans.

Appendix B. Field Study Summary

We conducted field interviews in 12 loss-making entities that varied significantly in size, age, and ownership (public versus private). The entities were also in varied industries, including financial services (three entities), medical services (three entities), high technology (two entities), software, specialty retail, utilities, and consumer products. Within these entities, we interviewed executives in a variety of roles, but most were line managers, chief financial officers, or heads of compensation. Given the exploratory nature of this phase of the research, our early interviews were nearly totally open-ended. We asked the managers to discuss their entity's performance measurement and incentive systems and the reasons why they were designed and used as they were. Below, we provide brief descriptions of eight of the most differentially interesting loss situations.

Site 1. One entity we studied was using a new technology to produce emission control products. It had been making losses ever since it was founded in 1996 and profitability was a distant goal at the time we visited the company. The weight on operating income was only 15% of the target bonus in 2003. The primary emphasis was on future order commitments that accounted for 30%, current revenues for 15%, and the remaining 40% was linked to other nonfinancial measures. During the interview in 2002, the CFO predicted that the importance of financial measures would probably increase in the future as the company became closer to going public. However, he also said that "he would be shocked if their importance ever exceeded 50%." In 2004, however, the two financial measures—revenues and operating income—were weighted slightly greater than 50%. In a follow-up discussion, the CFO said the pressure to increase the importance weightings on the financial measures was coming from venture capitalists getting impatient for returns on their investments.

Site 2. Another hi-tech start-up entity placed a high weighting of importance on earnings. The company was growing well over 50% a year, but had not reported a profit in any quarter of its 17-year history. Management knew that raising more money would be difficult until the company started earning profits. Target bonuses (40% of base salary) were based 75% based on corporate earnings and 25% based on in-

dividual achievements in four to nine performance areas (e.g., accomplishment of a project milestone, establishment of a needed line of credit, meeting a receivables target). In 2000 and 2001, bonuses were paid only up to a maximum of about 20% of base salary (i.e., half of the bonus potential). Also, the company did not come close to achieving their aggressive revenue and earnings plan for 2002. As a result, no bonuses were paid and management mandated an across-the-board salary cut of 10%. The company's CFO summarized by stating that, "The big message in this company at this time is sustainable profit, and hence, we're looking at that quarter after quarter after quarter. We must get there, and it better be sooner rather than later."

Site 3. A multi-divisional company selling medical products in many locations around the world varied its emphasis on nonfinancial performance measures across different divisions (representing different countries). For example, in 2003, earnings were not yet important for evaluating and rewarding the managers of their Japanese division, established in 1997. The goal was to build market share over the initial 5-year period. The VP-International explained: "Losses were tolerated if the long-term prospects were favorable." But while the emphasis was on growth, division managers also were "watching pennies and nickels" in day-to-day expenses. Also from day one, every sale had to have a positive gross margin. In its third year, the Japanese division could have budgeted a profit, but corporate management did not make its managers do so because they wanted to ensure that needed further investments in the future would not be jeopardized.

The emphasis on nonfinancial performance measures was also high in the East-European division during a turnaround, which had been operating in a loss position for the past 5 years. The losses were primarily due to a reorganization in the region, which included the purchase of several distributors and contract renegotiations with a number of other distributors. This turnaround also required some re-building and growth. Toward these ends, the General Manager in Eastern Europe was specifically instructed in early 2001 to invest in upgrading his sales and marketing organization, even if it came at the expense of short-

term profitability. “This was meant to be this division’s only mission,” the VP-International explained. Essentially, the medium-term objective was to focus on the top-line, instead of on the bottom-line.

In contrast, earnings were judged to be important even through a transitory-loss period in Italy because the losses were deemed to be the fault of the local managers. The VP-International argued that “this was not a start up, the business was already solidly in place; it was a matter of discipline, they had too many side products.” As a consequence, the managers in Italy were given no bonuses in 2001 and 2002. The general manager was given a profit objective as a “make-or-break” job requirement. The general manager responded by reducing costs without apparently jeopardizing the long-term potential and the business has been profitable since.

Site 4. A leading international publisher of software game products continued to place high emphasis on earnings during a loss period because it deemed the loss transitory and expected positive earnings in each of the following three years. The company’s Director of Global Compensation and Benefits noted that, “2004 is slow because we are ramping up games for new platforms, and that hurts sales because of customers’ anticipation of the new platform releases. But, the expectation is that 2005 will be good, and 2006 fantastic. The bonus plan is still right; it is still focused on the right aspects of our business given our current strategy.”

Site 5. A division of a large regional retail bank deemphasized earnings for annual bonus payments because it expected the transitory loss to persist for two or more years. According to the senior Vice President, managers relied more on subjective evaluations, considering various essential indicators of nonfinancial performance such as cross-selling and personnel development, and payouts were based more on effort rather than on results. “It is hard to build all these things into a formula. The less you define, the more you can build what you want into it.” If losses persist, it is also important “to let good people know that they have a secure future and about giving them subjective bonus payouts.” In contrast, “formula bonuses tend to be based on year-over-year improvement, but in a downturn, there is no year-over-year improvement.”

Site 6. One electric utility company we studied was hit hard by the California power crisis in 2000. It was “operating in an era in which it was impossible to set goals” because of the huge magnitude of the crisis. In the words of the company’s Director of Compensation, “You can’t anticipate things like this. How do you prepare for tsunamis? How do you operate in a world without goals?” While performance as reflected in traditional financial performance measures became uncontrollable and unpredictable, measures of operational performance gained in importance. In the director’s words, “We knew we needed to keep the lights on, so our traditional operating goals (reliability, customer satisfaction, and safety) remained important.” The compensation committee of the board of directors approved no executive salary increases for 2001, and they delayed all employee raises by 3–4 months. They approved only “special” bonus payments to two executives “in recognition of their significant contributions in 2000 to preserve the viability of the company during the financial crisis, and for retention purposes.” In addition, in March 2001, the board committee changed the bonus plan into a retention incentive plan. These awards were not tied to performance as goals were seen to be “quite unclear.” The payments were earned if an executive remained actively employed through the performance period. The retention incentives were set equal to target bonus levels (30–80% of salary). For lower-level executives, these awards were paid quarterly in cash. At the most senior level, all of the awards were in deferred stock units convertible into shares of stock after two years.

Site 7. A young company intending to be the “Rolls Royce of pet stores” emphasized earnings targets and measures right from its start. Yet, the business model turned out to be too expensive to work. Customers did not value enough the costly service and design elements that the retail chain was offering them. The CFO explained: “We couldn’t show we were on track to profitability; we didn’t have enough mass; and eventually we couldn’t get more money.” Even though profitability was “wishful thinking” in the early days, each of their five stores had a budgeted profit target after only the company’s first five months of operation. The CFO thought that this emphasis on earnings was appropriate. He thought the

company needed to emphasize short-term financial performance because it was critical for the company's survival. After surviving for a few years, all five stores were sold to a large pet store chain.

Site 8. A small manufacturer of high-end barbeque equipment was undergoing a turnaround during which earnings were of little importance. A turnaround specialist had been brought in to try and save the company. He found what he says is common in such situations: "You can't believe the financial statements or any data in the company." So, he started by building his own information system on an Excel spreadsheet. One of the goals was to reduce the parts cost by 20%. Among the measures to which the turnaround specialist was paying the most attention were sales, cash expenses, collections, and purchases. All of these items had a direct and immediate impact on cash flow, something that was in short supply. The company had no formal incentive systems. Most of the managers had a sizable ownership stake and short-term pay was not an important issue.

Appendix C. Questionnaire Items

1. NONFIN_OV—Weight on Nonfinancial Performance Measures in Overall Evaluations

In reaching their evaluation of CEO performance, which of the following factors did the evaluators take into account? (Allocate 100 points across all the factors considered, with higher numbers indicating a higher weight placed on that particular factor by the evaluators.)

- Bottom-line financial measures of firm performance (i.e., accounting profits or returns);
- Other financial measures of firm performance (e.g., revenue, specific cost items, receivables, inventory, debt levels);
- Nonfinancial measures of firm performance (e.g., customer satisfaction, employee retention, R&D productivity, product/service quality);
- Individual measures of CEO performance (e.g., leadership skills, ability to attract and retain key personnel);
- Other (please describe).

2. NONFIN_B—Weight on Nonfinancial Performance Measures in Bonus Plan Formulas

Annual bonus plan of the CEO. (Please write the bonus as a percentage of CEO salary in 2004.)

- Based on bottom-line financial measures of firm performance (i.e., accounting profits or returns);
- Based on other financial measures of firm performance (e.g., revenue, specific cost items, receivables, inventory, debt levels);
- Based on nonfinancial measures of firm performance (e.g., customer satisfaction, employee retention, R&D productivity, product/service quality);
- Based on individual measures of CEO performance (e.g., leadership skills, ability to attract and retain key personnel);
- Based on higher-level measures of performance (e.g., firm or business group performance);*
- Other (please describe).

(*This item was only included if respondents indicated that they reported for an entity below the firm level.)

3. SUBJECT—Extent to Which Performance Evaluation Is Subjective

In reaching the evaluation of CEO performance, to what extent did the evaluators rely on: (Allocate 100 points.)

- A formulaic approach, i.e., using objective and quantifiable performance indicators, as opposed to,
- A subjective approach, i.e., using judgments of potentially a variety of performance indicators, some of which may not be easily quantifiable.

4. Types of Loss-Making Entities

Which of the following best describes the entity?

- The entity has been operating in a start-up mode. It has not yet earned a profit, but it expects to become profitable.
- The entity has been operating in a start-up mode. It has not yet earned a profit and it may not survive.
- The entity has been reporting temporary losses. It has been profitable before and expects to be profitable again.
- The entity has been experiencing financial adversity and may not survive without a major restructuring.
- The entity has been profitable, but profitability is below its desired long-term goal.
- The entity is operating at or above its desired long-term profitability goal.

5. RETAIN—Retention Concerns

Consider the following two purposes of incentives: motivation and retention. Indicate the relative importance of each in the design of the general manager’s incentive compensation for 2004: (Allocate 100 points.)

- Motivation;
- Retention.

6. URGENT— Profit Urgency

	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neither agree or disagree</i>	<i>Agree</i>	<i>Strongly Agree</i>
The entity has adequate (access to) capital for the near term	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The entity faces strong pressures to earn short-term profits	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7. UNCONTR—Executive Performance Is Deemed Better Than Overall Firm Performance

On a scale from zero (poor) to 100 (excellent), what was the “overall performance” of the entity for the last year (2004)?

On a scale from zero (poor) to 100 (excellent), what was the “overall performance” of the entity general manager as rated by his/her evaluators for the last year (2004)?

8. ETARGET, ECOMP, ETECH—Target Accuracy and Environmental Predictability

Please rate the entity’s business environment in roughly the last 3–5 years:

	<i>Very Low</i>	<i>Low</i>	<i>Mode- rate</i>	<i>High</i>	<i>Very High</i>	<i>NA</i>
Competition for main products/services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Predictability of competitors’ market actions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Frequency of new product/service introductions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Accuracy of demand forecasts one year out	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Degree of technological change	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ability to set meaningful annual performance targets	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

9. ISYS—Quality of Information Systems

	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neither agree or disagree</i>	<i>Agree</i>	<i>Strongly Agree</i>
The entity’s information systems are effective	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>