

WHEN DOES INCENTIVE COMPENSATION MOTIVATE MANAGERIAL BEHAVIORS? AN EXPERIMENTAL INVESTIGATION OF THE FIT BETWEEN INCENTIVE COMPENSATION, EXECUTIVE CORE SELF-EVALUATION, AND FIRM PERFORMANCE

DANIEL HAN MING CHNG,^{1*} MATTHEW S. RODGERS,² ERIC SHIH,³ and XIAO-BING SONG⁴

¹ *China Europe International Business School, Shanghai, China*

² *Fisher College of Business, The Ohio State University, Columbus, Ohio, U.S.A.*

³ *SKK Graduate School of Business, Sungkyunkwan University, Seoul, Korea*

⁴ *School of Business Management, Dalian University of Technology, Liaoning, China*

We develop and test an integrative model that examines the fit between compensation schemes, executives' characteristics, and situational factors. We propose that a fit among all three factors is crucial to motivate desirable managerial behaviors. Using a specially designed management simulation, our study demonstrates that the effectiveness of incentive compensation to motivate managerial behaviors depends on executives' core self-evaluation and firm performance. Our results show that, relative to fixed salary compensation, executives with higher core self-evaluation respond to incentive compensation with greater perseverance, competitive strategy focus, ethical behavior, and strategic risk taking during organizational decline. However, these interaction effects are not present during organizational growth. Our theory and empirical evidence provide significant insights into the complex relationships among compensation schemes, executives' characteristics, firm performance, and managerial behaviors. Copyright © 2012 John Wiley & Sons, Ltd.

INTRODUCTION

A central tenet of executive compensation research is the ability of incentive compensation to motivate appropriate managerial behaviors and influence organizational performance (e.g., Finkelstein, Hambrick, and Cannella, 2008; Gerhart and Rynes, 2003; Gomez-Mejia, Berrone, and Franco-Santos, 2010). Despite great attention, empirical research

reveals that incentive effects are far from unequivocal. While compensation researchers from various disciplines agree that incentive compensation influences managerial behaviors and organizational outcomes, they also realize that its effects are quite complex (Devers *et al.*, 2007; Finkelstein *et al.*, 2008; Gomez-Mejia *et al.*, 2010). Indeed, contrary to the expectations of normative agency theory (e.g., Jensen and Murphy, 1990), recent studies have demonstrated that certain forms of incentive compensation, such as executive stock options, can actually motivate managerial behaviors that are deemed to be undesirable, such as earnings manipulations (e.g., Harris and Bromiley, 2007; Zhang *et al.*, 2008).

Keywords: incentive compensation; core self-evaluation; organizational decline; ethical behavior; strategic risk taking

* Correspondence to: Daniel Han Ming Chng, China Europe International Business School, Shanghai, China 201206.
E-mail: dchng@ceibs.edu

Copyright © 2012 John Wiley & Sons, Ltd.



In response to these ambiguous findings, Wowak and Hambrick (2010) emphasized the role of executives' characteristics in shaping compensation effects. They argued that executives who varied significantly in their individual characteristics would respond differently to various compensation schemes. One of the key characteristics emphasized in their model was executives' self-confidence. Both psychological (e.g., Bandura, 1982) and managerial (e.g., Hiller and Hambrick, 2005) research have revealed that executives' self-confidence significantly affects their cognitions, motivations, and actions. Wowak and Hambrick's (2010) model of pay-person interaction built on this idea and predicted that executives' self-confidence would influence their responses to incentive compensation. Although untested, their model helps us understand the complexities of executive compensation.

However, Wowak and Hambrick's (2010) model does not provide a complete explanation of executive compensation effects. In addition to executives' characteristics, situational contingencies also play an important role in explaining how incentive compensation influences managerial behaviors. Prior research emphasizing pay-situation interactions showed that incentive effects often depend on situational factors, such as firms' size, technological focus, pay strategy, and performance context (e.g., Balkin and Gomez-Mejia, 1987; Carpenter, 2000). The key insight from extant research is that both situational and dispositional approaches are fruitful avenues for advancing our understanding of incentive compensation effects. However, despite the individual value of each approach, there remains a clear need to theoretically and empirically connect both streams of research in order to achieve a better understanding of when incentive compensation will affect managerial behaviors.

This study begins this important process by developing an integrative understanding of how key situational and dispositional contingencies can influence incentive compensation effects. Specifically, we propose that a fit among compensation schemes, executives' characteristics, and firm performance is crucial to motivate desirable managerial behaviors envisioned in the executive compensation literature. We start by examining how executives' core self-evaluation (CSE) (Hiller and Hambrick, 2005; Judge, Locke, and

Durham, 1997), a broader construct that encompasses self-confidence, shapes their responses to incentive compensation relative to fixed salary compensation. Further, given the importance of situational contingencies in influencing executives' responses to incentives, we examine how firm performance, in terms of organizational growth and decline, moderates the relationship between executives' CSE and compensation schemes.

Using a specially designed management simulation in an experimental environment, we test our integrative pay-person-situation model on a set of desirable managerial behaviors, including perseverance, competitive strategy focus, ethical behavior, and strategic risk taking.¹ Our theory and supportive empirical evidence contribute to executive compensation research by demonstrating that the effectiveness of incentive compensation to motivate appropriate managerial behaviors depends on a fit between executives' CSE and firm performance. In doing so, we provide significant insights into the complex relationships among compensation schemes, executives' characteristics, firm performance, and managerial behaviors.

THEORETICAL FRAMEWORK

Incentive compensation and executive CSE

Organizational scholars have long argued that for organizations to achieve their objectives, executives must be duly motivated with financial incentives (Cyert and March, 1963; Jensen and Meckling, 1976; Lawler, 1990). Drawing on agency theory, executive compensation research has emphasized the role of incentive compensation in addressing inherent agency problems in organizations (Eisenhardt, 1989; Jensen and Murphy, 1990; Murphy, 1999). Specifically, agency theorists argue that the interests of executives (as agents) and shareholders (as principals) often diverge in important ways. Given the difficulties that shareholders experience in monitoring the actions of executives coupled with the extensive control executives have over the resources of their

¹ It is generally accepted that shareholders prefer executives who demonstrate greater effort and perseverance, focus on critical organizational tasks, are more ethical in their conduct, and are more open to risk (Jensen and Meckling, 1976; Jensen and Murphy, 1990; Lawler, 1990), even though it is less clear whether these desirable managerial behaviors increase firm performance.

firms, it is predicted that executives will act opportunistically to further their personal goals rather than the goals of shareholders (Jensen and Meckling, 1976; Jensen and Murphy, 1990). To address this problem, agency theorists recommend the use of incentive compensation to systematically realign executives' interests with those of shareholders and to motivate appropriate managerial behaviors while discouraging undesirable ones (Eisenhardt, 1989; Jensen and Murphy, 1990; Murphy, 1999). By making executives' compensation contingent on future performance, incentive compensation is associated with desirable managerial behaviors that can contribute to firm performance, including greater perseverance, greater focus on key organizational tasks (Lawler, 1990), appropriate risk taking (Sanders, 2001), and even enhanced ethical behaviors (Mahoney and Thorn, 2006; O'Connor *et al.*, 2006).

However, empirical studies on the effects of incentive compensation on managerial behaviors are sparse, and their findings are mixed. Some research suggests that the heterogeneous findings can be attributed to the degree of fit between compensation and other factors (e.g., Balkin and Gomez-Mejia, 1987; Carpenter, 2000). Building on this concept of fit, Wowak and Hambrick (2010) recently proposed a pay-person interaction model of executive compensation effects. They proposed that the characteristics of executives would influence their responses to compensation arrangements. Hence, theoretically predicted incentive effects are observed only when there is a fit between the characteristics of executives and compensation arrangements. Using executive stock options as a specific example of incentive compensation, Wowak and Hambrick proposed that executives' materialism, self-regulatory focus, and self-confidence would interact with stock options to jointly predict managerial risk taking. However, they made no specific predictions about how executive characteristics and compensation would relate to other important managerial behaviors suggested by normative agency theory.

Furthermore, while Wowak and Hambrick's (2010) model of pay-person interaction focuses on executives' self-confidence, there are a number of related concepts in managerial studies, including self-efficacy (e.g., Bandura, 1982), self-esteem (e.g., Rosenberg, 1965), and locus of control (e.g., Rotter, 1966). In addressing these related constructs in strategic leadership research, Hiller

and Hambrick (2005) advocated focusing on the broader concept of CSE, an individual's fundamental and enduring self-assessment of personal worth and competence (Hiller and Hambrick, 2005; Judge *et al.*, 1997). CSE is recognized as a higher-order dispositional trait that concisely explains the common variance of four highly correlated traits: self-esteem, generalized self-efficacy, emotional stability, and locus of control. In general, people with high CSE possess a positive self-belief that includes high self-confidence, self-worth, and self-potency. Validated through numerous studies, researchers have recently begun to empirically examine the role of executives' CSE in strategic processes, and there is increasing evidence that executives' CSE is linked to their strategic behaviors (Haleblain, Markoczy, and McNamara, 2007; Simsek, Heavey, and Veiga, 2010). In keeping with this recent trend, we focus on executives' CSE and propose that it will influence their responses to incentive compensation.

By making compensation contingent on firm performance, incentive compensation transfers risk from shareholders to executives by making executives' future wealth uncertain (Eisenhardt, 1989; Gomez-Mejia and Wiseman, 1997). However, as Gomez-Mejia and Wiseman (1997) noted, transferring risk to executives through incentive compensation can either align executive interests with those of shareholders and motivate desirable managerial behaviors or aggravate executives' risk aversion and reduce their tendency toward such desirable managerial behaviors. When presented with incentive compensation, executives must determine whether they will be able to achieve the stated performance goals and earn the promised rewards. This assessment will be strongly influenced by executives' CSE. Executives with higher CSE are not only more comfortable with the increased uncertainty associated with incentive compensation but also are more confident in their ability to achieve the stated performance goals. Given this effect, they are likely to be more responsive to incentive compensation. Conversely, for executives with lower CSE, the greater uncertainty presented by incentive compensation may overwhelm their meager self-belief and reduce their propensity to respond to incentive compensation in the desired manner. This stands in contrast to fixed salary compensation, where pay is assured and there is no uncertainty over executives' future

income. As such, executives' CSE will have little influence on their responses to fixed salary compensation. However, we do not expect this interaction between executives' CSE and incentive compensation to remain stable in all contexts. The dispositional approach to incentive compensation offers only a partial model of how incentive compensation can affect managerial behavior. In the next section, we explain how the situational contingency of firm performance needs to be incorporated in order to better understand the effects of incentive compensation.

The moderating role of firm performance

Firm performance is an important situational contingency that influences the effects of incentive compensation (Carpenter, 2000; Gomez-Mejia and Wiseman, 1997). Organizational research has shown that firms and their executives often behave differently in varying performance contexts. For example, research on organizational decline has shown that executives in distressed firms attend to issues and act in ways that differ substantively from those of executives in nondistressed firms (e.g., D'Aveni and MacMillan, 1990). Furthermore, research on strategic persistence has observed that firms with good performance tend to persist with their existing strategies (e.g., Audia, Locke, and Smith, 2000), while those with poor performance tend to engage in strategic change (e.g., Cyert and March, 1963; Greve, 2003).

In considering firm performance, the reason why incentive effects may vary across contexts has to do with the nature of uncertainty during organizational growth and decline. The relative degree of uncertainty during organizational growth and decline will interact with the uncertainty associated with incentive compensation to determine its effectiveness in motivating desirable managerial behaviors (Gomez-Mejia and Wiseman, 1997). Drawing on prospect theory (Kahneman and Tversky, 1979), Wiseman and Gomez-Mejia (1998) argued that organizational growth and decline differentially influence the risk propensity of executives by affecting the manner in which they frame the decision situation, which, in turn, affects how they respond to incentive compensation.

During organizational growth, choices tend to be framed as gains, and executives are more likely to exhibit risk aversion. Because incentive compensation is contingent on performance outcomes, it

presents greater risk to executives' future wealth than fixed salary compensation. Given executives' increased risk aversion in the context of growth, they will not welcome this risk-enhancing feature of incentive compensation. As a result of this mismatch between the lower risk propensity of executives and the risk-enhancing feature of incentive compensation, incentive effects will be greatly weakened during organizational growth. In contrast, choices made during organizational decline tend to be framed as losses, and executives are more likely to be risk seeking (Wiseman and Bromiley, 1996). Hence, executives are more willing to take on the risk associated with incentive compensation. This fit between the greater risk propensity of executives and the risk-enhancing feature of incentive compensation strengthens the motivational potential of incentives to affect desirable managerial behaviors during organizational decline.

An integrative model of fit on managerial behaviors

Emphasizing the important role of both executives' CSE and firm performance, we develop an integrative model of the effects of incentive compensation on four desirable managerial behaviors: perseverance, competitive strategy focus, ethical behavior, and strategic risk taking. Our model explains how the fit between incentive compensation and executives' CSE affects the extent to which executives will engage in these managerial behaviors during organizational decline and growth.

Perseverance

Perseverance is a person's tendency to persist and endure when facing challenges in the pursuit of a goal (Eisenberger, 1992). The manifestation of perseverance includes greater effort and endurance when pursuing goals in the face of setbacks. Perseverance may not necessarily be functional, but it is generally viewed as a desirable and often necessary factor for success (Shrauger and Sorman, 1977). A basic expectation of incentive compensation is that people are more likely to persevere toward performance goals when they are properly incentivized because persisting in the face of challenges is inherently risky. Prior studies have found that incentive compensation influences the level of perseverance in employees (Gerhart and Rynes,

2003). To the extent that incentive compensation can motivate greater perseverance toward performance goals when facing challenges, its effect should be influenced by both executives' CSE and firm performance.

Executives with higher CSE are more confident in their ability to overcome setbacks and to achieve the performance goals needed to attain promised rewards. As such, they are more likely to respond to incentive compensation, strengthening the effects of incentives on perseverance. In contrast, executives with lower CSE are less confident that they can overcome setbacks and are therefore less willing to persevere in the face of challenges. Hence, for executives with lower CSE, incentive compensation will have minimal effect on their perseverance toward performance goals when facing challenges. This effect should be more pronounced during organizational decline as the risk of persevering increases when there is greater uncertainty regarding future performance. During decline, executives with higher CSE will have the positive self-belief to persevere toward incentivized performance goals when facing challenges, while those with lower CSE are more likely to give up. In contrast, executives are more inclined to be risk averse during organizational growth. This effect will make executives, regardless of their CSE, less comfortable with the inherent risk of incentive compensation and less willing to persevere when facing challenges in pursuing incentivized performance goals. As such, the interaction effect of incentive compensation and executives' CSE on perseverance should be stronger during organizational decline than during organizational growth.

Hypothesis 1: Incentive compensation leads to greater perseverance for executives with higher (vs. lower) CSE to a greater extent during organizational decline than during organizational growth.

Competitive strategy focus

According to the attention-based view of the firm, managerial behaviors are the result of executives' attention (Ocasio, 1997). What executives do in any particular context depends on which issues and solutions they focus their attention, and organizations can influence executive managerial behaviors

by channeling their attention. In particular, incentive compensation can be used to align executives' interests with those of shareholders and encourage them to focus on key organizational activities aimed at improving firm performance (Eisenhardt, 1989; Jensen and Meckling, 1976). For example, Cho and Hambrick (2006) observed that changes in incentive compensation and top management team composition affected executives' entrepreneurial attention and their propensity toward strategic change after an environmental shift. To the extent that incentive compensation aims to channel executive attention to competitive strategies aimed at enhancing firm performance, its effect should be influenced by both executives' CSE and firm performance.

Executives with higher CSE tend to have better problem-coping strategies as they are able to focus on the critical issues of a problem (Kammeyer-Mueller, Judge, and Scott, 2009). When presented with incentives to improve performance, these confident executives are better able to sift through the extraneous issues and focus on competitive strategies aimed at enhancing the firm's competitive position. As such, executives with higher CSE should be more responsive to incentive compensation's intent of channeling their attention to competitive strategies aimed at improving performance. In contrast, executives with lower CSE have less effective problem-coping strategies and are less likely to stay focused on competitive strategies, thereby weakening the effect of incentive compensation for these executives. Further, to the extent that competitive strategies aimed at improving performance are inherently risky, these incentive effects should be stronger during organizational decline when uncertainty over future performance increases. During decline, confident executives will not only have the positive self-belief but also the effective problem-coping strategies to focus on risky competitive strategies aimed at improving performance, strengthening the effect of incentive compensation. In contrast, during organizational growth, the absence of any imminent problems will increase executives' risk aversion. This effect will weaken the interaction effect of incentive compensation and executives' CSE on their focus toward risky competitive strategies aimed at improving firm performance.

Hypothesis 2: Incentive compensation leads to greater competitive strategy focus for executives

with higher (vs. lower) CSE to a greater extent during organizational decline than during organizational growth.

Ethical behavior

Given recent corporate scandals, maintaining strong ethical leadership has become more important in organizational research. Yet the question of whether incentive compensation leads to more ethical behavior has received only limited attention. Prior studies that have focused on executive stock options have produced mixed results (Harris and Bromiley, 2007; O'Connor *et al.*, 2006; Zhang *et al.*, 2008). On the one hand, consistent with agency theory's idea of interest alignment, some studies have found that increased stock options under certain conditions (e.g., in-the-money options) encourage more ethical behaviors (O'Connor *et al.*, 2006; Zhang *et al.*, 2008). On the other hand, contrary to the predictions of agency theory, other studies have found that under different conditions (e.g., out-of-the-money options) increased stock options tend to encourage executives to behave unethically (Harris and Bromiley, 2007; O'Connor *et al.*, 2006; Zhang *et al.*, 2008). In addition, studies that have examined other forms of incentive compensation, such as performance bonuses and stock ownership, have found that executives with incentives tend to act in the long-term interests of their organization and behave more ethically because they are concerned about the future success of the firm (Mahoney and Thorn, 2006; Zhang *et al.*, 2008). Recognizing that incentive compensation can induce both intended and unintended consequences under different conditions, its influence on ethical behavior should be affected by executives' CSE and firm performance.

Executives with higher CSE should reinforce the effects of incentive compensation to promote ethical behaviors. Prior studies emphasizing the role of locus of control (a specific trait of CSE) found that individuals with an internal locus of control are more likely to behave ethically (Treviño and Youngblood, 1990) because they see a clear connection between their own behavior and its outcome and are more willing to take personal responsibility for their actions. Similarly, executives with higher CSE are more likely to believe that they do not need to take ethical shortcuts in order to attain promised rewards and are therefore more responsive to the intent of incentive

compensation to promote ethical behaviors. In contrast, executives with lower CSE see less of a connection between their own behavior and its outcomes, and being less confident in their ability to achieve performance goals, they are more likely to engage in questionable behaviors in order to attain promised rewards. Hence, incentive compensation may actually encourage unethical behaviors in executives with lower self-belief. These effects should be more pronounced during organizational decline as uncertainty over future performance increases. In the face of declining performance, executives with higher CSE will believe that they can achieve performance goals without resorting to unethical behaviors, while those with lower confidence are more likely to take ethical shortcuts to improve performance and achieve promised rewards. In contrast, good performance during organizational growth enhances executives' risk aversion and will reduce the motivating effect of incentive compensation. Executives, regardless of their CSE, will perceive little need to be either overtly ethical or unethical in their pursuit of incentives. Hence, the interaction effect of incentive compensation and executives' CSE on their ethical behavior should be weaker during organizational growth than during decline.

Hypothesis 3: Incentive compensation leads to more ethical behavior for executives with higher (vs. lower) CSE to a greater extent during organizational decline than during organizational growth.

Strategic risk taking

Agency theorists have argued that a primary intention of incentive compensation is to enhance the risk preferences of executives (Eisenhardt, 1989). Executives who are entirely vested in their firms have a great deal to lose if their companies fail and are therefore both loss and risk averse (Eisenhardt, 1989; Wiseman and Gomez-Mejia, 1998). To encourage more risk taking, executive compensation should be contingent on firm performance. Prior research has shown that incentive compensation (in particular, executive stock options) encourages executives to make riskier strategic decisions (Sanders, 2001; Sanders and Hambrick, 2007). To the extent that incentive compensation encourages strategic risk taking, its effect should be influenced by both executives' CSE and firm performance.

Executives with higher confidence embrace the challenge presented by incentive compensation and perceive less risk and more opportunities (Wowak and Hambrick, 2010). Confident in their own abilities, these executives are more willing to select risky but potentially profitable strategic options to achieve performance goals, thereby accentuating the effects of incentive compensation on strategic risk taking. In contrast, executives with low self-confidence are not only uncomfortable with the risk associated with incentive compensation but also doubt their ability to achieve the stated performance goals. Thus, they avoid taking unnecessary risks and are less responsive to incentive compensation (Wowak and Hambrick, 2010). These effects should be more pronounced during organizational decline as executives tend to view their situation as one of perceived loss. In this situation, executives with higher CSE are not afraid to embrace risky but potentially profitable strategic options as they try to extract themselves from the loss situation and attain promised rewards. In contrast, during organizational growth, good performance will increase executives' perception of gains and encourage them to be more risk averse. As such, executives are more likely to maintain the status quo and avoid taking unnecessary strategic risks, weakening the interaction effect of incentive compensation and executives' CSE on their strategic risk taking during organizational growth.

Hypothesis 4: Incentive compensation leads to greater strategic risk taking for executives with higher (vs. lower) CSE to a greater extent during organizational decline than during organizational growth.

METHODS

There have been relatively few empirical investigations of the effects of incentive compensation on managerial behaviors. In part, this is due to the difficulty of examining these relationships through archival data, which uses organization-level proxies that are often conceptually and causally distant (e.g., research and development spending as a proxy for managerial risk taking). In view of these limitations, Finkelstein and Hambrick (1996) proposed that management simulations can serve as a promising method to study executives' strategic

behaviors. Advantages of using management simulations include the ability to measure variables at different levels of analysis, to control the context, to capture process differences, and to connect these processes to outcome measures in order to establish causality (Dutton and Stumpf, 1991). Moreover, management simulations have been used successfully to study executives' strategic decision making and behaviors (e.g., Audia *et al.*, 2000; Carpenter and Golden, 1997). In our study, we implemented a specially designed, computerized management simulation that allowed us to examine the potential causality of executives' managerial behaviors while accounting for distinct situational and dispositional variables.

Sample and simulation procedures

Our sample comprised 216 part-time MBA students recruited from a university in China, each of whom received compensation in exchange for their participation. Participants came from a wide variety of functional backgrounds, including management (23.4%), marketing (26.2%), finance (8.6%), operations (12.1%), information technology/engineering (11.8%), and others (17.9%). The average work experience was 9.7 years, and 38.8 percent of the participants were senior executives. Upon arriving at the computer center, participants were randomly assigned to one of two versions of the simulation (growth vs. decline) and one of two compensation schemes (incentive vs. fixed salary compensation). To ensure that participants took the simulation seriously, they were informed that the simulation was designed to test their managerial capabilities and that they were competing against other MBA students. Both versions of the simulation focused on a medical equipment company, but presented different firm performance contexts.² In the organizational growth context, the company was growing and enjoying good performance; while in the organizational decline context, the company was declining and suffering poor performance.

Participants played the role of a senior executive tasked to significantly improve the performance of the company over the next six decision

² The simulation story was based on Johnson & Johnson's experience in the stent business, as reported by Finkelstein (2003). The simulation underwent two rounds of pilot testing before final implementation.

periods, each corresponding to a business quarter (from Q1 to Q6). In the growth context, the performance goals were to capture at least 40 percent market share (starting from 23%) and to increase net profits above \$25 million (starting from \$13.6 million net profits) by the end of the simulation. In the decline context, the performance goals were to recapture at least 40 percent market share (starting from 23% after a peak of 58%) and to return the company to profitability (starting from \$13.6 million net losses) by the end of the simulation.

For each quarter, participants had a discretionary budget of \$6 million with which to implement nine strategies in one of two categories: (1) competitive strategies that sought to improve the company's competitive position relative to that of competitors; and (2) public relations strategies that sought to favorably present the company and its executives to key stakeholders. The five competitive strategies were price promotion, sales force management, advertising and promotion, research and development, and training and development. The four public relations strategies were CEO-analysts forum, public relations campaign, CEO meet-the-press, and shareholders newsletter. Participants allocated budgets between \$0 and \$2 million (in increments of \$50,000) to any of the nine strategies, and they were encouraged to utilize as much of the discretionary budget as possible in each quarter. After submitting their decisions for each quarter, participants obtained detailed performance feedback including quantitative financial data (e.g., market share, net profit, and earnings per share), a chart of share price movement over the previous eight quarters, and a qualitative performance report. Although the simulation was designed with all the features of an interactive simulation, it did not include a performance algorithm but instead used standardized performance feedback that presented a fluctuating but flat performance over the six quarters.³ After completing Q5, participants completed

³ We took several steps to ensure that participants did not discover this during the simulation. First, participants were seated in alternate computer stations in alternate rows to ensure that they were unaware of what other participants were doing. Second, to prevent subject contamination, we scheduled all participants who attended the same classes in the same session. In addition, participants were told not to disclose details about the simulation to their classmates during the debriefing sessions, and signed a promissory note to that effect. Third, we also carefully probed participants to see if they suspected that the simulation was not real. While it is not possible to assess with

a survey that evaluated several managerial behaviors before making their final allocations in Q6. To prevent endgame effects, allocations in Q6 were dropped from our analysis. Finally, participants were individually debriefed and paid.

Measures

Moderating independent variables

To investigate the effects of *incentive compensation*, we set up two compensation schemes: (1) incentive compensation and (2) fixed salary compensation. Under incentive compensation, participants were told that the company's executive compensation was performance based, consisting of a base salary plus performance bonuses of up to 100% of the base salary. Similarly, participants were told that their participation fee depended on how well they performed in the competitive simulation. In this condition, participants would receive a 100 yuan (about USD \$15) base fee plus an additional 50 to 100 yuan depending on their ability to meet the performance goals in the simulation. Under fixed salary compensation, participants were told that the company's executive compensation was an annually negotiated fixed salary that does not change regardless of firm performance. Similarly, participants were told that their participation fee was fixed at 150 yuan, regardless of their performance in the simulation.

To assess *executive CSE*, we used the 12-item measure ($\alpha = 0.822$) developed by Judge and his colleagues (2003) using a seven-point scale, as suggested by Hiller and Hambrick (2005), to account for the higher range that is likely for executives. Subjects completed this survey as part of a scale validation exercise at least 12 days before the simulation. Example items included: 'I am confident I can get the success I deserve in life,' and 'there are times when things look pretty bleak and hopeless to me.' For *firm performance* contexts, we implemented two versions of our simulation, representing either organizational growth or organizational decline as described above.

complete certainty, our debriefing sessions revealed that the vast majority of our participants believed that their decisions influenced their performance in the simulation and attributed their overall performances to their own decisions.

Dependent variables

Our first dependent variable, *perseverance*, measured the intention of participants to continue playing the simulation in order to achieve the stated performance goals. After receiving feedback that they were making little progress toward their performance goals, subjects were asked after Q5 to indicate on a seven-point scale their intention to persevere beyond the last quarter: ‘If you had more funds and time, how much would you want to continue playing the simulation beyond the six quarters to improve the company’s performance?’ From the subjects’ perspective, the possibility of playing additional decision rounds in order to achieve the performance goals was entirely possible. In addition, consistent with psychological studies that used time-on-task to assess perseverance (e.g., McFarlin, Baumeister, and Blascovich, 1984; Shrauger and Sorman, 1977), we included a second measure of perseverance, the total time participants spent making allocation decisions in the sixth and final quarter.

Our second dependent variable, *competitive strategy focus*, measured the extent to which participants devoted their budgetary resources to competitive strategies that sought to improve the company’s competitive position as opposed to public relations strategies that sought to favorably present the company and its executives to key stakeholders. Relative to public relations strategies, competitive strategies are inherently more risky since they are aimed at enhancing the firm’s competitive position. We summed the total budget allocation of each participant over the five competitive strategies in Q3 to Q5.

Our third dependent variable assessed participants’ *ethical behavior*. Participants were informed that fraudulent reporting of revenues and expenses by the company’s chief financial officer had been uncovered. Given the manner of reporting, it was unlikely that anyone outside of the company would discover this in the near term. Participants were then given the option to restate as many of the previous fraudulent reports as they desired, or none at all (between 0 to six reports). They were told that the more reports they restated, the closer they would be to fulfilling government regulations and professional expectations. However, restating more reports would also increase financial losses, reduce their ability to improve firm performance, and

decrease their performance relative to other students in the simulation. Participants were assessed to be more ethical if they restated more reports.

Our last dependent variable, *strategic risk taking*, measured the diversity of participants’ strategic allocations to competitive strategies. Identical to the concept of diversification in finance, a greater risk-taking approach involved concentrated allocations to only a few strategies, while a lower risk-taking approach involved dispersed allocations to many different strategies. Given the implicit assumption that each competitive strategy has the same level of risk, any portfolio of strategies must be less risky than any single strategy. We measured this variable using an entropy-based score commonly used to measure heterogeneity. The score is calculated as: $-\sum_i P_i \ln P_i$, for $i = 1 \dots 5$, where P is the proportion of the budget allocated to each i competitive strategy in Q3 to Q5. The score was reversed so that higher scores indicated greater strategic risk taking.⁴

Control variables

Research in strategic management has recognized that the characteristics of executives affect their attention, cognitions, and ultimately their strategic behaviors (Finkelstein *et al.*, 2008; Hambrick and Mason, 1984; Wowak and Hambrick, 2010). To account for individual differences in participants’ responses in the simulation, we collected several demographic and dispositional variables. Demographic variables include participant’s *age*, *gender*, average *grade* in the MBA program (out of 100), and *managerial level* (1=junior manager; 2=manager; 3=senior manager; 4=vice-president; 5=president). Two dispositional variables, *ambitiousness* and *collectivism*, were also collected since ambitious individuals may be more motivated by the individual rewards offered by incentive compensation, while collectivistic individuals are less likely to value such rewards (Cable and Judge, 1994). Following prior studies (e.g.,

⁴ We also used an alternate measure of strategic risk taking (allocation variance) in supplementary analyses. The results were significant and similar to those reported. However, we believe that the entropy-based measure we report is better at assessing the extent to which participants are willing to bet on any given strategy than is the simple variance measure. In addition, we also used an alternate specification that included all available strategies to test our hypotheses. Again, the results were significant and similar to those reported.

Desrochers and Dahir, 2000), we measured ambitiousness ($\alpha = 0.763$) on a seven-point scale using two statements: 'I have a strong desire to move into senior management in the future,' and 'I have ambitious career goals.' We measured participants' collectivism using an adapted version of Kirkman and Shapiro's (2001) scale ($\alpha = 0.733$). Example items included: 'It is important not to stand out too much in a team' and 'the performance of one's team is more important than one's own individual performance.' Finally, because participants' responses in Q3 to Q5 may be influenced by their responses in prior quarters, we controlled for their baseline effects by using participants' prior decision time (Q1-Q5), competitive strategy focus (Q1-Q2), and strategic risk taking (Q1-Q2) in analyses involving these dependent variables.

Data analysis

We examined the joint effects of compensation schemes, executives' CSE, and firm performance on our dependent variables using hierarchical regression analyses. In the first step, the respective control variables and the main effects of incentive compensation, executives' CSE, and firm performance were analyzed. In the second step, the two-way and three-way interaction terms were added to test the fit between incentive compensation, executives' CSE, and firm performance. Further, we conducted conditional slope tests for the different compensation schemes at low and high (± 1 std. dev.) executives' CSE under different firm performance contexts using the procedure outlined by Preacher, Curran, and Bauer (2006). We mean-centered the continuous executives' CSE variable before generating interaction terms as suggested by Aiken and West (1991).

RESULTS

Table 1 presents the descriptive statistics of all variables. Tables 2 and 3 present the results of our hierarchical regression analyses. We hypothesized that incentive compensation (relative to fixed salary compensation) would interact with participants' CSE to more strongly influence (a) perseverance, (b) competitive strategy focus, (c) ethical behavior, and (d) strategic risk taking during organizational decline than during organizational growth.

The results in Table 2, Models 2, 4, and 6 show a significant three-way interaction for the perseverance (both scale and decision time measures) and competitive strategy focus dependent variables ($p < 0.05$ for all), supporting Hypotheses 1 and 2. Similarly, the results in Table 3, Models 8 and 10 show a significant three-way interaction for the ethical behavior and strategic risk-taking dependent variables ($p < 0.05$ for all), supporting Hypotheses 3 and 4. Under organizational decline, participants with higher CSE responded more to incentive compensation and demonstrated greater perseverance, competitive strategy focus, ethical behavior, and strategic risk taking than those with lower CSE. As revealed by the slopes in Figures 1 and 2, participant CSE and compensation schemes under organizational decline interacted to differentially predict their strategic behaviors. However, there was no difference in slope between the two compensation schemes under organizational growth across different levels of executives' CSE for any of the strategic behaviors.

To probe the specific nature of the three-way interactions observed, we conducted conditional slope tests for the effect of compensation schemes on all dependent variables (see Table 4) at different levels of executives' CSE (± 1 std. dev.). Consistent with our hypothesis, under organizational decline, incentive compensation had a significant positive effect (relative to fixed salary compensation) on perseverance at a high level (+1 std. dev.) of executives' CSE (scale: $b=0.939$, $t=1.985$, $p < 0.05$; decision time: $b=0.994$, $t=2.723$, $p < 0.01$). These results indicate that incentive compensation induces greater perseverance than does fixed salary compensation for participants with high CSE. In contrast, incentive compensation had a significant negative effect on the scale measure of perseverance ($b=-0.757$, $t=-2.255$, $p < 0.05$) but had no significant effect for the decision time measure of perseverance for those with low CSE levels (-1 std. dev.) under organizational decline. The negative relationship (while not predicted) showed that incentive compensation discouraged participants with low CSE under organizational decline, such that they expressed less desire to persevere than did participants with high CSE. Furthermore, we found no significant effect of incentive compensation (relative to fixed salary compensation) on perseverance under organizational growth for either low or high CSE ($p > 0.05$ for all).

Table 1. Descriptive statistics and correlation coefficients^a

Variable	Mean	S.D.	Min.	Max.	1	2	3	4	5	6
1. Age	29.98	3.77	23.00	43.00						
2. Gender ^b	0.56	0.50	0.00	1.00	0.24***					
3. Grade	81.97	4.84	72.50	99.00	0.01	0.05				
4. Managerial level	2.55	0.76	1.00	5.00	0.37***	0.11	0.09			
5. Ambition	6.05	1.02	3.00	7.00	-0.01	0.28***	-0.04	0.11		
6. Collectivism	5.96	0.80	2.17	7.00	0.02	0.26***	-0.07	0.04	0.37***	
7. Incentive compensation ^b	0.50	0.50	0.00	1.00	0.04	0.00	-0.11	-0.01	0.01	-0.08
8. Core self-evaluation (CSE)	5.38	0.80	3.25	7.00	0.08	0.07	0.00	0.11	0.35***	0.21*
9. Firm performance ^b	0.49	0.50	0.00	1.00	0.24***	0.03	0.00	0.06	0.08	-0.05
10. Decision time (Q1–Q5)	23.68	7.13	5.20	43.78	-0.03	-0.09	0.02	-0.08	-0.02	-0.07
11. Competitive strategy focus (Q1–Q2)	8.16	1.58	0.85	11.65	0.25***	0.16*	0.17*	0.09	0.11	0.06
12. Strategic risk taking (Q1–Q2)	0.77	0.39	0.16	3.12	-0.13	-0.04	-0.12	-0.05	0.01	-0.03
13. Perseverance (scale)	1.71	1.28	1.00	7.00	0.03	0.02	-0.02	0.03	-0.26***	-0.17*
14. Perseverance (decision time Q6)	1.98	1.35	1.33	6.85	-0.09	-0.06	0.09	-0.06	-0.01	0.04
15. Competitive strategy focus (Q3–Q5)	12.60	2.25	4.90	18.00	0.20**	0.18*	0.15*	0.07	0.13	0.10
16. Ethical behavior	3.68	2.34	0.00	6.00	0.10	0.12	0.07	0.08	0.19**	0.04
17. Strategic risk taking (Q3–Q5)	2.25	0.65	1.17	4.50	0.07	0.02	-0.01	-0.04	0.10	0.13
Variable	7	8	9	10	11	12	13	14	15	16
8. Core self-evaluation (CSE)	0.04									
9. Firm performance ^b	-0.06	-0.16*								
10. Decision time (Q1–Q5)	0.27***	0.00	0.03							
11. Competitive strategy focus (Q1–Q2)	0.09	-0.02	0.24***	0.12						
12. Strategic risk taking (Q1–Q2)	-0.11	0.08	-0.20**	-0.22**	-0.75***					
13. Perseverance (scale)	-0.02	-0.13*	0.13	-0.03	0.03	-0.03				
14. Perseverance (decision time Q6)	0.18**	-0.03	-0.08	0.29***	0.12	-0.15	0.06			
15. Competitive strategy focus (Q3–Q5)	0.10	0.02	0.22**	0.11	0.52***	-0.32***	0.03	0.20**		
16. Ethical behavior	0.04	0.07	0.17*	-0.07	0.12	0.02	-0.07	0.05	0.14*	
17. Strategic risk taking (Q3–Q5)	0.20**	0.12	0.26***	-0.02	0.19*	0.00	0.03	-0.21**	0.13	

^a n = 216 subjects.^b For gender, 0 = female, 1 = male; for incentive compensation, 0 = fixed salary compensation, 1 = incentive compensation; for firm performance, 0 = organizational growth, 1 = organizational decline. Significance levels: * p < 0.05, ** p < 0.01, *** p < 0.001.

Table 2. Results of hierarchical regression for perseverance and competitive strategy focus^a

Variable	Perseverance (scale)		Perseverance (decision time Q6)		Competitive strategy focus (Q3-Q5)	
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Constant	5.931** (1.861)	5.287* (2.163)	-1.331 (1.970)	-1.461 (2.292)	1.218 (2.905)	0.898 (3.338)
Age	-0.021 (0.026)	-0.018 (0.026)	-0.017 (0.027)	-0.018 (0.027)	0.029 (0.041)	0.028 (0.040)
Gender (male=1)	0.322 (0.186)	0.317 (0.184)	-0.147 (0.196)	-0.142 (0.196)	0.323 (0.290)	0.302 (0.285)
Grade	-0.013 (0.018)	-0.011 (0.018)	0.030 (0.019)	0.031 (0.019)	0.039 (0.028)	0.040 (0.028)
Managerial level	0.119 (0.120)	0.121 (0.120)	-0.045 (0.127)	-0.059 (0.127)	-0.047 (0.187)	-0.086 (0.184)
Ambition	-0.346*** (0.098)	-0.352** (0.100)	0.015 (0.103)	0.015 (0.106)	0.052 (0.153)	0.097 (0.155)
Collectivism	-0.160 (0.117)	-0.155 (0.119)	0.156 (0.124)	0.140 (0.126)	0.175 (0.183)	0.121 (0.183)
Incentive compensation (incentive=1)	-0.036 (0.170)	0.069 (0.242)	0.359 (0.187)	0.270 (0.263)	0.330 (0.268)	0.004 (0.376)
Core self-evaluation (CSE)	-0.007 (0.117)	0.056 (0.224)	-0.099 (0.123)	-0.051 (0.237)	0.049 (0.182)	0.136 (0.346)
Firm performance (decline=1)	0.389* (0.180)	0.386* (0.185)	-0.177 (0.013)	-0.175 (0.196)	0.490 (0.286)	0.474 (0.291)
Decision time (Q1–Q5)			0.047*** (0.013)	0.048*** (0.013)		
Competitive strategy focus (Q1–Q2)					0.637*** (0.090)	0.640*** (0.089)
Incentive x CSE	-0.023 (0.306)		-0.258 (0.324)			-0.144 (0.472)
Decline x CSE	-0.125 (0.214)		0.151 (0.227)			-0.099 (0.330)
Decline x incentive	-0.195 (0.348)		0.176 (0.369)			0.672 (0.536)
Incentive x CSE x decline	0.812* (0.414)		0.942* (0.450)			1.687* (0.656)
R ²	0.112	0.148	0.124	0.156	0.308	0.350
ΔR ²		0.036		0.032		0.042
F-statistic	2.90**	2.63**	2.89**	2.53**	9.12***	7.72***
Df	9,206	13,202	10,205	14,201	10,205	14,201

^a n = 216 subjects. Two-tailed tests. Standard errors are in parentheses. Significance levels: * p < 0.05, ** p < 0.01, *** p < 0.001.

For competitive strategy focus, ethical behavior, and strategic risk taking, we found similar patterns of conditional effects for both compensation schemes. Under organizational decline, competitive strategy focus, ethical behavior, and strategic risk taking were higher with incentive compensation than they were for fixed salary compensation in participants with high CSE ($b=1.010$, $t=3.118$, $p < 0.01$; $b=1.758$, $t=2.753$, $p < 0.01$; and $b=0.242$, $t=2.417$, $p < 0.05$, respectively). For competitive strategy focus and ethical behavior, there were no significant compensation effects for those with low CSE ($b=-0.243$, $t=-0.712$,

$p > 0.05$; and $b=-0.406$, $t=-0.650$, $p > 0.05$). While there was a significant positive compensation effect on strategic risk taking for those with low CSE, it was significantly weaker than for those with high CSE ($b=0.335$, $t=2.161$, $p < 0.05$). Furthermore, there was no effect of incentive compensation (relative to fixed salary) for different levels of executives' CSE under organizational growth ($p > 0.05$ for all) for any dependent variable. Overall, the patterns of effect for the compensation schemes observed across various levels of executives' CSE and firm performance contexts support our hypothesis that incentive effects are contingent

Table 3. Results of hierarchical regression for ethical behavior and strategic risk taking^a

Variable	Ethical behavior		Strategic risk taking (Q3–Q5)	
	Model 7	Model 8	Model 9	Model 10
Constant	−3.012 (3.466)	−3.465 (4.026)	−0.632 (0.901)	−0.254 (1.030)
Age	0.019 (0.048)	0.017 (0.048)	0.004 (0.012)	0.001 (0.012)
Gender (male=1)	0.286 (0.346)	0.266 (0.343)	−0.032 (0.087)	−0.032 (0.085)
Grade	0.037 (0.033)	0.038 (0.033)	0.010 (0.008)	0.009 (0.008)
Managerial level	0.088 (0.223)	0.045 (0.223)	−0.063 (0.056)	−0.084 (0.055)
Ambition	0.374* (0.182)	0.425* (0.186)	−0.018 (0.046)	0.000 (0.046)
Collectivism	−0.081 (0.218)	−0.138 (0.221)	0.139* (0.055)	0.108 (0.055)
Incentive compensation (incentive=1)	0.253 (0.317)	−0.149 (0.451)	0.346*** (0.081)	0.126 (0.114)
Core self-evaluation (CSE)	0.098 (0.217)	0.235 (0.417)	0.106 (0.055)	0.120 (0.104)
Firm performance (decline=1)	0.728* (0.334)	0.730* (0.344)	0.471*** (0.086)	0.462*** (0.087)
Strategic risk taking (Q1–Q2)			0.495*** (0.106)	0.439*** (0.105)
Incentive x CSE		−0.247 (0.569)		−0.171 (0.141)
Decline x CSE		−0.088 (0.398)		0.136 (0.099)
Decline x incentive		0.825 (0.647)		0.427** (0.162)
Incentive x CSE x decline		1.600* (0.792)		0.444* (0.197)
R ²	0.080	0.118	0.240	0.291
ΔR ²		0.038		0.051
F-statistic	2.00*	1.83*	6.46***	5.90***
Df	9,206	13,202	10,205	14,201

^a n = 216 subjects. Two-tailed tests. Standard errors are in parentheses. Significance levels: * p < 0.05, ** p < 0.01, *** p < 0.001.

on these respective dispositional and situational factors.

DISCUSSION AND CONCLUSIONS

This paper combines insights from prior research on pay-person fit and pay-situation fit to advance and test an integrative model of the effects of incentive compensation, executives' CSE, and firm performance on managerial behaviors. Our empirical findings provide strong support for our theoretical perspective that the effectiveness of incentive compensation to motivate appropriate managerial behaviors is contingent on a fit between executives' CSE and firm performance. More

specifically, we found that, under organizational decline, executives respond differently to incentive compensation depending on their CSE. Executives with higher CSE respond to incentive compensation with greater perseverance, competitive strategy focus, ethical behavior, and strategic risk taking compared to those with lower CSE. These results suggest that confident executives react positively to both the challenges of organizational decline and the uncertainty inherent in incentive compensation by engaging in desirable managerial behaviors.

A few other interesting results are worth noting. First, we find that incentive compensation has a significant negative effect on perseverance for participants with low CSE under organizational

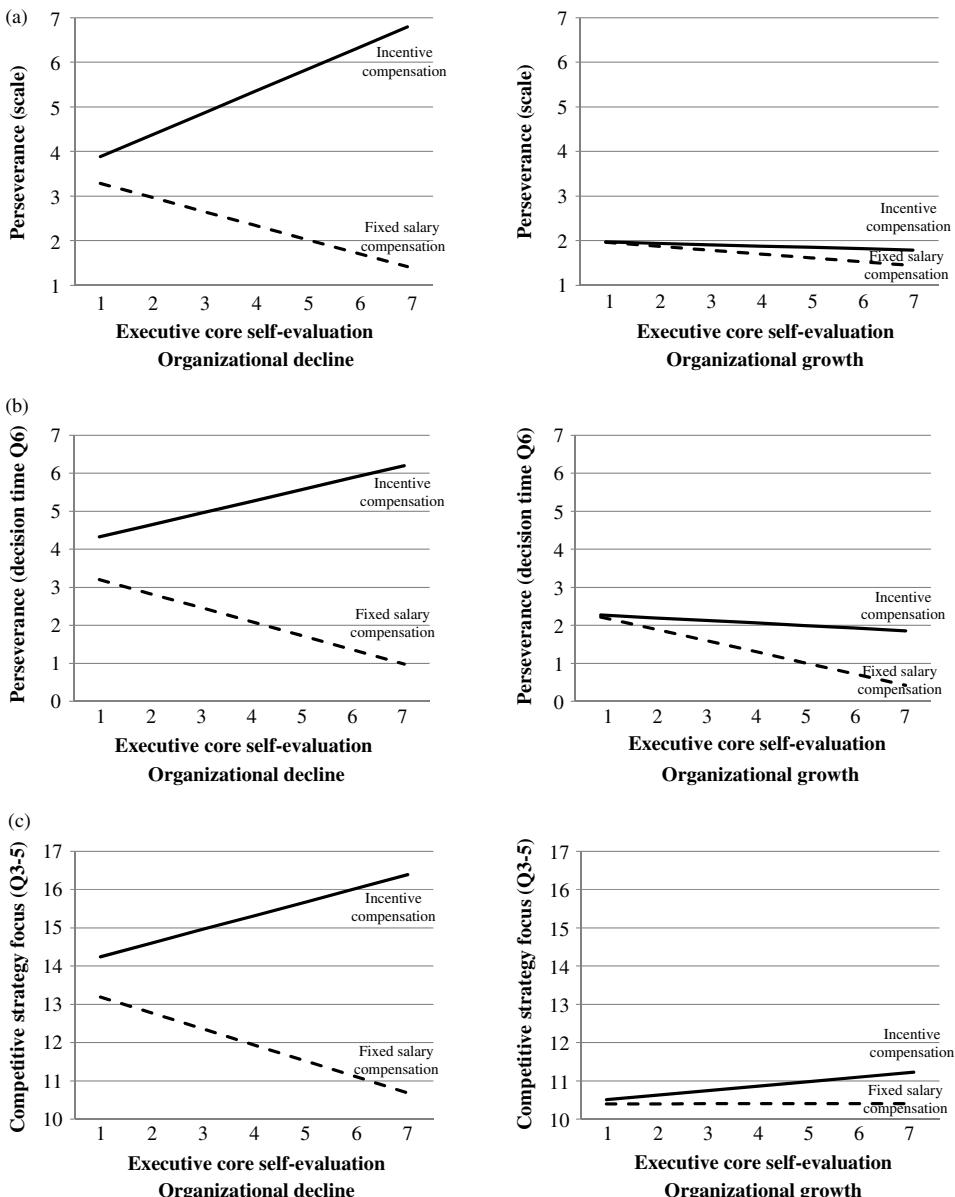


Figure 1. Interaction effects for (a) perseverance (scale), (b) perseverance (decision time), and (c) competitive strategy focus under organizational decline and organizational growth

decline. Incentive compensation appears to discourage participants with lower self-confidence to persist in the face of potential failure. These participants lack confidence in their abilities to improve the declining firm and have a stronger desire to give up when offered incentive compensation. Furthermore, we observed negative (albeit non-significant) relationships for perseverance (decision time), competitive strategy focus, and ethical behavior. While these results are unexpected and

require further investigation, incentive compensation may yield negative, unintended consequences if it is applied to the wrong mix of individual and situation. Second, for many of the managerial behaviors examined here, fixed salary compensation weakened the inherent motivation of executives with higher CSE who were facing organizational decline. While these results underscore agency theory's prediction that incentive compensation is more effective than fixed salary

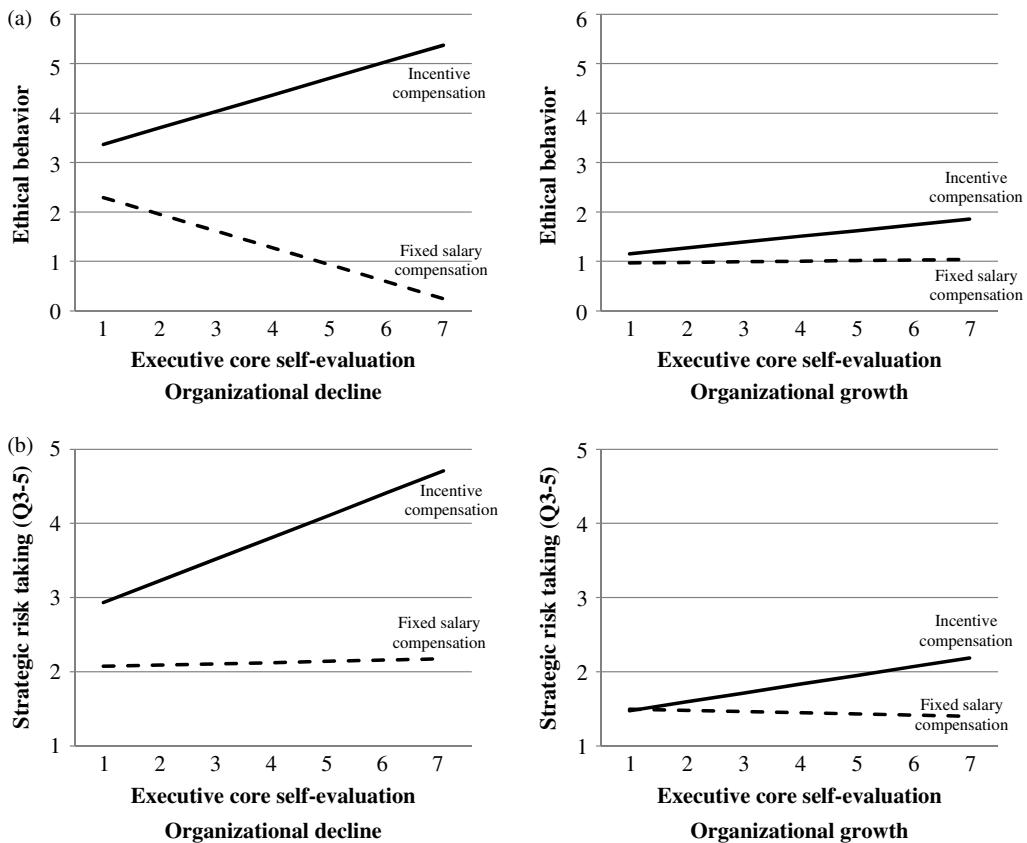


Figure 2. Interaction effects for (a) ethical behavior and (b) strategic risk taking under organizational decline and organizational growth

compensation at motivating executives, these negative effects on managerial behaviors were not expected. Even so, these observations reinforce our theory that a fit between compensation scheme, executive characteristics, and firm performance is crucial to motivate desirable managerial behaviors. Third, our results also reveal that the interaction between executives' CSE and incentive compensation is absent from the performance context of organizational growth. Executives with different levels of self-confidence do not respond differently to incentive compensation when the firm is enjoying good performance. These results suggest that incentive compensation alone may be insufficient to motivate desirable managerial behaviors in situations that are not inherently challenging. Executives in our study appeared reticent to 'mess with success' and therefore did not significantly modify their actions even when presented with challenging performance goals and incentives for achieving those goals.

Theoretical implications

By emphasizing the importance of fit, our study advances prior theories about both the pay-situation fit (Balkin and Gomez-Mejia, 1987; Carpenter, 2000) and the pay-person fit (Wowak and Hambrick, 2010). While researchers have long recognized the importance of fit (e.g., Chandler, 1962), little research has been conducted to examine the fit between compensation schemes, executives' characteristics, and situational contingencies. The present work makes a significant contribution to address this limitation by emphasizing the importance of an integrative understanding of incentive effects. This paper makes several additional contributions.

First, we expand the model of pay-person interaction by focusing on the broader construct of CSE. We clearly demonstrate that executives' CSE affects their responses to incentive compensation across a broad range of managerial behaviors,

Table 4. Conditional slope tests for incentive compensation effects on perseverance, competitive strategy focus, ethical behavior, and strategic risk taking^a

Dependent variable	Organizational decline		Organizational growth	
	Low CSE (-1 std. dev.)	High CSE (+1 std. dev.)	Low CSE (-1 std. dev.)	High CSE (+1 std. dev.)
Perseverance (scale)	-0.757* (0.336)	0.939* (0.473)	0.087 (0.348)	0.038 (0.474)
Perseverance (decision time Q6)	-0.102 (0.359)	0.994** (0.365)	0.476 (0.374)	0.064 (0.365)
Competitive strategy focus (Q3–Q5)	-0.243 (0.341)	1.010** (0.352)	0.471 (2.292)	0.109 (0.346)
Ethical behavior	-0.406 (0.625)	1.758** (0.639)	0.049 (0.647)	-0.347 (0.635)
Strategic risk taking (Q3–Q5)	0.335* (0.155)	0.772*** (0.159)	0.263 (0.162)	-0.011 (0.159)

^a Two-tailed tests. Standard errors are in parentheses. Significance levels: * p < 0.05, ** p < 0.01, *** p < 0.001.

providing general support to the theoretical arguments advanced by Wowak and Hambrick (2010). As indicated by the results in this study, incorporating the role of executive characteristics to better understand compensation effects is a promising area of research that deserves further attention. Second, we contribute to the literature on compensation by elaborating on the situational contingency of firm performance. We build on earlier studies that examine the fit between pay and firm performance (Carpenter, 2000; Gomez-Mejia and Wiseman, 1997) to understand why and how executives respond differently to compensation schemes under various performance conditions. Matching compensation schemes to executive characteristics is insufficient to motivate desirable managerial behaviors under different situations. It is also important to align compensation schemes and executive characteristics to firm performance. Third, our study also contributes to the literature on CSE. Prior research has focused on the main effect of CSE on a limited set of dependent variables, most commonly job performance and satisfaction (Judge and Bono, 2001). Recent studies in strategic management have extended the implications of this important individual construct to include strategic decision processes and choices (Hiller and Hambrick, 2005; Simsek et al., 2010). Extending the contributions of these studies, we demonstrate how executives' CSE can serve as an important moderator for a wide range of managerial behaviors that have not yet been examined. Our study affirms the suggestion of Hiller and Hambrick (2005) that

CSE can be a very useful construct to understand executive self-concepts and strategic behaviors.

Limitations and future research

Our study has several limitations. The use of an experimental design raises the question of external validity. A general criticism of experimental design is its artificial setting, in which assigned tasks are overly simple and do not adequately engage or motivate subjects and as such do not represent normal situations in which events occur. Another criticism is the use of subjects (e.g., undergraduate students) who are frequently not representative of those whom the results are intended to generalize (Locke, 1986). We sought to deal with these issues by implementing a management simulation that reflects the complexity of strategic decision making, using experienced executives, and providing sufficient motivation that was consistent with our theoretical perspective. Our pilot studies and debriefing sessions indicated that the subjects in our study found the simulation to be realistic and engaging. However, caution is still needed in generalizing our findings, and research in field settings is necessary to replicate and evaluate factors that were constrained within our experimental design.

Another limitation is our simple operationalization of compensation schemes. Actual executive compensation schemes are far more complex. However, as compensation researchers have noted, research on compensation strategy can examine compensation dimensions either individually to

test specific compensation effects (e.g., Gerhart and Milkovich, 1990), as in the present study, or collectively using compensation configurations to examine the overall effects of compensation systems (Gomez-Mejia and Welbourne, 1988). The former approach allows for the exploration of the underlying conceptual mechanism driving compensation effects (e.g., fixed salary vs. incentives) but is less representative of actual compensation schemes. The latter approach allows for the analysis of configurations of pay strategies that more closely reflect actual compensation schemes, but because of its structural complexities obscure the underlying mechanism driving compensation effects. In the present study, our intention was not to test the effectiveness of actual executive compensation schemes but to examine the underlying motivational potential behind two different forms of compensation. Our approach facilitates participants' understanding of the compensation schemes and clarifies their effects on managerial behaviors. However, there are benefits to examining compensation configurations, and we encourage future research to explore the strategic fit of executive compensation using compensation configurations that more accurately reflect the range of executive compensation arrangements.

In addition, contrary to the expectations of normative agency theory and the findings of this study, recent studies have demonstrated that incentive compensation in the form of executive stock options can motivate managerial behaviors that are deemed to be unethical, such as earnings manipulations (e.g., Harris and Bromiley, 2007; Zhang *et al.*, 2008). The unique features and practices of executive stock options may induce executives to engage in manipulative behaviors as a means of improving firm performance in order to attain promised rewards. Such incentives may make agency problems 'worse, not better' (Jensen and Murphy, 2004: 47), and their implications for our theoretical model need to be investigated. We encourage future research to examine how executive stock options interact with executives' CSE and firm performance to affect managerial behaviors.

Further, our Chinese sample may present cultural differences that limit the generalizability of our findings. Chinese culture is generally recognized to be less materialistic and more collectivistic than are Western cultures (Hofstede, 2001). Therefore, individual monetary incentives may be

less important for our participants, and they may be less responsive to incentive compensation in the manner predicted by agency theory. In addition, while incentive compensation is becoming more prevalent in China, Chinese executives are still less familiar with incentive compensation than are Western executives. These factors make our study a strong test of our theoretical model since it is more difficult to observe significant results in this setting. Even so, some may still argue that cultural differences in our sample may limit our theory's generalizability. However, even if our model applies only to executives in China, our contributions remain significant given the growing importance of the Chinese economy. Nonetheless, future research should examine how cultural differences can influence the model presented here.

A final consideration is the use of a single item to assess participants' perseverance and ethical behavior. Single-item measures are often considered to have low reliability, limiting the confidence level of our results. However, researchers argued that when a construct is focused and precise (as are both of our dependent variables), then a single-item measure should be sufficient to accurately and reliably measure such constructs (Bergkvist and Rossiter, 2007; Wanous, Reichers, and Hudy, 1997). Even so, future research should explore the use of multiple items to evaluate these dependent variables.

Practical implications

Our study offers several practical implications. First, we partially corroborated the general prediction of normative agency theory that incentive compensation can effectively motivate appropriate managerial behaviors (Jensen and Meckling, 1976; Jensen and Murphy, 1990). As observed by Gilson and Vetsuydens (1993), incentive compensation is an important part of a firm's overall strategy for dealing with organizational decline. Consistent with agency theory, incentive compensation can be used to realign executives' interests so that they will act to benefit the long-term interests of shareholders in adverse situations. However, our study clearly shows that these incentive effects are contingent upon individual differences. When designing compensation schemes during organizational decline, directors and executives need to think carefully about designing compensation arrangements that match the types of executives they

employ. Conversely, from a recruitment standpoint, directors and executives can select executives that match the compensation arrangement already in place to better effect a successful turnaround.

Second, directors and executives must recognize that incentive compensation is a rather blunt motivational tool that can have limited motivational potential in certain contexts. The nonsignificant results in the growth context suggest that relying on incentive compensation alone is insufficient to motivate desirable managerial behaviors. In addition to incentive compensation, other organizational practices that enhance executive motivation should be incorporated, including those that foster stronger organizational identification or greater managerial competencies. For example, mechanisms that enhance executive organizational identification, including recruitment, selection, and socialization, can be used to complement incentive compensation in aligning managerial interests and motivating desirable managerial behaviors.

As many researchers have observed, the incentive effects of executive compensation on managerial behaviors and organizational outcomes are fairly complex (Devers *et al.*, 2007; Finkelstein *et al.*, 2008), and our understanding of this important topic can only be advanced by incorporating the influences of dispositional and situational contingencies. Our present study offers a more nuanced understanding of the fit among compensation schemes, executives' characteristics, firm performance, and managerial behaviors, and serves to extend the research on executive compensation.

ACKNOWLEDGEMENTS

We are grateful to Tai-Young Kim, James Oldroyd, Joel Evans, Editor Richard Bettis, and two anonymous reviewers for their valuable comments and constructive suggestions on earlier drafts of this paper. This research was generously supported by SKK Graduate School of Business, Sungkyunkwan University, and by the National Natural Science Foundation of China (Grant 70902031).

REFERENCES

- Aiken LS, West SG. 1991. *Multiple Regression: Testing and Interpreting Interactions*. Sage: Newbury Park, CA.
- Audia PG, Locke EA, Smith KG. 2000. The paradox of success: an archival and a laboratory study of strategic persistence following radical environmental change. *Academy of Management Journal* **43**(5): 837–853.
- Balkin DB, Gomez-Mejia LR. 1987. Toward a contingency theory of compensation strategy. *Strategic Management Journal* **8**(2): 169–182.
- Bandura A. 1982. Self-efficacy mechanism in human agency. *American Psychologist* **37**(2): 122–147.
- Bergkvist L, Rossiter JR. 2007. The predictive validity of multiple-item versus single-item measures of the same constructs. *Journal of Marketing Research* **44**(2): 175–184.
- Cable DM, Judge TA. 1994. Pay preferences and job search decisions: a person-organization fit perspective. *Personnel Psychology* **47**(2): 317–348.
- Carpenter MA. 2000. The price of change: the role of CEO compensation in strategic variation and deviation from industry strategy norms. *Journal of Management* **26**(6): 1179–1198.
- Carpenter MA, Golden BR. 1997. Perceived managerial discretion: a study of cause and effect. *Strategic Management Journal* **18**(3): 187–206.
- Chandler AD. 1962. *Strategy and Structure: Chapters in the History of the American Industrial Enterprise*. MIT Press: Cambridge, MA.
- Cho TS, Hambrick DC. 2006. Attention as the mediator between top management team characteristics and strategic change: the case of airline deregulation. *Organization Science* **17**(4): 453–469.
- Cyert RM, March JG. 1963. *A Behavioral Theory of the Firm*. Prentice-Hall: Englewood Cliffs, NJ.
- D'Aveni RA, MacMillan IC. 1990. Crisis and the content of managerial communications: a study of the focus of attention of top managers in surviving and failing firms. *Administrative Science Quarterly* **35**(4): 634–657.
- Desrochers S, Dahir V. 2000. Ambition as a motivational basis of organizational and professional commitment: preliminary analysis of a proposed career advancement ambition scale. *Perceptual and Motor Skills* **91**(2): 563–570.
- Devers CE, Cannella AA, JR, Reilly GP, Yoder ME. 2007. Executive compensation: a multidisciplinary review of recent developments. *Journal of Management* **33**(6): 1016–1072.
- Dutton JE, Stympf SA. 1991. Using behavioral simulations to study strategic processes. *Simulation & Gaming* **22**(2): 149–173.
- Eisenberger R. 1992. Learned industriousness. *Psychological Review* **99**(2): 248–267.
- Eisenhardt KM. 1989. Agency theory: an assessment and review. *Academy of Management Review* **14**(1): 57–74.
- Finkelstein S. 2003. *Why Smart Executives Fail and What You Can Learn from their Mistakes*. Portfolio: New York.
- Finkelstein S, Hambrick DC. 1996. *Strategic Leadership: Top Executives and their Effects on Organizations*. West Publishing: St. Paul, MN.
- Finkelstein S, Hambrick DC, Cannella AA. 2008. *Strategic Leadership: Theory and Research on Executives*,

- Top Management Teams, and Boards.* Oxford University Press: New York.
- Gerhart B, Milkovich GT. 1990. Organizational differences in managerial compensation and financial performance. *Academy of Management Journal* **33**(4): 663–691.
- Gerhart B, Rynes SL. 2003. *Compensation: Theory, Evidence, and Strategic Implications*. Sage: Thousand Oaks, CA.
- Gilson SC, Vetsuydens MR. 1993. CEO compensation in financially distressed firms: an empirical analysis. *Journal of Finance* **48**(2): 425–458.
- Gomez-Mejia LR, Berrone P, Franco-Santos M. 2010. *Compensation and Organizational Performance: Theory, Research, and Practice*. M.E. Sharpe: Armonk, NY.
- Gomez-Mejia LR, Welbourne TM. 1988. Compensation strategy: an overview and future steps. *Human Resource Planning* **11**(3): 173–189.
- Gomez-Mejia LR, Wiseman RM. 1997. Reframing executive compensation: an assessment and outlook. *Journal of Management* **23**(3): 291–374.
- Greve HR. 2003. *Organizational Learning from Performance Feedback: A Behavioral Perspective on Innovation and Change*. Cambridge University Press: Cambridge, UK.
- Haleblain J, Markoczy L, McNamara GM. 2007. The influence of core self evaluation on risky strategic decisions. Paper presented at the annual meeting of the Academy of Management (Business Policy and Strategy Division), Philadelphia, PA.
- Hambrick DC, Mason PA. 1984. Upper echelons: the organization as a reflection of its top managers. *Academy of Management Review* **9**(2): 193–206.
- Harris J, Bromiley P. 2007. Incentives to cheat: the influence of executive compensation and firm performance on financial misrepresentation. *Organization Science* **18**(3): 350–367.
- Hiller NJ, Hambrick DC. 2005. Conceptualizing executive hubris: the role of (hyper-)core self-evaluations in strategic decision-making. *Strategic Management Journal* **26**(4): 297–319.
- Hofstede GH. 2001. *Culture's Consequences: Comparing Values, Behaviors, Institutions, and Organizations across Nations* (2nd edn). Sage Publications: Thousand Oaks, CA.
- Jensen MC, Meckling WH. 1976. Theory of the firm: managerial behavior, agency costs, and ownership structure. *Journal of Financial Economics* **3**(4): 305–350.
- Jensen MC, Murphy KJ. 1990. Performance pay and top-management incentives. *Journal of Political Economy* **98**(2): 225–264.
- Jensen MC, Murphy KJ. 2004. Remuneration: where we've been, how we got to here, what are the problems, and how to fix them. ECGI Working paper in finance no. 44/2004. European Corporate Governance Institute. Available at: <http://ssrn.com/abstract=561305> [18 Jan 2011].
- Judge TA, Bono JE. 2001. Relationship of core self-evaluations traits—self-esteem, generalized self-efficacy, locus of control, and emotional stability—with job satisfaction and job performance: a meta-analysis. *Journal of Applied Psychology* **86**(1): 80–92.
- Judge TA, Erez A, Bono JE, Thoresen CJ. 2003. The core self-evaluations scale: development of a measure. *Personnel Psychology* **56**(2): 303–331.
- Judge TA, Locke EA, Durham CC. 1997. The dispositional causes of job satisfaction: a core evaluations approach. In *Research in Organizational Behavior (Volume 19)*, Staw BM, Cummings LL (eds). JAI Press: Greenwich, CT; 151–188.
- Kahneman D, Tversky A. 1979. Prospect theory: an analysis of decision under risk. *Econometrica* **47**(2): 263–291.
- Kammeyer-Mueller JD, Judge TA, Scott BA. 2009. The role of core self-evaluations in the coping process. *Journal of Applied Psychology* **94**(1): 177–195.
- Kirkman BL, Shapiro DL. 2001. The impact of cultural values on job satisfaction and organizational commitment in self-managing work teams: the mediating role of employee resistance. *Academy of Management Journal* **44**(3): 557–569.
- Lawler EE. 1990. *Strategic Pay*. Jossey-Bass: San Francisco, CA.
- Locke EA. 1986. *Generalizing from Laboratory to Field Settings: Research Findings from Industrial-Organizational Psychology, Organizational Behavior, and Human Resource Management*. Lexington Books: Lexington, MA.
- Mahoney L, Thorn L. 2006. An examination of the structure of executive compensation and corporate social responsibility: a Canadian investigation. *Journal of Business Ethics* **69**(2): 149–162.
- McFarlin DB, Baumeister RF, Blascovich J. 1984. On knowing when to quit: task failure, self-esteem, advice, and nonproductive persistence. *Journal of Personality* **52**(2): 138–155.
- Murphy KJ. 1999. Executive compensation. In *Handbook of Labor Economics (Volume 3B)*, Ashenfelter OC, Card D (eds). North-Holland: Amsterdam, the Netherlands; 2485–2563.
- Ocasio W. 1997. Towards an attention-based view of the firm. *Strategic Management Journal*, Summer Special Issue **18**: 187–206.
- O'Connor JJP, Priem RL, Coombs JE, Gilley KM. 2006. Do CEO stock options prevent or promote fraudulent financial reporting? *Academy of Management Journal* **49**(3): 483–500.
- Preacher KJ, Curran PJ, Bauer DJ. 2006. Computational tools for probing interactions in multiple linear regression, multilevel modeling, and latent curve analysis. *Journal of Educational and Behavioral Statistics* **31**(4): 437–448.
- Rosenberg M. 1965. *Society and the Adolescent Self-Image* (Revised edn). Princeton University Press: Princeton, NJ.
- Rotter JB. 1966. Generalized expectancies for internal versus external control of reinforcement. *Psychological Monographs: General and Applied* **80**(1): 1–28.
- Sanders WG. 2001. Behavioral responses of CEOs to stock ownership and stock option pay. *Academy of Management Journal* **44**(3): 477–492.

- Sanders WG, Hambrick DC. 2007. Swinging for the fences: the effects of CEO stock options on company risk taking and performance. *Academy of Management Journal* **50**(5): 1055–1078.
- Shrauger JS, Sorman PB. 1977. Self-evaluations, initial success and failure, and improvement as determinants of persistence. *Journal of Consulting and Clinical Psychology October* **45**(5): 784–795.
- Simsek Z, Heavey C, Veiga JF. 2010. The impact of CEO core self-evaluation on the firm's entrepreneurial orientation. *Strategic Management Journal* **31**(1): 110–119.
- Treviño LK, Youngblood SA. 1990. Bad apples in bad barrels: a causal analysis of ethical decision-making behavior. *Journal of Applied Psychology* **75**(4): 378–385.
- Wanous JP, Reichers AE, Hudy MJ. 1997. Overall job satisfaction: how good are single-item measures? *Journal of Applied Psychology* **82**(2): 247–252.
- Wiseman RM, Bromiley P. 1996. Toward a model of risk in declining organizations: an empirical examination of risk, performance and decline. *Organization Science* **7**(5): 524–543.
- Wiseman RM, Gomez-Mejia LR. 1998. A behavioral agency model of managerial risk taking. *Academy of Management Review* **23**(1): 133–153.
- Wowak AJ, Hambrick DC. 2010. A model of person-pay interaction: how executives vary in their responses to compensation arrangements. *Strategic Management Journal* **31**(8): 803–821.
- Zhang X, Bartol KM, Smith KG, Pfarrer MD, Khanin DM. 2008. CEOs on the edge: earnings manipulation and stock-based incentive misalignment. *Academy of Management Journal* **51**(2): 241–258.